PUBLICATIONS OF THE EARTH PHYSICS BRANCH

VOLUME 40 – NO. 5

record of observations at great whale river magnetic observatory 1968

G. JANSEN VAN BEEK

DEPARTMENT OF ENERGY, MINES AND RESOURCES

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Geographic Coordinates: 53.3°N; 77.75°W
Geomagnetic Coordinates: 66.8°N; 347.2°E*

Officers-in-charge: D. Stoltz 1967.5–1968.5
G. Nordman 1968.5–1969.5

Introduction

The Great Whale River magnetic observatory was established by the Division of Geomagnetism of the Dominion Observatory in January 1965 at Poste-de-la-Baleine, Province of Quebec. Publication of the regular mean hourly value tables was begun in 1967.

A history of the observatory with pertinent details on observatory buildings, equipment and procedures was given in the "Record of observations at Great Whale River magnetic observatory, 1967" by E.I. Loomer.

Magnetic equipment

Photographic variometer. A standard Ruska 3-component variograph records declination (D), horizontal intensity (H) and vertical intensity (Z). Time scale is 20 mm/hr.

Scale values were determined once a month in D and H and on the average three times a month for Z. Scale values adopted for 1968 are listed with the adopted baselines for this period.

Thermostatically controlled electric heaters maintain the temperature in the variometer rooms to within ±1°C. The sensitivity of the Ruska temperature trace is 1.3°C/mm. Temperature corrections to the mean hourly values were not necessary in 1969.

Parallax determinations were made in January 1967. Parallax corrections to be added to the times read on the magnetograms were 0.3 minutes for H, D and Z.

A rapid-run Ruska variograph records D, H and Z. Time scale is 240 mm/hr. Scale values adopted from the monthly determinations are:

Ruska Rapid Run Scale Values

	Hγ/mm	D′/mm	Zγ/mm
January	4.90	1.70	5.75
February	4.90	1.70	5.75
March	4.85	1.75	5.80
April	4.85	1.75	5.80
May	4.90	1.75	5.80
June	4.85	1.70	5.85
July	4.95	1.75	5.70
August	4.95	1.80	5.70
September	4.95	1.75	5.75
October	4.95	1.75	5.75
November	4.95	1.75	5.75
December	4.95	1.75	6.20

Time marks accurate to within a second are supplied by a crystal-controlled clock to both the standard and rapid-run variographs.

Standby variometer Continuous traces of H, D and Z on a strip-chart recorder were provided by a three-component electrical magnetometer. Full scale chart sensitivity is 1000 gammas normally with automatic switching to half sensitivity at times of large magnetic disturbances. The chart is operated at 20 mm/hr. Chart values are used to interpolate for missing intervals on the Ruska magnetograms. The chart also provides a continuous visual indicator of magnetic field conditions.

The standard tube-type three-component electrical magnetometer (Serson 1957) was replaced by a new improved solid state version, also of Observatory design, in December 1968.

Absolute instruments. A proton precession magnetometer is the primary standard of total intensity (F). A portable electrical magnetometer of the saturable core type is used for the determination of declination (D) and inclination (I).

Absolute observations and baseline values

Absolute determination of D, I, and F were made on the average three to four times a month during magnetically quiet periods.

The method used for calculation of the Ruska D, H and Z baseline values from absolute measurements of D, I and F was discussed in detail in the 1967 report for Great Whale River.

Because of poor absolute control for the period January-March, 1968, the D, H and Z baselines for this interval were estimated from an examination of quiet day levels and known baseline values for December 1967 and April 1968.

The baselines and scale values adopted for 1968 are as follows:

*Based on geomagnetic pole position 78.3N, 69.0W (Finch and Leaton, 1957).

Great Whale River 1968 H Baselines γ Scale Values γ/mm

Adopted		Observed		Adopted		Observed	
Jan.	9293			Jan.	13.85	Jan. 21	13.78
Feb.	9297			Feb.	13.85	Feb. 19	13.83
Mar.	9301			Mar.	13.85	Mar. 19	13.83
Apr. 1-15	9304	Apr. 20	9307	Apr.	13.85	Apr. 19	13.85
16-30	9305 to 9302	22	9299				
May	9302 to 9297	May 4	9301	May	13.85	May 26	13.80
		25	9302				
		28	9298				
June	9297 to 9293			June	13.85	June 21	13.81
July	9293 to 9288	July 14	9282	July	13.85	July 5	13.96
		16	9308				
		20	9282				
Aug.	9288 to 9283	Aug. 11	9283	Aug.	13.85	Aug. 8	13.88
		21	9283			12	13.88
		25	9289				
		27	9283				
Sept.	9283 to 9290	Sept. 6	9292	Sept.	13.85	Sept. 6	13.85
		18	9290				
		24	9290				
		27	9286				
		30	9286				
Oct.	9290 to 9297	Oct. 16	9293	Oct.	13.85	Oct. 9	13.86
		21	9294				
		24	9293				
Nov.	9297 to 9303	Nov. 12	9299	Nov.	13.85	Nov. 12	13.90
		21	9287				
		23	9304				
		27	9305				
Dec.	9303 to 9310	Dec. 12	9305	Dec.	13.85	Dec. 7	13.86
		19	9306				
		26	9308				

Great Whale River 1968 D Baselines (west) **Scale Values mins/mm**

Adopted			Observed			Adopted		Observed	
		° ′			° ′				
Jan.		23 03.5				Jan.	4.80	Jan. 21	4.79
Feb.		23 03.0				Feb.	4.80	Feb. 19	4.73
Mar.		23 03.0				Mar.	4.80	Mar. 19	4.88
Apr.		23 02.5	Apr. 20	23	03.9	Apr.	4.80	Apr.19	4.79
			22	23	01.3				
May		23 02.0	May 4	23	01.9	May	4.80	May 26	4.78
			25	23	02.7				
			28	22	59.9				
June		23 01.5				June	4.80	June 21	4.81
July		23 01.0	July 14	23	04.4	July	4.85	July 5	4.82
			16	23	02.8				
			20	22	58.2				
Aug.		23 00.5	Aug. 11	23	02.2	Aug.	4.85	Aug. 8	4.95
	to	23 04.0	21	23	05.9			12	4.86
			25	23	04.2				
			27	23	05.0				
Sept.		23 04.0	Sept. 11	23	04.3	Sept.	4.85	Sept. 6	4.81
	to	23 07.5	18	23	03.1				
			24	23	04.7				
			27	23	08.0				
			30	23	07.2				
Oct.		23 07.5	Oct. 16	23	09.6	Oct.	4.85	Oct. 9	4.86
	to	23 11.0	21	23	09.9			18	4.86
			24	23	09.4				
Nov. 1-15		23 11.0	Nov. 12	23	14.0	Nov.	4.85	Nov. 12	4.86
	to	23 13.0	21	23	13.7				
16-30		23 13.0	23	23	13.3				
	to	23 12.0	27	23	11.4				
Dec.		23 12.0	Dec. 12	23	10.6	Dec.	4.85	Dec.7	4.85
	to	23 09.5	19	23	09.5				
			26	23	09.9				
			28	23	11.2				

Great Whale River 1968 Z Baselines γ Scale Values γ/mm

Adopted		Observed		Adopted		Observed	
Jan.	59044 to 59021	Jan. 8	59034	Jan. 1-14	13.10 to 13.40	Jan. 9	13.31
		17	59026	15-31	13.41 to 13.50	17	13.43
		21	59032			21	13.44
		26	59028				
Feb.	59020 to 58998	Feb. 7	59012	Feb. 1-28	13.50 to 13.65	Feb. 6	13.54
		13	59009			19	13.68
		22	58999			24	13.60
Mar.	58998	Mar. 9	59000	Mar. 1-31	13.66 to 13.81	Mar. 8	13.63
		17	59000			19	13.70
		22	58996			28	13.78
		28	58995				
Apr.	58998 to 59028	Apr. 20	59026	Apr. 1-15	13.82 to 13.89	Apr. 12	13.88
		22	59023	16-30	13.89 to 13.80	19	13.89
May	59028 to 59035	May 4	59014	May 1-31	13.80 to 13.66	May 4	13.77
		25	59042			26	13.63
		28	59032			31	13.71
June	59036 to 59045			June	13.66	June 6	13.68
						21	13.64
July	59045 to 59054	July 14	59046	July 1-14	13.66 to 13.84	July 6	13.71
		16	59049	15-31	13.82	11	13.89
		20	59060			19	13.81
		29	59060				
Aug.	59054 to 59064	Aug. 11	59056	Aug.	13.78	Aug. 8	13.75
		21	59059			13	13.77
		25	59061			22	13.72
						26	13.80
Sept. 1-17	59064 to 59070	Sept. 6	59068	Sept.	13.74	Sept. 7	13.69
18-30	59069	18	59069			20	13.74
		24	59070			24	13.72
		27	59067				
		30	59069				
Oct.	59068 to 59063	Oct. 16	59066	Oct. 1-31	13.77 to 13.90	Oct. 9	13.81
		21	59065			18	13.86
		24	59065			28	13.88
Nov.	59063 to 59028	Nov. 12	59048	Nov. 1-30	13.91 to 14.04	Nov. 12	13.93
		21	59041			21	14.14
		23	59039			27	14.13
		27	59029				
Dec.	59028 to 59021	Dec. 12	59024	Dec. 1-31	14.04 to 14.17	Dec. 7	14.06
		19	59023			19	14.08
		26	59022			25	14.12
		28	59022				

Magnetic reductions

Details of reduction of the magnetic data were given in the 1967 report for Great Whale River.

Microfilm copies of standard-run and rapid-run photographic magnetograms with provisional instrument constants were supplied to World Data Centre A, Washington, on a monthly basis.

The five local quiet days for each month, selected on the basis of the R indices, are listed below. Local quiet days which do not appear also in the list of 10 international quiet days are underlined. The five international quiet and disturbed days are labelled Q and D respectively in Tables 1-36.

	5 Local Quiet Days				
January	4	8	9	10	25
February	6	7	14	25	26
March	8	9	13	22	23
April	8	9	19	20	21
May	4	5	6	27	28
June	6	21	24	25	28
July	17	20	21	24	30
August	22	25	26	29	30
September	18	24	25	26	27
October	4	11	21	22	23
November	12	14	15	29	30
December	7	13	14	20	26

Summary of annual mean values

Year	X*	Y*	Z	D East		I North*		H	F*
	γ	γ	γ	°	′	°	′	γ	γ
1967.5	9201	−3401	59302	339	43	80	36.4	9809	60,108
1968.5	9246	−3399	59333	339	49	80	34.4	9850	60,145

*Values for X, Y, I and F derived from monthly means of D, H and Z.

Acknowledgments

The computer programming was carried out by J.M. DeLaurier, of the Division of Geomagnetism. Mr. A.E. Evans, after 25 years of service with the Division of Geomagnetism retired October 1, 1968.

Reports of Great Whale river magnetic observatory

Record of observations at Great Whale river magnetic observatory 1967, by E.I. Loomer. *Dom. Obs. Pub.*, Vol XXXVII, No. 9.

HORIZONTAL INTENSITY

TABLE 1 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS JANUARY 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1	D	271	395	319	195	333	250	222	160	174	195	195	-62	49	167	250	257	278	326	354	361	368	340	389	354	256
2	D	305	312	312	305	195	139	28	-152	-269	-242	15	-311	195	174	174	285	347	354	395	423	458	430	402	402	195
3		382	382	319	354	319	285	264	229	312	319	305	305	305	305	305	305	305	312	319	319	312	319	333	347	315
4	Q	354	333	333	319	319	319	319	312	299	278	250	250	285	305	305	305	312	319	326	326	361	402	375	472	324
5		409	361	375	430	375	333	340	312	278	312	319	305	319	312	292	305	333	333	333	347	347	361	409	368	342
6	D	375	340	340	472	368	347	333	312	278	229	305	299	305	299	271	361	333	333	319	326	354	361	361	368	333
7		402	389	361	361	541	375	340	326	305	292	285	299	312	305	305	305	319	319	312	319	326	333	333	340	338
8	Q	347	354	354	347	347	354	347	312	305	305	299	333	319	312	312	305	319	319	312	319	326	326	333	333	327
9	Q	326	333	333	333	333	333	333	326	326	326	326	319	319	312	305	305	305	305	319	333	333	333	340	340	325
10	Q	347	347	347	354	354	347	319	319	305	299	312	305	305	299	305	312	319	312	319	319	319	333	333	333	324
11		333	340	340	347	340	333	333	319	319	319	319	319	326	299	292	305	333	312	340	375	375	451	437	479	345
12		472	375	354	361	472	361	354	333	361	285	305	285	264	305	305	292	312	375	402	402	458	402	361	375	357
13		347	333	333	347	340	312	333	305	243	250	139	167	229	264	292	299	326	333	333	326	361	375	430	451	311
14		423	451	402	375	319	354	333	312	278	271	292	264	292	312	305	319	319	333	347	375	389	375	402	375	342
15		389	423	416	389	395	354	340	305	292	271	292	292	299	292	305	312	305	333	375	368	402	402	368	444	348
16		409	389	361	354	347	347	326	278	264	278	292	264	292	312	319	326	347	326	340	395	375	375	347	340	333
17		333	333	333	285	257	319	257	222	91	195	305	250	299	319	312	319	319	326	333	326	368	340	347	368	298
18		361	395	395	361	361	333	195	257	299	292	257	257	326	333	340	340	333	319	312	319	319	326	333	333	321
19		333	333	340	347	333	285	215	167	139	215	264	347	375	340	319	333	299	333	319	354	340	368	472	444	317
20	D	389	368	326	236	229	285	257	105	202	222	77	257	305	319	305	326	326	319	333	347	326	333	340	333	286
21		333	333	333	340	305	153	181	195	209	278	312	305	333	333	319	319	326	340	319	333	340	340	333	340	302
22		354	340	333	326	271	285	222	319	333	312	292	319	333	326	305	292	305	312	340	333	333	333	333	326	316
23		333	347	326	333	326	264	70	195	271	326	333	333	326	319	312	305	305	312	319	333	361	333	333	333	306
24		333	347	340	333	333	333	319	271	236	243	305	312	278	326	319	312	305	312	326	368	375	347	347	340	319
25	Q	333	333	326	333	326	326	319	326	333	326	333	326	333	333	319	312	305	305	312	319	326	326	333	340	325
26		333	333	333	340	326	305	299	264	181	271	319	319	305	305	319	264	326	333	312	312	326	333	333	333	309
27		333	340	340	312	326	305	278	202	222	319	333	333	326	319	319	319	319	326	340	354	368	389	430	444	329
28		389	333	354	347	326	333	326	333	319	319	319	319	319	312	305	312	312	319	361	382	382	389	430	416	344
29	D	285	340	361	361	278	326	285	285	278	278	285	292	305	319	319	312	305	319	333	354	402	423	402	389	327
30		333	347	389	347	299	236	222	333	340	326	305	312	319	319	305	312	319	326	333	333	326	333	340	347	321
31		368	354	361	340	292	382	347	305	222	222	312	305	312	319	319	319	333	333	326	319	326	333	333	340	322
MEAN	A	356	356	348	341	332	310	279	261	250	262	278	265	297	304	303	310	318	325	334	346	357	360	368	372	318
MEAN	Q	341	340	339	337	336	336	328	319	314	307	304	307	312	312	310	308	312	312	318	323	333	344	343	364	325
MEAN	D	325	351	332	314	281	269	225	142	132	136	175	95	232	256	264	308	318	330	347	362	382	377	379	369	279

DECLINATION

TABLE 2 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES JANUARY 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1	D	65.9	46.7	39.5	73.1	29.9	32.3	22.7	22.7	17.9	13.1	8.3	22.7	10.7	22.7	32.3	32.3	39.5	27.5	25.1	20.3	15.5	15.5	15.5	13.1	27.7
2	D	17.9	17.9	17.9	22.7	49.1	46.7	39.5	8.3	46.7	27.5	3.5	27.5	15.5	10.7	25.1	20.3	13.1	25.1	20.3	10.7	5.9	8.3	5.9	8.3	20.6
3		5.9	3.5	8.3	20.3	17.9	13.1	15.5	13.1	13.1	15.5	15.5	13.1	13.1	15.5	17.9	22.7	22.7	22.7	20.3	20.3	20.3	20.3	20.3	15.5	16.1
4	Q	15.5	17.9	17.9	15.5	15.5	15.5	15.5	15.5	15.5	15.5	20.3	17.9	13.1	15.5	15.5	17.9	17.9	22.7	25.1	25.1	20.3	15.5	13.1	8.3	17.0
5		8.3	13.1	10.7	13.1	15.5	25.1	22.7	15.5	20.3	13.1	15.5	10.7	13.1	15.5	15.5	29.9	32.3	29.9	25.1	20.3	20.3	22.7	10.7	13.1	18.0
6	D	13.1	17.9	17.9	15.5	15.5	13.1	13.1	15.5	10.7	13.1	13.1	10.7	13.1	13.1	22.7	17.9	25.1	32.3	32.3	27.5	17.9	17.9	17.9	13.1	17.5
7		8.3	10.7	13.1	15.5	13.1	15.5	15.5	15.5	15.5	13.1	10.7	10.7	13.1	17.9	22.7	25.1	25.1	25.1	27.5	22.7	20.3	20.3	20.3	15.5	17.2
8	Q	15.5	13.1	13.1	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	10.7	5.9	8.3	15.5	20.3	20.3	25.1	27.5	25.1	22.7	20.3	20.3	17.9	16.9
9	Q	15.5	15.5	15.5	17.9	15.5	17.9	17.9	17.9	15.5	15.5	15.5	15.5	13.1	13.1	13.1	17.9	20.3	25.1	25.1	25.1	25.1	22.7	20.3	20.3	18.2
10	Q	15.5	15.5	15.5	13.1	13.1	15.5	20.3	17.9	15.5	15.5	13.1	8.3	5.9	13.1	15.5	25.1	27.5	25.1	25.1	25.1	25.1	20.3	20.3	17.9	17.7
11		17.9	15.5	10.7	15.5	15.5	17.9	15.5	15.5	15.5	17.9	17.9	15.5	10.7	5.9	13.1	20.3	22.7	10.7	25.1	25.1	22.7	10.7	10.7	5.9	15.6
12		1.1	10.7	15.5	13.1	20.3	20.3	15.5	15.5	8.3	15.5	15.5	13.1	13.1	13.1	15.5	25.1	39.5	29.9	13.1	25.1	15.5	20.3	22.7	17.9	17.3
13		17.9	20.3	20.3	17.9	17.9	29.9	20.3	15.5	10.7	10.7	32.3	25.1	13.1	10.7	17.9	27.5	25.1	20.3	22.7	25.1	22.7	20.3	17.9	15.5	19.9
14		27.5	25.1	15.5	15.5	37.1	22.7	44.3	20.3	15.5	8.3	13.1	15.5	10.7	15.5	20.3	22.7	22.7	22.7	22.7	22.7	20.3	15.5	10.7	17.9	20.2
15		15.5	10.7	8.3	8.3	22.7	15.5	25.1	15.5	15.5	13.1	10.7	10.7	13.1	20.3	20.3	25.1	27.5	29.9	20.3	20.3	13.1	15.5	15.5	8.3	16.7
16		15.5	10.7	10.7	13.1	13.1	17.9	13.1	15.5	15.5	15.5	15.5	20.3	15.5	15.5	20.3	20.3	17.9	13.1	20.3	17.9	20.3	20.3	17.9	15.5	16.3
17		15.5	17.9	20.3	25.1	10.7	20.3	20.3	17.9	25.1	5.9	10.7	10.7	20.3	10.7	13.1	20.3	20.3	25.1	22.7	25.1	20.3	20.3	20.3	20.3	18.3
18		20.3	3.5	10.7	13.1	15.5	22.7	5.9	17.9	15.5	15.5	15.5	15.5	20.3	17.9	22.7	25.1	22.7	22.7	20.3	22.7	20.3	20.3	20.3	20.3	17.8
19		17.9	15.5	15.5	15.5	15.5	25.1	27.5	20.3	20.3	13.1	5.9	10.7	10.7	10.7	15.5	20.3	20.3	20.3	25.1	22.7	22.7	17.9	-8.5	3.5	16.0
20	D	5.9	13.1	22.7	32.3	32.3	25.1	25.1	39.5	25.1	10.7	15.5	13.1	15.5	15.5	32.3	27.5	22.7	25.1	22.7	22.7	25.1	25.1	20.3	20.3	22.3
21		20.3	20.3	20.3	20.3	17.9	58.7	34.7	25.1	20.3	17.9	13.1	13.1	15.5	13.1	20.3	20.3	25.1	20.3	22.7	20.3	20.3	20.3	20.3	17.9	21.6
22		15.5	17.9	17.9	20.3	27.5	25.1	34.7	20.3	15.5	15.5	15.5	15.5	15.5	13.1	13.1	17.9	25.1	25.1	22.7	25.1	20.3	20.3	20.3	17.9	19.9
23		17.9	15.5	10.7	13.1	15.5	29.9	46.7	27.5	20.3	13.1	15.5	15.5	15.5	15.5	15.5	15.5	20.3	27.5	25.1	25.1	20.3	17.9	17.9	17.9	19.8
24		15.5	15.5	10.7	17.9	17.9	17.9	20.3	25.1	22.7	20.3	15.5	13.1	25.1	15.5	15.5	15.5	20.3	25.1	25.1	20.3	20.3	22.7	15.5	15.5	18.7
25	Q	17.9	15.5	10.7	17.9	15.5	20.3	20.3	17.9	15.5	15.5	15.5	17.9	15.5	10.7	15.5	20.3	20.3	22.7	20.3	20.3	20.3	20.3	20.3	17.9	17.7
26		20.3	15.5	15.5	15.5	17.9	20.3	20.3	20.3	22.7	17.9	13.1	13.1	17.9	20.3	15.5	13.1	25.1	29.9	27.5	27.5	25.1	20.3	20.3	17.9	19.7
27		17.9	15.5	15.5	39.5	25.1	20.3	15.5	20.3	20.3	13.1	13.1	15.5	15.5	15.5	13.1	15.5	20.3	22.7	20.3	20.3	17.9	15.5	10.7	10.7	17.9
28		20.3	32.3	8.3	13.1	17.9	20.3	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	17.9	20.3	22.7	22.7	17.9	15.5	20.3	20.3	22.7	22.7	18.3
29	D	34.7	15.5	15.5	32.3	25.1	13.1	20.3	15.5	15.5	13.1	13.1	13.1	8.3	8.3	10.7	15.5	17.9	20.3	17.9	25.1	17.9	15.5	15.5	27.5	17.8
30		13.1	13.1	17.9	37.1	37.1	27.5	20.3	15.5	15.5	15.5	15.5	15.5	17.9	17.9	15.5	17.9	17.9	20.3	25.1	22.7	22.7	20.3	20.3	20.3	20.1
31		15.5	20.3	13.1	25.1	17.9	15.5	17.9	15.5	17.9	15.5	5.9	10.7	10.7	13.1	10.7	15.5	20.3	20.3	22.7	22.7	22.7	20.3	20.3	20.3	17.1
MEAN	A	17.6	16.5	15.3	20.8	20.5	22.5	21.8	18.4	17.9	14.7	14.0	14.7	14.0	14.2	17.7	21.0	23.2	23.8	23.1	22.5	20.1	18.8	16.7	16.0	18.6
MEAN	Q	16.0	15.5	14.5	16.0	15.0	16.9	17.9	16.9	15.5	15.5	16.0	14.1	10.7	12.1	15.0	20.3	21.3	24.1	24.6	24.1	22.7	19.8	18.9	16.5	17.5
MEAN	D	27.5	22.2	22.7	35.2	30.4	26.1	24.1	20.3	23.2	15.5	10.7	17.4	12.6	14.1	24.6	22.7	23.7	26.1	23.7	21.3	16.5	16.5	15.0	16.5	21.2

VERTICAL INTENSITY

TABLE 3 GREAT WHALE RIVER Z = 59000 PLUS TABULAR VALUES IN GAMMAS JANUARY 1968

DAY	HOUR UT	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1	D	150	209	268	249	301	334	460	473	433	400	354	268	229	229	262	288	315	315	334	341	328	321	334	328	313
2	D	321	321	315	321	427	460	341	546	658	638	737	803	301	288	282	268	321	315	328	321	255	189	229	249	385
3		234	241	208	248	300	274	333	327	314	320	314	320	314	314	314	320	320	320	320	320	320	320	320	333	303
4	Q	332	332	332	319	319	319	319	306	293	293	280	280	299	313	319	319	319	319	326	339	339	306	253	200	307
5		331	318	312	279	292	279	259	312	292	298	305	292	298	298	292	292	305	305	312	325	312	318	246	226	296
6	D	226	226	94	239	292	298	305	312	331	318	292	285	292	298	285	285	325	331	331	331	331	305	331	325	291
7		311	291	264	258	205	311	304	304	304	297	284	284	291	291	291	304	317	317	317	317	311	311	324	317	297
8	Q	318	332	332	332	318	298	305	312	305	305	305	318	305	292	298	312	338	318	318	318	318	305	305	312	313
9	Q	311	311	311	311	311	311	311	311	304	304	304	304	304	304	304	304	311	317	324	324	317	304	304	311	310
10	Q	324	317	324	324	311	304	311	297	297	291	291	291	284	271	264	277	297	317	317	317	311	317	317	311	303
11		310	316	310	316	310	303	310	310	303	296	296	296	310	276	263	270	290	296	343	330	316	310	316	316	305
12		249	262	222	182	189	229	289	315	322	309	289	302	275	262	262	289	295	322	289	302	309	315	322	309	280
13		301	301	301	294	288	208	294	301	314	281	328	288	294	261	248	268	294	308	308	314	328	321	281	235	290
14		181	181	221	175	181	148	261	281	288	288	308	294	281	274	288	301	314	308	314	314	321	308	274	328	268
15		327	280	293	247	307	293	307	300	300	287	287	287	253	220	234	273	293	307	327	313	300	214	187	147	274
16		161	275	282	275	282	289	302	315	315	302	302	289	289	282	289	289	302	302	336	336	329	349	322	315	297
17		308	301	294	261	247	267	314	409	449	247	234	254	254	281	288	308	314	328	328	328	328	328	321	314	304
18		234	234	301	301	288	301	328	314	301	288	261	267	281	294	288	308	314	308	314	314	314	314	314	308	295
19		300	300	307	307	253	233	300	233	313	300	266	280	313	307	287	293	313	347	354	334	334	320	287	307	299
20	D	198	165	245	400	333	286	312	366	299	259	292	279	252	279	292	312	312	319	319	326	319	312	312	306	296
21		305	305	305	305	204	271	325	332	332	311	291	285	285	291	285	305	311	318	311	311	311	311	311	311	301
22		311	305	305	305	231	298	298	298	298	291	285	271	298	298	298	305	332	352	311	318	318	318	311	311	303
23		310	304	297	290	297	324	378	297	297	297	297	297	297	304	304	304	310	317	324	324	337	324	310	304	310
24		303	309	303	296	296	296	296	289	256	283	269	269	235	283	283	296	309	309	323	336	316	323	323	309	296
25	Q	308	302	282	295	295	282	282	288	295	288	282	282	282	288	295	295	295	302	308	308	308	315	302	295	295
26		302	308	295	275	288	282	282	282	308	302	288	282	268	261	288	335	362	362	308	295	295	295	295	302	298
27		301	294	274	260	294	301	348	361	334	301	294	294	294	294	301	294	307	307	314	334	334	334	274	281	305
28		266	206	219	239	286	280	293	300	300	300	300	300	306	300	293	293	306	333	333	340	320	347	320	246	293
29	D	225	110	137	252	299	326	346	332	332	299	292	272	285	292	292	305	305	312	319	332	319	305	205	158	277
30		183	89	183	224	264	352	352	318	304	304	291	291	304	311	304	304	304	311	318	318	318	311	311	304	287
31		303	236	216	256	209	256	303	310	357	324	290	290	290	290	303	303	303	303	297	303	303	303	303	303	290
MEAN	A	276	267	269	278	281	291	315	324	327	310	307	304	286	285	287	297	312	318	320	322	317	309	296	288	299
MEAN	Q	319	319	316	316	311	303	305	303	299	296	292	295	295	293	296	301	312	315	319	321	319	309	296	286	306
MEAN	D	224	206	212	292	330	341	353	406	411	383	393	381	272	277	283	292	316	318	326	330	310	287	282	273	312

HORIZONTAL INTENSITY

TABLE 4 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS FEBRUARY 1968

HOUR UT DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		337	337	337	337	330	330	199	323	337	323	330	323	323	323	337	330	330	323	344	344	351	379	379	413	334
2		427	434	393	379	344	358	330	309	219	19	254	309	254	261	296	303	330	337	365	399	448	399	517	399	337
3		462	358	365	372	337	316	261	74	164	261	240	289	344	316	261	323	323	344	337	323	337	365	386	406	315
4		399	372	379	365	261	136	206	116	129	129	-16	178	296	289	282	309	316	330	330	330	344	330	337	330	270
5		330	323	323	330	330	323	337	330	303	309	309	316	323	323	316	323	309	323	330	344	386	365	406	365	333
6	Q	344	344	358	344	330	323	323	323	323	323	330	330	323	323	316	309	309	309	309	316	323	323	330	330	326
7	Q	330	330	330	330	330	330	330	330	330	330	330	330	330	323	316	309	309	309	323	337	358	344	379	351	331
8		372	344	399	393	344	330	323	316	296	240	289	275	282	303	316	323	358	337	351	399	372	441	462	434	346
9		420	289	344	268	164	296	247	157	150	39	-30	32	206	261	316	330	316	330	351	393	448	483	386	476	278
10	D	483	309	399	365	358	275	268	261	219	143	213	268	289	351	330	323	337	309	462	524	393	386	303	206	324
11	D	455	303	247	261	171	275	164	150	81	88	-314	5	226	240	309	365	372	406	372	372	441	483	448	393	263
12		393	268	386	365	379	323	282	240	351	323	254	219	296	316	323	323	323	323	330	337	330	323	323	323	319
13		330	337	337	337	330	254	136	171	109	171	282	219	129	233	316	323	323	351	344	351	337	337	337	344	281
14	Q	344	351	351	344	337	337	330	330	337	330	337	330	330	330	323	323	323	323	330	337	337	344	337	337	335
15	D	337	337	337	337	323	303	296	261	247	219	60	102	268	233	296	316	323	358	399	372	358	344	358	337	297
16		344	344	351	337	268	282	157	192	309	289	129	178	233	316	303	309	330	316	330	358	351	351	351	393	297
17		365	365	351	337	296	275	150	122	129	226	296	233	268	303	296	309	323	330	337	358	393	455	434	406	307
18		365	372	351	344	344	337	282	122	-106	-44	-23	74	199	261	330	337	323	351	393	372	379	393	358	393	271
19		365	323	275	289	289	386	316	282	309	330	337	330	337	323	323	309	303	303	309	323	323	330	330	330	320
20	D	351	365	379	372	337	289	109	-189	-44	143	213	157	129	192	254	365	323	344	386	420	434	448	386	441	275
21		316	199	316	164	268	303	254	247	164	19	171	268	323	309	296	309	309	330	379	406	448	545	427	393	298
22		365	337	337	323	337	129	261	337	323	289	282	247	358	330	323	309	309	337	344	344	337	337	337	337	316
23		337	337	337	337	323	323	289	351	351	337	337	337	330	323	323	316	309	323	337	344	344	337	337	344	332
24		337	337	351	358	330	289	116	247	275	323	323	330	330	330	323	316	309	316	330	337	337	337	337	344	315
25	Q	337	344	365	358	344	330	240	247	309	330	337	337	337	323	316	309	316	316	330	330	344	337	337	344	326
26	Q	351	351	358	351	358	358	351	344	344	344	344	337	337	330	323	316	309	316	330	344	365	386	427	455	351
27		399	344	337	344	330	282	296	337	344	344	344	337	337	337	316	316	316	323	344	393	496	573	517	455	365
28	D	496	420	386	413	358	344	344	337	337	344	323	261	143	67	185	247	323	351	413	462	351	434	358	379	337
29		330	261	309	351	365	323	261	185	219	254	136	171	316	379	344	323	330	351	379	365	351	316	358	372	306
MEAN	A	373	336	348	338	318	302	257	236	237	234	221	246	283	295	307	318	322	332	352	367	373	387	379	373	314
MEAN	Q	341	344	352	345	340	336	315	315	329	332	336	333	332	326	319	314	314	315	325	333	345	347	362	363	334
MEAN	D	424	347	350	350	309	297	236	164	168	188	99	158	211	217	275	323	336	354	406	430	395	419	370	351	299

DECLINATION

TABLE 5 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES FEBRUARY 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		19.8	19.8	19.8	19.8	15.0	12.6	36.6	15.0	10.2	10.2	10.2	12.6	15.0	12.6	12.6	12.6	19.8	19.8	22.2	24.6	22.2	22.2	19.8	12.6	17.4
2		3.0	5.4	7.8	10.2	12.6	15.0	15.0	17.4	22.2	27.0	10.2	7.8	12.6	15.0	7.8	22.2	19.8	15.0	27.0	24.6	15.0	19.8	12.6	12.6	14.9
3		24.6	12.6	12.6	10.2	15.0	17.4	19.8	41.4	24.6	10.2	10.2	15.0	15.0	15.0	17.4	3.0	5.4	22.2	27.0	24.6	24.6	19.8	12.6	15.0	17.3
4		15.0	22.2	15.0	5.4	24.6	41.4	22.2	34.2	7.8	5.4	-9.0	3.0	5.4	15.0	12.6	15.0	17.4	19.8	19.8	19.8	17.4	17.4	17.4	17.4	15.9
5		17.4	17.4	17.4	15.0	15.0	15.0	15.0	15.0	17.4	15.0	12.6	15.0	15.0	12.6	10.2	15.0	15.0	17.4	22.2	22.2	19.8	19.8	7.8	17.4	15.9
6	Q	17.4	15.0	10.2	15.0	15.0	15.0	17.4	19.8	19.8	17.4	15.0	15.0	15.0	12.6	12.6	12.6	15.0	19.8	24.6	24.6	24.6	22.2	19.8	17.4	17.2
7	Q	17.4	17.4	17.4	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	12.6	12.6	12.6	10.2	10.2	15.0	15.0	19.8	22.2	22.2	19.8	22.2	15.0	15.9
8		17.4	24.6	43.8	7.8	15.0	17.4	15.0	15.0	15.0	12.6	15.0	15.0	15.0	15.0	15.0	15.0	7.8	10.2	15.0	15.0	19.8	7.8	5.4	7.8	15.1
9		15.0	67.8	27.0	24.6	58.2	24.6	22.2	19.8	17.4	19.8	-6.6	10.2	17.4	10.2	10.2	7.8	19.8	19.8	19.8	19.8	10.2	12.6	22.2	7.8	19.9
10	D	12.6	41.4	27.0	10.2	15.0	29.4	19.8	15.0	17.4	10.2	5.4	5.4	10.2	10.2	10.2	12.6	-6.6	-30.6	-42.6	.6	7.8	15.0	24.6	29.4	10.4
11	D	19.8	48.6	27.0	43.8	34.2	43.8	17.4	24.6	27.0	12.6	72.6	15.0	12.6	19.8	27.0	29.4	29.4	15.0	19.8	19.8	7.8	10.2	15.0	7.8	25.0
12		17.4	36.6	39.0	24.6	12.6	17.4	15.0	17.4	12.6	12.6	10.2	10.2	15.0	15.0	15.0	19.8	19.8	24.6	27.0	24.6	24.6	22.2	19.8	19.8	19.7
13		17.4	19.8	17.4	17.4	22.2	29.4	34.2	15.0	17.4	5.4	10.2	15.0	31.8	31.8	15.0	22.2	22.2	31.8	29.4	19.8	19.8	17.4	15.0	17.4	20.6
14	Q	17.4	15.0	17.4	17.4	19.8	17.4	19.8	17.4	17.4	15.0	15.0	15.0	15.0	15.0	15.0	17.4	19.8	22.2	24.6	22.2	22.2	17.4	19.8	19.8	18.1
15	D	19.8	19.8	19.8	19.8	22.2	19.8	19.8	17.4	10.2	5.4	15.0	7.8	5.4	27.0	34.2	36.6	31.8	7.8	12.6	22.2	22.2	22.2	17.4	15.0	18.8
16		17.4	17.4	15.0	19.8	31.8	31.8	46.2	39.0	15.0	15.0	19.8	19.8	19.8	12.6	19.8	15.0	17.4	22.2	27.0	24.6	22.2	19.8	17.4	12.6	21.6
17		5.4	12.6	15.0	15.0	15.0	24.6	75.0	36.6	15.0	12.6	15.0	10.2	10.2	10.2	15.0	19.8	22.2	27.0	24.6	22.2	17.4	12.6	-1.8	3.0	18.1
18		12.6	10.2	15.0	15.0	17.4	17.4	17.4	34.2	48.6	15.0	19.8	3.0	17.4	24.6	27.0	15.0	19.8	12.6	10.2	17.4	15.0	15.0	12.6	10.2	17.6
19		5.4	7.8	3.0	.6	22.2	36.6	19.8	12.6	12.6	12.6	12.6	12.6	12.6	10.2	10.2	15.0	17.4	19.8	19.8	22.2	19.8	19.8	17.4	17.4	15.0
20	D	15.0	-4.2	5.4	12.6	17.4	22.2	60.6	72.6	34.2	3.0	7.8	10.2	29.4	24.6	19.8	15.0	19.8	22.2	12.6	10.2	10.2	.6	12.6	.6	18.1
21		10.2	43.8	53.4	70.2	36.6	22.2	31.8	29.4	15.0	43.8	27.0	10.2	10.2	15.0	10.2	15.0	17.4	19.8	19.8	15.0	19.8	12.6	19.8	19.8	24.5
22		15.0	17.4	17.4	12.6	19.8	70.2	29.4	15.0	10.2	12.6	15.0	7.8	10.2	12.6	10.2	10.2	19.8	19.8	22.2	19.8	19.8	19.8	17.4	19.8	18.5
23		17.4	19.8	19.8	17.4	15.0	34.2	39.0	17.4	12.6	12.6	12.6	15.0	15.0	12.6	12.6	12.6	19.8	22.2	22.2	19.8	19.8	19.8	19.8	17.4	18.6
24		17.4	17.4	15.0	10.2	17.4	22.2	34.2	19.8	12.6	12.6	7.8	12.6	12.6	10.2	10.2	17.4	22.2	24.6	24.6	24.6	24.6	19.8	19.8	19.8	17.9
25	Q	19.8	19.8	12.6	15.0	17.4	17.4	27.0	19.8	12.6	12.6	12.6	15.0	12.6	10.2	10.2	10.2	22.2	24.6	24.6	27.0	24.6	22.2	19.8	17.4	17.8
26	Q	17.4	17.4	15.0	15.0	15.0	15.0	17.4	19.8	17.4	15.0	15.0	15.0	12.6	10.2	10.2	12.6	15.0	17.4	22.2	27.0	24.6	22.2	15.0	5.4	16.2
27		10.2	15.0	17.4	19.8	19.8	22.2	19.8	17.4	15.0	15.0	12.6	10.2	10.2	7.8	5.4	12.6	19.8	24.6	24.6	22.2	12.6	.6	5.4	10.2	14.6
28	D	31.8	22.2	19.8	12.6	17.4	17.4	19.8	17.4	15.0	15.0	12.6	3.0	5.4	22.2	24.6	29.4	27.0	7.8	5.4	-6.6	5.4	.6	22.2	24.6	15.5
29		27.0	46.2	46.2	27.0	24.6	24.6	27.0	29.4	17.4	15.0	12.6	12.6	10.2	5.4	10.2	10.2	17.4	17.4	19.8	19.8	22.2	24.6	19.8	17.4	21.0
MEAN	A	16.3	22.3	20.3	17.9	20.6	24.4	26.5	23.4	17.4	14.0	13.9	11.4	13.8	14.8	14.5	15.9	18.2	17.6	18.9	19.7	18.6	16.4	16.2	14.8	17.8
MEAN	Q	17.9	16.9	14.5	15.5	16.4	16.0	19.3	18.4	16.4	15.0	14.5	14.5	13.6	12.1	11.6	12.6	17.4	19.8	23.2	24.6	23.6	20.8	19.3	15.0	17.0
MEAN	D	19.8	25.6	19.8	19.8	21.2	26.5	27.5	29.4	20.8	9.2	22.7	8.3	12.6	20.8	23.2	24.6	20.3	4.4	1.6	9.2	10.7	9.7	18.4	15.5	17.6

VERTICAL INTENSITY

TABLE 6 GREAT WHALE RIVER Z = 59000 PLUS TABULAR VALUES IN GAMMAS FEBRUARY 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
HOUR UT																										
1		305	305	298	298	271	264	373	298	298	298	292	292	292	292	298	298	292	298	312	339	319	332	319	244	301
2		175	318	318	304	277	291	304	297	359	399	284	291	277	257	277	284	304	297	311	304	243	223	134	202	280
3		269	303	310	303	303	310	351	337	296	276	317	296	290	290	283	290	283	330	310	317	317	324	317	330	306
4		343	234	207	255	343	336	357	350	390	479	302	295	268	275	289	295	309	309	316	316	316	309	302	302	312
5		302	302	309	309	309	302	302	302	302	289	289	289	295	302	302	302	302	309	316	316	323	316	316	323	305
6	Q	308	315	322	315	315	308	301	301	301	301	301	301	301	301	308	301	301	308	308	308	315	308	301	301	306
7	Q	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	307	300	314	314	302
8		313	265	299	272	299	306	313	326	340	320	292	279	286	286	292	320	326	299	313	320	313	286	272	292	301
9		108	271	230	346	291	359	407	407	414	420	339	196	237	278	312	312	312	319	332	339	325	278	203	190	301
10	D	190	162	210	251	237	312	339	380	393	393	319	251	257	298	305	312	305	142	-28	176	264	298	149	61	249
11	D	-49	114	195	352	358	311	379	501	521	630	440	603	453	311	345	352	385	379	372	352	318	250	243	134	344
12		120	120	92	194	201	228	398	405	296	337	317	310	289	296	296	296	310	317	317	317	317	310	310	317	279
13		309	309	309	302	309	302	438	424	512	417	329	268	275	261	275	288	343	343	336	329	322	322	316	309	331
14	Q	308	308	301	301	294	301	308	308	308	308	308	308	308	308	308	301	301	301	308	308	308	308	308	308	305
15	D	301	301	294	294	308	321	321	287	294	342	464	287	172	267	267	301	335	335	301	301	301	308	315	308	305
16		314	307	293	293	157	300	381	280	273	286	300	225	185	280	293	307	307	314	320	320	307	307	307	307	290
17		313	319	319	313	285	245	306	299	333	333	279	197	238	258	279	292	306	306	306	319	319	279	265	272	291
18		257	284	298	305	291	305	352	434	325	515	257	189	203	257	264	298	312	318	325	332	339	332	332	312	310
19		222	270	283	243	249	297	358	365	317	304	304	297	304	311	317	311	304	311	317	311	304	304	304	304	300
20	D	304	277	283	324	311	263	277	385	474	507	338	236	168	249	317	317	345	351	338	317	317	290	304	249	314
21		208	113	167	371	337	323	452	350	323	337	255	255	276	282	296	316	323	323	330	323	282	242	323	330	297
22		329	309	302	268	227	200	295	309	295	288	275	268	295	302	315	315	322	329	329	322	315	309	302	302	297
23		301	301	301	301	233	199	246	294	308	308	301	294	301	301	301	301	308	314	314	314	314	314	308	308	295
24		293	293	300	286	252	313	320	293	286	279	266	279	286	300	300	300	300	300	313	313	307	300	293	293	294
25	Q	293	300	293	300	300	286	273	245	259	273	286	293	293	293	293	286	293	300	307	313	313	300	300	300	291
26	Q	299	299	299	285	258	272	285	285	285	285	285	285	285	285	285	285	285	292	299	299	312	319	319	258	289
27		311	298	291	298	291	318	291	284	284	284	284	284	291	298	291	284	291	298	298	311	284	216	101	6	270
28	D	-9	134	147	215	276	276	276	283	283	283	263	242	283	236	242	229	242	290	236	181	154	154	154	175	219
29		188	161	242	270	249	317	351	426	351	310	297	256	263	290	290	283	304	297	297	317	324	310	310	310	292
MEAN	A	249	262	269	292	280	292	333	336	335	348	306	282	275	285	295	299	309	308	302	308	303	291	277	264	296
MEAN	Q	302	304	303	300	293	293	293	288	291	293	296	297	297	297	299	295	296	300	304	306	311	307	308	296	299
MEAN	D	147	198	226	287	298	297	318	367	393	431	365	324	267	272	295	302	322	299	244	265	271	260	233	185	286

HORIZONTAL INTENSITY

TABLE 7 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS MARCH 1968

	HOUR UT	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
DAY																										
1		403	480	417	369	369	313	307	341	307	251	230	154	237	265	286	244	307	355	348	327	320	327	341	341	318
2		341	341	355	300	313	376	334	244	244	244	189	279	327	320	313	313	334	348	355	383	445	445	459	480	337
3		459	466	403	369	334	327	320	210	99	175	251	189	223	279	272	307	341	362	445	514	584	528	514	549	355
4		445	466	431	369	341	341	341	161	106	92	-5	140	230	293	313	300	334	376	417	480	528	542	487	597	339
5		597	507	417	348	223	327	327	313	196	-144	-130	-137	-19	210	383	348	341	341	369	417	473	521	577	500	305
6		383	362	369	348	369	341	327	272	203	307	307	300	320	327	327	320	327	348	369	369	397	445	424	376	343
7	Q	376	390	313	237	251	320	327	300	203	286	320	327	334	327	334	334	334	341	355	369	369	397	397	390	330
8	Q	410	431	397	376	355	327	327	341	341	341	334	327	327	327	320	313	313	327	341	362	376	383	362	355	351
9	Q	348	362	383	390	362	376	341	334	327	327	334	341	334	327	327	320	320	327	341	348	348	341	355	369	345
10		452	431	424	369	251	279	327	307	293	320	341	320	327	300	272	279	341	362	362	369	424	459	383	369	348
11		362	348	369	327	293	251	258	265	293	279	334	355	348	341	334	327	334	334	341	348	362	369	369	362	329
12		348	348	341	348	348	341	334	348	341	334	230	189	237	307	307	327	327	334	376	445	535	521	452	348	349
13	Q	341	362	348	300	189	293	341	327	307	313	334	348	341	334	327	327	327	327	334	341	348	355	369	397	330
14	D	438	459	452	431	397	369	348	341	327	210	85	230	307	327	320	341	341	355	403	431	445	514	507	438	367
15	D	397	348	327	265	272	210	175	-12	71	203	217	217	223	279	327	334	334	348	383	473	514	500	383	397	299
16	D	320	348	390	189	189	2	161	210	237	126	279	265	85	154	348	334	327	334	355	355	403	452	445	424	281
17		397	369	417	341	106	154	258	272	251	307	341	348	341	334	341	327	327	327	334	355	362	376	383	369	322
18		383	362	341	369	348	300	293	244	106	223	300	348	355	348	327	327	320	334	355	369	369	369	369	369	326
19		362	369	369	313	313	327	230	43	30	133	182	300	320	341	341	334	341	327	355	376	362	362	355	355	298
20		355	369	300	126	286	327	348	320	327	334	230	64	286	320	362	341	334	327	334	341	348	403	390	390	315
21		355	369	355	376	320	265	286	223	286	286	348	355	341	320	307	313	334	341	355	390	355	348	348	355	330
22	Q	355	369	355	355	348	334	251	300	334	334	341	334	307	320	327	327	341	348	348	355	362	362	348	355	338
23		355	348	348	348	313	327	341	334	341	334	341	341	313	320	320	313	320	327	369	376	417	556	535	417	361
24	D	431	417	424	355	279	2	-40	-5	78	203	258	175	230	320	293	313	313	341	369	397	521	466	383	369	287
25		383	403	480	320	403	265	272	265	175	223	320	327	251	327	327	313	327	376	397	487	459	480	494	362	352
26		362	348	362	362	348	286	210	196	300	251	-19	36	217	320	313	334	341	362	376	369	383	410	459	480	309
27		369	348	313	348	272	196	175	175	265	251	244	313	383	341	313	313	327	369	438	507	570	556	494	466	348
28		417	355	348	223	92	334	313	189	120	300	355	286	293	327	334	327	327	341	376	362	369	452	410	362	317
29		355	390	348	196	293	279	237	99	99	-47	23	30	258	313	327	348	369	348	362	376	410	459	646	632	298
30	D	480	327	431	397	327	161	78	258	286	362	348	369	348	362	327	286	293	473	521	584	597	535	466	410	376
31		397	383	362	341	334	230	313	133	85	286	327	327	272	272	293	341	348	355	452	570	570	521	521	570	358
MEAN	A	393	386	377	326	298	277	273	237	225	240	245	252	281	310	321	320	331	349	375	405	430	444	433	418	331
MEAN	Q	366	383	359	331	301	330	318	320	302	320	333	336	329	327	327	325	327	334	344	355	361	367	366	373	339
MEAN	D	413	380	405	327	293	149	144	158	200	221	237	251	239	289	323	322	322	370	406	448	496	494	437	408	322

DECLINATION

TABLE 8 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES MARCH 1968

	HOUR UT	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
DAY																										
1		12.6	7.8	5.4	12.6	15.0	22.2	19.8	15.0	17.4	12.6	12.6	15.0	7.8	10.2	15.0	15.0	27.0	31.8	24.6	27.0	27.0	22.2	19.8	17.4	17.2
2		17.4	15.0	15.0	19.8	17.4	15.0	15.0	27.0	17.4	5.4	10.2	7.8	3.0	3.0	10.2	15.0	15.0	15.0	19.8	19.8	17.4	10.2	12.6	.6	13.5
3		.6	5.4	15.0	15.0	17.4	19.8	19.8	24.6	19.8	12.6	10.2	15.0	10.2	5.4	19.8	19.8	5.4	7.8	3.0	5.4	10.2	3.0	-4.2	-9.0	10.5
4		7.8	17.4	15.0	24.6	22.2	15.0	17.4	31.8	19.8	12.6	7.8	3.0	3.0	5.4	10.2	19.8	17.4	15.0	12.6	.6	-1.8	.6	10.2	-13.8	11.4
5		5.4	7.8	10.2	15.0	60.6	22.2	10.2	10.2	22.2	31.8	7.8	55.8	34.2	.6	3.0	17.4	19.8	19.8	22.2	17.4	10.2	7.8	-4.2	10.2	17.4
6		10.2	12.6	22.2	19.8	12.6	15.0	17.4	19.8	12.6	10.2	10.2	10.2	5.4	5.4	7.8	15.0	19.8	22.2	19.8	24.6	22.2	10.2	17.4	19.8	15.1
7	Q	15.0	12.6	29.4	36.6	36.6	22.2	15.0	15.0	19.8	12.6	10.2	7.8	5.4	5.4	7.8	17.4	17.4	24.6	24.6	19.8	19.8	19.8	19.8	15.0	17.9
8	Q	12.6	5.4	10.2	10.2	15.0	17.4	12.6	10.2	10.2	10.2	10.2	10.2	7.8	3.0	3.0	7.8	15.0	19.8	24.6	24.6	19.8	19.8	19.8	19.8	13.3
9	Q	17.4	15.0	10.2	12.6	5.4	15.0	12.6	12.6	12.6	12.6	10.2	10.2	7.8	5.4	7.8	10.2	15.0	19.8	22.2	24.6	22.2	19.8	19.8	17.4	14.1
10		7.8	5.4	10.2	17.4	29.4	31.8	12.6	10.2	10.2	7.8	10.2	7.8	5.4	7.8	19.8	24.6	39.0	19.8	24.6	24.6	19.8	12.6	12.6	15.0	16.1
11		15.0	17.4	19.8	29.4	29.4	39.0	24.6	7.8	7.8	5.4	5.4	10.2	7.8	7.8	10.2	15.0	17.4	19.8	22.2	22.2	19.8	17.4	15.0	15.0	16.7
12		17.4	15.0	15.0	15.0	15.0	12.6	12.6	12.6	12.6	10.2	7.8	15.0	19.8	12.6	17.4	22.2	19.8	19.8	17.4	5.4	-4.2	.6	12.6	17.4	13.4
13	Q	15.0	12.6	17.4	27.0	53.4	19.8	15.0	12.6	12.6	10.2	10.2	10.2	7.8	7.8	7.8	12.6	15.0	19.8	22.2	22.2	22.2	19.8	17.4	12.6	16.8
14	D	.6	15.0	17.4	15.0	29.4	15.0	10.2	5.4	5.4	.6	.6	.6	5.4	3.0	12.6	22.2	24.6	19.8	17.4	12.6	10.2	-1.8	3.0	3.0	10.3
15	D	12.6	36.6	36.6	17.4	43.8	41.4	19.8	24.6	.6	-13.8	-1.8	5.4	15.0	15.0	17.4	17.4	17.4	19.8	7.8	-4.2	-1.8	-4.2	10.2	15.0	14.5
16	D	15.0	-1.8	19.8	51.0	46.2	67.8	41.4	19.8	3.0	12.6	3.0	5.4	27.0	34.2	7.8	17.4	22.2	22.2	24.6	24.6	19.8	5.4	-1.8	-13.8	19.7
17		7.8	22.2	3.0	17.4	55.8	41.4	15.0	15.0	12.6	15.0	15.0	12.6	10.2	10.2	12.6	15.0	19.8	24.6	27.0	24.6	22.2	19.8	15.0	5.4	18.3
18		12.6	19.8	3.0	15.0	29.4	24.6	19.8	17.4	29.4	22.2	10.2	10.2	7.8	3.0	3.0	12.6	19.8	24.6	27.0	24.6	22.2	19.8	17.4	12.6	17.0
19		15.0	15.0	15.0	10.2	24.6	19.8	22.2	34.2	34.2	5.4	5.4	10.2	15.0	5.4	7.8	10.2	15.0	24.6	22.2	24.6	24.6	22.2	19.8	17.4	17.5
20		15.0	15.0	27.0	51.0	19.8	15.0	12.6	15.0	12.6	15.0	15.0	31.8	17.4	10.2	3.0	5.4	12.6	17.4	24.6	24.6	24.6	19.8	15.0	12.6	18.0
21		15.0	12.6	10.2	7.8	24.6	29.4	19.8	19.8	12.6	12.6	12.6	10.2	7.8	5.4	12.6	19.8	19.8	19.8	19.8	15.0	24.6	22.2	19.8	15.0	16.2
22	Q	12.6	10.2	10.2	12.6	17.4	15.0	19.8	17.4	15.0	12.6	12.6	15.0	17.4	15.0	10.2	15.0	24.6	24.6	27.0	24.6	19.8	17.4	19.8	15.0	16.7
23		15.0	15.0	15.0	15.0	27.0	15.0	10.2	10.2	10.2	5.4	3.0	5.4	3.0	.6	5.4	10.2	12.6	17.4	19.8	19.8	15.0	-4.2	.6	10.2	10.7
24	D	5.4	3.0	5.4	10.2	22.2	43.8	10.2	36.6	-16.2	-4.2	3.0	.6	.6	3.0	7.8	24.6	19.8	15.0	19.8	17.4	-6.6	3.0	15.0	12.6	10.5
25		12.6	10.2	31.8	34.2	22.2	27.0	15.0	7.8	17.4	10.2	5.4	3.0	5.4	5.4	5.4	-1.8	7.8	5.4	7.8	-6.6	7.8	7.8	.6	17.4	10.8
26		15.0	15.0	12.6	12.6	15.0	22.2	24.6	17.4	5.4	5.4	19.8	27.0	19.8	.6	.6	3.0	7.8	15.0	10.2	17.4	15.0	15.0	7.8	-1.8	12.6
27		12.6	39.0	19.8	24.6	17.4	29.4	24.6	15.0	5.4	7.8	5.4	-4.2	-1.8	-1.8	.6	10.2	27.0	22.2	5.4	-4.2	-13.8	-4.2	.6	-9.0	9.5
28		-1.8	5.4	15.0	12.6	31.8	15.0	10.2	27.0	19.8	-1.8	.6	3.0	3.0	3.0	5.4	10.2	19.8	15.0	12.6	19.8	19.8	5.4	5.4	12.6	11.2
29		15.0	12.6	10.2	55.8	27.0	22.2	17.4	17.4	22.2	-11.4	-9.0	5.4	-1.8	-1.8	10.2	19.8	12.6	15.0	17.4	17.4	15.0	12.6	7.8	5.4	13.1
30	D	15.0	36.6	17.4	10.2	15.0	5.4	79.8	10.2	3.0	.6	3.0	.6	.6	-1.8	-4.2	-4.2	-13.8	-23.4	-4.2	-13.8	.6	3.0	-4.2	7.8	5.8
31		12.6	10.2	12.6	15.0	15.0	19.8	12.6	31.8	29.4	3.0	.6	3.0	-1.8	.6	10.2	24.6	15.0	17.4	-4.2	-6.6	5.4	7.8	10.2	19.8	11.0
MEAN	A	11.7	14.2	15.4	20.7	26.2	23.7	19.0	17.8	13.5	8.1	7.3	10.4	8.9	6.1	8.7	14.3	17.0	17.8	17.5	15.2	13.8	10.7	10.7	9.5	14.1
MEAN	Q	14.5	11.2	15.5	19.8	25.6	17.9	15.0	13.6	14.0	11.6	10.7	10.7	9.2	7.3	7.3	12.6	17.4	21.7	24.1	23.2	20.8	19.3	19.3	16.0	15.8
MEAN	D	9.7	17.9	19.3	20.8	31.3	34.7	32.3	19.3	-0.8	-0.8	1.6	2.5	9.7	10.7	8.3	15.5	14.0	10.7	13.1	7.3	4.4	1.1	4.4	4.9	12.2

VERTICAL INTENSITY

TABLE 9 GREAT WHALE RIVER Z = 59000 PLUS TABULAR VALUES IN GAMMAS MARCH 1968

HOUR UT DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		252	259	300	252	252	286	225	273	286	286	321	300	273	266	266	286	279	314	273	293	300	307	300	300	281
2		300	300	286	293	231	273	314	348	293	328	369	245	300	300	286	279	293	300	300	300	300	314	328	273	298
3		252	279	252	252	238	279	279	369	334	341	328	307	266	245	225	252	300	286	122	218	197	218	156	266	261
4		183	170	190	252	273	314	300	362	376	444	417	362	286	259	273	293	314	341	307	279	238	218	101	19	274
5		183	190	218	252	128	376	321	314	396	424	293	348	355	231	252	279	293	300	307	300	300	293	238	197	283
6		218	231	259	328	300	300	314	314	307	279	286	273	279	279	286	293	300	307	314	314	328	328	341	328	296
7	Q	321	300	252	389	286	321	300	314	328	286	273	279	300	293	286	293	300	300	307	314	321	328	328	321	306
8	Q	314	314	328	314	307	300	307	300	300	300	300	300	307	314	314	307	300	307	314	321	321	328	328	314	311
9	Q	307	307	307	279	266	293	300	300	300	286	293	300	300	307	314	314	314	314	314	321	321	314	314	314	304
10		273	321	300	245	149	334	334	321	314	286	293	286	293	286	266	286	307	307	328	341	362	348	334	314	301
11		300	307	300	300	273	424	382	465	396	362	293	286	300	300	300	300	300	300	300	300	314	321	334	314	324
12		300	300	300	314	300	293	300	300	293	286	279	218	190	238	252	266	300	328	334	348	300	314	355	348	294
13	Q	321	300	273	300	273	300	286	300	293	273	279	300	300	300	300	293	293	300	300	300	307	307	314	314	297
14	D	266	183	190	225	245	307	314	321	362	430	334	197	231	266	293	314	314	328	321	321	328	183	149	231	277
15	D	273	211	238	142	218	355	540	554	533	376	348	286	231	293	293	300	314	328	348	286	307	266	328	334	321
16	D	204	231	273	286	472	540	458	417	417	424	279	273	334	238	273	293	300	314	321	328	300	321	279	231	325
17		300	225	273	321	369	382	362	362	341	300	286	307	300	314	307	300	300	307	314	321	328	334	341	328	318
18		328	293	238	279	273	293	355	410	417	286	252	286	300	300	300	307	314	321	314	314	307	307	307	321	309
19		314	307	286	273	252	307	369	451	355	231	245	273	279	286	293	300	314	328	328	328	321	321	314	307	307
20		307	286	273	142	286	293	300	300	286	286	259	190	252	273	300	307	300	300	300	300	314	307	328	314	283
21		307	300	279	273	273	273	314	321	300	273	300	307	314	300	300	307	314	321	348	334	314	321	321	314	305
22	Q	314	314	300	307	307	307	321	286	293	300	286	286	286	286	300	307	314	321	328	328	328	328	314	307	307
23		307	300	300	300	286	273	286	286	286	279	286	286	273	259	273	286	300	307	307	314	341	293	293	334	294
24	D	341	300	252	231	293	424	527	451	444	451	348	314	259	273	279	286	307	328	348	328	266	245	314	321	330
25		314	197	46	149	286	245	355	396	479	328	286	300	273	279	300	314	334	334	314	328	300	321	314	314	296
26		328	321	321	314	314	341	369	341	300	321	396	259	218	266	286	321	328	328	341	328	321	328	328	252	315
27		128	225	231	197	314	458	479	437	417	424	355	300	314	314	314	307	321	328	334	334	231	300	286	286	318
28		314	321	314	396	142	300	321	437	328	286	307	293	266	273	300	300	300	321	328	314	334	314	314	307	309
29		307	300	156	334	348	376	472	424	465	334	314	293	231	259	279	293	300	300	314	314	321	328	211	183	311
30	D	231	341	252	273	328	403	321	369	341	300	314	307	314	328	314	321	334	341	259	115	108	259	266	252	291
31		300	266	286	300	328	451	389	499	410	293	321	314	300	259	266	286	307	334	328	238	266	286	204	163	308
MEAN	A	281	274	260	275	278	336	349	366	355	326	308	286	281	280	287	297	307	315	310	304	297	301	290	281	302
MEAN	Q	315	307	292	318	288	304	303	300	303	289	286	293	299	300	303	303	304	308	312	317	319	321	319	314	305
MEAN	D	263	253	241	231	311	406	432	422	420	396	325	275	274	279	290	303	314	328	319	275	262	255	267	274	309

HORIZONTAL INTENSITY

TABLE 10 GREAT WHALE RIVER H = 950C PLUS TABULAR VALUES IN GAMMAS APRIL 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
HOUR UT																										
1	D	427	344	386	213	316	282	296	247	-23	123	240	199	171	261	330	337	379	406	427	448	503	517	462	400	320
2		379	413	400	282	337	289	116	206	303	344	323	303	337	337	323	344	337	351	393	476	510	510	531	524	361
3		490	379	316	330	240	275	233	233	192	136	226	289	316	303	330	344	365	372	358	358	365	393	448	503	325
4		559	406	406	337	358	330	323	282	254	316	310	316	337	337	323	337	365	365	365	365	344	372	420	476	359
5	D	503	483	441	358	337	296	289	261	289	316	358	344	358	344	303	316	365	400	476	635	469	503	406	400	385
6	D	358	337	254	213	303	289	303	199	-175	46	150	233	171	296	323	344	372	441	420	406	427	441	434	406	291
7		372	337	303	206	192	310	310	226	192	247	261	337	330	337	310	337	344	344	351	358	372	372	365	386	312
8	Q	379	379	351	344	330	337	358	344	358	351	344	344	330	344	337	330	337	351	358	372	372	372	365	365	352
9	Q	365	358	358	365	358	365	358	358	365	358	358	351	351	344	337	330	330	337	351	365	372	386	393	386	358
10		400	420	406	400	365	358	220	254	303	337	337	344	337	337	330	330	330	351	386	406	393	372	386	386	354
11		393	420	379	261	303	358	330	254	310	303	226	213	289	330	337	330	351	358	372	386	379	372	372	372	333
12		372	365	365	365	372	372	372	372	372	372	365	372	372	358	351	351	372	379	386	427	400	476	573	566	393
13		413	358	351	157	220	330	358	344	323	261	60	19	213	351	323	323	330	406	448	462	476	573	462	427	333
14	D	462	372	303	164	282	233	337	372	365	358	268	-78	-51	296	337	303	337	372	400	455	393	386	420	434	313
15		386	379	365	372	372	337	310	337	282	39	95	296	351	337	337	330	365	379	420	434	441	455	462	441	347
16		442	428	241	214	151	193	317	311	214	214	290	317	338	345	338	331	345	366	387	387	442	553	491	449	338
17		414	401	366	317	214	234	186	172	234	262	207	290	366	331	352	373	373	373	387	414	387	421	421	401	329
18		401	359	331	366	345	186	137	193	262	290	283	317	345	352	338	338	338	373	401	421	387	394	387	401	331
19	Q	379	372	372	365	344	358	351	337	358	365	365	358	358	344	344	337	337	344	351	365	372	386	372	372	359
20	Q	372	379	372	372	372	372	372	365	365	365	358	358	358	351	344	337	337	351	365	372	372	372	372	379	364
21	Q	379	372	372	379	379	372	358	372	372	365	365	358	337	337	344	337	337	344	365	372	386	386	386	393	365
22		413	420	427	400	434	386	303	116	164	275	365	372	358	330	330	330	365	386	400	400	462	524	580	524	378
23		475	419	392	322	260	239	295	357	336	329	329	315	336	329	343	357	357	371	399	461	475	502	516	530	377
24		447	399	364	198	73	225	350	392	371	357	329	357	343	336	322	336	371	378	378	364	378	399	405	385	344
25		371	371	371	378	364	329	315	336	357	371	364	350	343	329	315	322	343	371	385	426	468	620	592	641	393
26	D	599	489	405	399	329	163	163	267	288	350	329	288	302	288	288	392	378	399	468	689	613	586	489	551	396
27		495	474	384	356	266	391	356	273	-53	3	342	370	342	335	342	349	356	384	425	501	591	591	418	384	361
28		398	398	204	314	100	231	218	321	321	314	245	328	342	328	301	328	349	377	418	418	474	501	536	446	342
29		418	418	335	280	155	204	176	37	3	245	328	349	294	321	356	349	356	391	391	398	467	495	612	585	332
30		474	384	301	273	342	356	349	273	155	224	301	370	356	349	321	321	328	349	370	370	384	446	467	446	346
MEAN	A	424	394	354	310	294	300	292	280	249	275	291	299	311	331	330	338	352	372	393	424	429	456	451	445	350
MEAN	Q	375	372	365	365	357	361	359	355	364	361	358	354	347	344	341	334	336	346	358	369	375	380	377	379	360
MEAN	D	470	405	358	269	313	253	277	269	149	239	269	197	190	297	316	338	366	404	438	527	481	487	442	438	341

DECLINATION

TABLE 11 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES APRIL 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1	D	40.9	57.7	33.7	43.3	14.5	19.3	33.7	19.3	26.5	7.3	.1	7.3	7.3	19.3	7.3	7.3	12.1	4.9	7.3	7.3	4.9	-2.3	12.1	14.5	16.9
2		26.5	16.9	16.9	48.1	21.7	21.7	57.7	24.1	12.1	9.7	12.1	9.7	2.5	4.9	4.9	12.1	16.9	14.5	14.5	-2.3	.1	7.3	2.5	7.3	15.1
3		7.3	16.9	21.7	28.9	16.9	19.3	26.5	14.5	12.1	2.5	9.7	9.7	.1	4.9	16.9	24.1	24.1	19.3	24.1	24.1	21.7	19.3	12.1	.1	15.7
4		9.7	33.7	31.3	45.7	33.7	16.9	19.3	4.9	14.5	12.1	9.7	4.9	4.9	7.3	14.5	19.3	21.7	26.5	21.7	16.9	16.9	12.1	4.9	-4.7	16.6
5	D	4.9	12.1	16.9	16.9	19.3	19.3	14.5	12.1	2.5	4.9	4.9	.1	2.5	2.5	.1	7.3	12.1	2.5	-23.9	-57.5	-11.9	28.9	31.3	9.7	5.5
6	D	14.5	21.7	31.3	36.1	19.3	24.1	-4.7	7.3	98.5	26.5	-4.7	.1	2.5	7.3	16.9	21.7	9.7	-7.1	9.7	14.5	2.5	7.3	4.9	4.9	15.2
7		14.5	19.3	28.9	57.7	43.3	19.3	16.9	12.1	16.9	12.1	9.7	4.9	4.9	7.3	12.1	14.5	16.9	19.3	21.7	19.3	16.9	16.9	14.5	14.5	18.1
8	Q	12.1	9.7	2.5	9.7	31.3	24.1	12.1	9.7	7.3	7.3	4.9	4.9	7.3	4.9	9.7	12.1	16.9	21.7	21.7	19.3	16.9	14.5	12.1	14.5	12.8
9	Q	14.5	14.5	14.5	12.1	12.1	9.7	9.7	9.7	9.7	9.7	7.3	4.9	2.5	2.5	7.3	12.1	19.3	21.7	21.7	19.3	14.5	14.5	12.1	12.1	12.0
10		12.1	9.7	12.1	12.1	19.3	16.9	19.3	19.3	9.7	7.3	4.9	2.5	2.5	4.9	9.7	14.5	19.3	19.3	19.3	16.9	16.9	14.5	9.7	9.7	12.6
11		9.7	7.3	19.3	40.9	19.3	12.1	12.1	7.3	4.9	.1	.1	-4.7	-4.7	-2.3	2.5	4.9	19.3	21.7	24.1	21.7	19.3	14.5	12.1	9.7	11.3
12		9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	7.3	7.3	4.9	.1	-2.3	.1	2.5	2.5	16.9	16.9	19.3	14.5	12.1	4.9	-16.7	-11.9	6.5
13		9.7	14.5	21.7	24.1	-2.3	12.1	9.7	4.9	9.7	7.3	7.3	2.5	-4.7	2.5	4.9	12.1	19.3	19.3	7.3	4.9	12.1	-14.3	.1	7.3	8.0
14	D	-2.3	9.7	16.9	45.7	33.7	33.7	12.1	9.7	9.7	7.3	7.3	21.7	40.9	.1	.1	7.3	24.1	12.1	19.3	7.3	16.9	16.9	9.7	4.9	15.2
15		9.7	9.7	14.5	9.7	12.1	9.7	12.1	9.7	9.7	16.9	7.3	-9.5	-9.5	.1	4.9	16.9	19.3	21.7	7.3	12.1	12.1	7.3	.1	-2.3	8.4
16		-2.3	7.3	33.7	52.9	31.3	26.5	9.7	9.7	12.1	12.1	9.7	4.9	2.5	.1	9.7	14.5	16.9	19.3	16.9	16.9	12.1	-4.7	4.9	4.9	13.4
17		4.9	4.9	12.1	19.3	33.7	24.1	21.7	14.5	9.7	-2.3	7.3	4.9	.1	4.9	4.9	12.1	4.9	9.7	14.5	14.5	19.3	12.1	4.9	9.7	11.1
18		9.7	4.9	24.1	14.5	14.5	28.9	36.1	26.5	7.3	4.9	9.7	7.3	2.5	2.5	2.5	9.7	14.5	16.9	14.5	12.1	16.9	16.9	14.5	7.3	13.3
19	Q	12.1	12.1	12.1	12.1	12.1	9.7	9.7	9.7	7.3	4.9	4.9	2.5	2.5	4.9	7.3	9.7	14.5	19.3	19.3	19.3	19.3	14.5	14.5	14.5	11.2
20	Q	12.1	12.1	12.1	12.1	9.7	9.7	9.7	9.7	9.7	9.7	4.9	2.5	4.9	9.7	14.5	16.9	21.7	26.5	26.5	24.1	19.3	16.9	14.5	14.5	13.5
21	Q	14.5	12.1	12.1	9.7	9.7	9.7	9.7	7.3	7.3	7.3	4.9	2.5	2.5	4.9	12.1	16.9	21.7	24.1	21.7	21.7	19.3	19.3	14.5	12.1	12.4
22		9.7	4.9	7.3	4.9	12.1	12.1	14.5	36.1	9.7	4.9	-4.7	-4.7	.1	2.5	9.7	19.3	28.9	26.5	24.1	21.7	14.5	2.5	-4.7	4.9	10.7
23		16.9	28.9	21.7	26.5	33.7	28.9	12.1	9.7	4.9	7.3	4.9	.1	.1	4.9	14.5	19.3	19.3	16.9	14.5	7.3	4.9	.1	.1	-2.3	12.3
24		9.7	28.9	26.5	62.5	43.3	33.7	12.1	7.3	7.3	7.3	.1	.1	.1	.1	4.9	16.9	16.9	19.3	21.7	19.3	12.1	7.3	4.9	9.7	15.5
25		9.7	12.1	12.1	12.1	14.5	21.7	14.5	9.7	7.3	2.5	2.5	.1	.1	2.5	4.9	14.5	26.5	28.9	24.1	12.1	7.3	-11.9	-4.7	7.3	9.6
26	D	31.3	24.1	24.1	24.1	43.3	40.9	33.7	7.3	2.5	-2.3	-2.3	-4.7	-9.5	-7.1	-4.7	12.1	24.1	12.1	-2.3	-52.7	-23.9	-9.5	28.9	26.5	9.0
27		33.7	14.5	4.9	14.5	21.7	16.9	12.1	7.3	52.9	21.7	-7.1	-9.5	-7.1	-4.7	2.5	12.1	16.9	19.3	7.3	-7.1	-14.3	7.3	7.3	12.1	9.8
28		9.7	16.9	76.9	19.3	43.3	28.9	19.3	9.7	4.9	4.9	.1	-2.3	-2.3	2.5	4.9	24.1	26.5	21.7	9.7	14.5	4.9	2.5	2.5	7.3	14.6
29		7.3	7.3	19.3	26.5	33.7	38.5	19.3	21.7	.1	-2.3	-9.5	-4.7	-2.3	.1	4.9	9.7	19.3	19.3	16.9	16.9	2.5	-2.3	-4.7	-9.5	9.5
30		.1	9.7	19.3	21.7	12.1	9.7	9.7	14.5	24.1	16.9	2.5	-2.3	.1	2.5	2.5	12.1	19.3	24.1	24.1	21.7	14.5	4.9	.1	4.9	11.2
MEAN	A	12.4	15.5	20.3	25.8	22.4	20.3	16.8	12.5	13.9	7.9	3.8	1.9	1.7	3.2	7.0	13.6	18.7	17.9	15.6	10.0	10.0	7.9	7.3	7.1	12.2
MEAN	Q	13.1	12.1	10.7	11.1	15.0	12.6	10.2	9.2	8.3	7.8	5.4	3.5	3.9	5.4	10.2	13.5	18.8	22.7	22.2	20.7	17.9	15.9	13.5	13.5	12.4
MEAN	D	17.9	25.1	24.6	33.2	26.0	27.5	17.9	11.1	27.9	8.7	1.1	4.9	8.7	4.4	3.9	11.1	16.4	4.9	2.0	-16.2	-2.3	8.3	17.4	12.1	12.4

VERTICAL INTENSITY

TABLE 12 GREAT WHALE RIVER Z = 59000 PLUS TABULAR VALUES IN GAMMAS APRIL 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1	D	53	185	268	379	351	337	379	400	296	427	337	303	268	206	268	289	317	323	337	296	310	282	323	323	302
2		228	241	255	331	304	331	394	311	297	297	297	304	304	304	311	311	318	324	331	331	297	304	304	124	298
3		201	263	346	249	319	325	374	402	381	388	339	305	284	263	263	284	319	319	305	312	319	325	339	215	310
4		188	223	250	306	326	340	389	368	333	299	278	264	278	278	278	285	292	306	306	320	333	354	354	347	304
5	D	293	224	258	265	300	327	341	327	314	300	307	307	307	307	300	293	293	286	265	113	-67	-12	113	237	250
6	D	294	308	335	308	238	370	432	543	626	481	294	308	308	294	308	328	363	356	342	335	342	315	335	328	354
7		309	309	316	309	433	420	350	454	447	302	274	302	309	309	316	329	329	323	323	323	323	329	323	329	337
8	Q	324	317	275	220	254	268	310	317	310	303	296	303	289	310	317	317	317	317	317	324	324	324	324	317	304
9	Q	318	311	318	318	318	311	318	318	311	318	318	311	311	311	311	304	311	311	318	318	318	325	338	331	316
10		319	263	249	256	312	319	374	312	298	291	291	298	298	298	305	305	319	332	353	353	346	339	346	326	313
11		327	292	285	299	299	327	361	417	347	361	327	264	257	285	299	306	306	306	313	313	320	320	313	313	315
12		321	314	314	314	314	314	314	314	307	307	300	307	307	300	300	300	307	314	328	341	362	341	321	307	315
13		308	294	363	446	329	322	335	329	329	342	419	335	232	266	315	342	349	384	363	322	342	266	294	329	331
14	D	274	288	246	309	336	385	350	316	323	316	330	503	240	316	309	316	336	364	378	336	323	343	343	330	330
15		331	317	310	310	317	351	372	331	379	476	227	268	303	317	310	324	344	351	365	358	358	351	337	324	335
16		326	298	256	291	478	430	360	353	416	360	305	305	305	312	319	312	319	319	333	339	367	319	305	277	333
17		299	320	313	327	347	313	347	431	334	320	320	306	320	313	327	334	340	334	375	334	320	340	334	327	332
18		335	238	265	321	335	425	425	293	300	328	314	279	286	314	321	328	335	328	341	328	328	335	341	328	324
19	Q	322	322	322	322	308	315	315	315	315	315	322	322	322	322	315	322	322	322	322	322	329	329	329	322	320
20	Q	323	323	323	323	309	316	323	316	323	316	316	316	323	323	323	323	323	323	323	323	323	323	323	316	320
21	Q	317	317	317	324	324	317	296	317	324	310	310	310	296	289	296	310	317	324	331	338	331	331	331	338	317
22		339	304	297	276	290	311	394	380	401	318	318	325	311	311	311	325	339	332	339	352	352	345	304	283	327
23		222	284	312	291	353	437	423	360	360	346	333	319	319	305	305	312	326	333	346	360	381	367	374	305	336
24		271	237	292	403	354	403	341	327	334	334	320	327	313	327	327	341	341	347	354	361	361	354	347	354	336
25		348	342	355	348	335	328	348	335	328	355	355	348	348	348	348	348	348	348	362	383	383	342	342	286	346
26	D	253	287	308	384	349	405	453	467	419	377	356	329	308	308	329	384	377	349	370	163	17	142	114	301	315
27		53	323	316	357	385	323	364	531	503	385	323	350	344	344	344	344	350	357	364	427	309	330	344	344	350
28		351	324	455	400	462	365	448	435	365	351	338	345	345	345	351	345	345	358	372	379	358	365	317	268	366
29		297	332	352	449	470	546	539	539	366	332	304	332	325	311	346	359	387	373	359	352	387	373	262	214	371
30		347	353	395	381	381	360	360	402	367	360	333	353	347	347	347	347	353	353	374	374	374	395	395	360	365
MEAN	A	283	292	309	327	341	355	371	375	358	344	317	318	303	306	314	322	331	334	340	328	316	317	316	303	326
MEAN	Q	320	318	311	301	302	305	312	316	316	312	312	312	308	311	312	315	318	319	322	325	325	326	329	325	316
MEAN	D	233	258	283	329	315	365	391	411	395	380	325	350	286	286	303	322	337	336	339	249	185	214	246	304	310

HORIZONTAL INTENSITY

TABLE 13 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS MAY 1968

HOUR UT DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		467	425	384	363	356	370	363	342	321	287	328	314	335	308	308	308	349	377	411	418	578	668	481	474	389
2		384	446	411	377	335	314	308	238	231	79	93	231	342	335	349	356	363	377	384	384	127	411	411	439	322
3		425	335	398	273	238	24	245	356	349	356	356	349	314	356	349	342	356	370	377	384	391	404	411	404	340
4	Q	404	391	356	363	356	321	342	314	308	328	356	356	356	349	342	342	342	363	370	384	398	377	391	398	359
5	Q	384	377	377	391	363	356	363	363	363	356	328	342	356	342	342	349	363	370	384	398	398	384	384	384	367
6	Q	369	369	376	383	369	334	341	369	376	376	369	369	362	355	348	348	355	369	383	383	383	383	383	376	368
7	D	390	410	424	383	417	307	258	279	279	43	2	50	-81	36	30	383	452	473	452	466	514	563	556	480	315
8		431	445	376	383	362	279	307	313	300	300	196	210	341	341	348	348	348	369	376	403	403	403	424	431	352
9	D	397	369	64	320	307	258	223	182	182	161	50	-5	99	182	251	307	327	348	604	729	618	632	618	549	324
10		473	445	383	410	348	383	383	383	397	383	376	362	362	355	355	355	355	369	369	383	390	397	410	397	384
11		437	312	195	319	306	271	319	347	216	77	285	361	375	347	375	361	354	375	402	396	416	465	472	493	345
12	D	382	333	319	312	236	77	98	278	312	188	202	146	326	368	361	368	382	382	389	402	513	486	430	444	322
13		451	319	326	375	236	153	188	285	292	236	105	326	347	326	340	326	340	368	396	437	486	451	437	402	331
14		416	333	202	202	306	312	306	312	361	375	368	326	333	319	319	326	340	368	382	444	437	396	402	409	346
15		423	402	306	312	299	216	160	105	236	326	368	396	375	361	354	354	361	368	375	389	416	451	486	472	346
16		443	284	325	367	131	284	180	145	208	305	208	118	76	249	311	388	429	478	505	492	464	408	408	388	316
17		388	401	381	305	249	263	83	235	270	215	201	298	332	346	291	346	388	443	533	519	575	672	450	422	358
18		443	401	367	381	325	339	339	138	131	277	360	353	381	374	325	291	318	408	512	498	429	512	526	443	370
19		415	415	388	215	270	367	360	284	83	291	360	339	311	346	332	339	353	436	471	540	665	609	457	408	377
20	D	464	291	346	360	256	332	305	41	-83	-42	-14	97	339	374	395	367	388	422	422	408	485	547	547	533	316
21	D	400	421	387	414	359	380	380	276	117	186	262	255	137	214	304	241	414	560	629	643	567	615	650	525	389
22		511	456	304	165	151	186	207	276	234	338	317	338	338	324	324	338	387	387	407	400	387	387	525	456	339
23		400	290	234	400	394	387	387	345	324	297	283	276	310	331	352	366	380	421	456	574	594	636	560	463	394
24		304	352	290	241	345	179	165	117	186	227	137	227	304	414	394	366	373	400	449	477	421	463	428	421	320
25		414	373	366	359	359	373	373	352	297	234	234	304	352	345	317	310	352	380	428	463	525	456	400	380	364
26	Q	365	406	413	386	206	316	379	365	351	330	309	337	344	344	330	330	337	351	365	372	372	386	372	365	351
27	Q	365	365	372	372	372	372	365	365	365	372	372	372	365	358	351	351	358	379	386	379	393	399	434	427	375
28		420	413	420	399	386	358	330	365	386	379	379	372	365	358	365	351	351	365	413	490	496	496	483	476	401
29		476	503	427	330	330	323	282	261	164	178	309	413	365	351	309	351	393	434	462	476	490	496	462	448	376
30		427	427	399	379	393	379	337	240	67	268	372	379	379	323	323	351	372	379	386	406	469	538	490	483	374
31		434	289	254	330	309	309	323	351	206	233	337	303	247	358	379	365	365	406	399	420	420	427	393	406	344
MEAN	A	416	381	341	341	312	294	290	278	252	257	265	288	306	325	328	343	366	397	428	450	459	481	461	439	354
MEAN	Q	377	382	379	379	333	340	358	355	352	352	347	355	357	350	343	344	351	366	377	383	388	386	393	390	364
MEAN	D	406	365	308	358	315	271	253	211	161	107	100	109	164	235	268	333	393	437	499	530	539	568	560	506	333

DECLINATION

TABLE 14 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES MAY 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		2.0	16.4	9.2	14.0	6.8	9.2	9.2	9.2	11.6	9.2	2.0	-5.2	-5.2	-5.2	4.4	6.8	14.0	9.2	11.6	16.4	-12.4	2.0	14.0	28.4	7.4
2		28.4	26.0	18.8	23.6	14.0	16.4	4.4	9.2	11.6	9.2	14.0	4.4	-5.2	-5.2	4.4	6.8	11.6	11.6	16.4	14.0	14.0	9.2	6.8	4.4	11.2
3		9.2	6.8	9.2	28.4	18.8	47.6	11.6	6.8	2.0	2.0	-0.4	-0.4	-2.8	2.0	6.8	14.0	21.2	21.2	18.8	14.0	9.2	11.6	11.6	9.2	11.6
4	Q	11.6	14.0	9.2	16.4	18.8	9.2	9.2	9.2	9.2	6.8	-0.4	-0.4	2.0	4.4	9.2	9.2	16.4	18.8	21.2	16.4	9.2	11.6	9.2	9.2	10.4
5	Q	9.2	11.6	11.6	9.2	6.8	9.2	9.2	6.8	4.4	4.4	4.4	-2.8	-2.8	2.0	9.2	14.0	18.8	18.8	21.2	14.0	11.6	9.2	11.6	11.6	9.3
6	Q	11.6	9.2	9.2	9.2	11.6	9.2	6.8	6.8	4.4	4.4	2.0	-0.4	-0.4	-0.4	4.4	11.6	14.0	18.8	18.8	18.8	16.4	14.0	11.6	9.2	9.2
7	D	11.6	9.2	6.8	14.0	18.8	38.0	40.4	18.8	18.8	33.2	-2.8	-2.8	2.0	11.6	4.4	21.2	9.2	4.4	4.4	4.4	-5.2	-10.0	-10.0	4.4	10.2
8		4.4	9.2	14.0	16.4	14.0	28.4	18.8	9.2	9.2	6.8	2.0	-2.8	-0.4	4.4	6.8	9.2	14.0	14.0	11.6	9.2	9.2	9.2	-0.4	4.4	9.2
9	D	26.0	38.0	54.8	30.8	35.6	26.0	16.4	11.6	9.2	4.4	-5.2	-0.4	6.8	11.6	23.6	11.6	23.6	21.2	-29.2	-53.2	-12.4	-5.2	-10.0	-7.6	9.5
10		-5.2	-0.4	2.0	16.4	23.6	16.4	6.8	6.8	4.4	-0.4	-5.2	-7.6	-5.2	-5.2	2.0	9.2	14.0	18.8	18.8	16.4	14.0	11.6	9.2	4.4	6.9
11		6.8	26.0	28.4	18.8	33.2	21.2	11.6	4.4	11.6	26.0	-5.2	-10.0	-5.2	-0.4	6.8	11.6	14.0	18.8	16.4	14.0	14.0	4.4	4.4	4.4	11.5
12	D	28.4	33.2	21.2	40.4	33.2	28.4	23.6	-0.4	-2.8	-2.8	2.0	-2.8	-5.2	-0.4	9.2	11.6	14.0	21.2	18.8	9.2	-7.6	-7.6	6.8	6.8	11.6
13		6.8	14.0	14.0	14.0	23.6	26.0	21.2	9.2	2.0	4.4	9.2	-2.8	-5.2	4.4	6.8	11.6	11.6	18.8	18.8	11.6	2.0	6.8	4.4	9.2	10.1
14		9.2	14.0	64.4	57.2	21.2	16.4	9.2	6.8	4.4	2.0	-2.8	-0.4	-0.4	2.0	9.2	18.8	18.8	18.8	18.8	6.8	9.2	11.6	11.6	9.2	14.0
15		4.4	4.4	21.2	21.2	21.2	14.0	33.2	21.2	6.8	-7.6	-10.0	-10.0	-12.4	-5.2	4.4	9.2	16.4	21.2	23.6	23.6	18.8	9.2	-0.4	4.4	9.7
16		11.6	64.4	35.6	28.4	28.4	14.0	33.2	28.4	11.6	-0.4	-2.8	-10.0	-7.6	4.4	9.2	6.8	2.0	-2.8	2.0	-0.4	6.8	9.2	9.2	11.6	12.2
17		9.2	4.4	14.0	16.4	11.6	14.0	21.2	14.0	6.8	-0.4	-10.0	-10.0	-7.6	-0.4	14.0	14.0	11.6	-14.8	-5.2	-0.4	-2.8	9.2	2.0	14.0	5.2
18		9.2	11.6	30.8	26.0	23.6	21.2	11.6	30.8	2.0	-10.0	-10.0	-10.0	-10.0	-5.2	-7.6	-10.0	4.4	26.0	-2.8	-0.4	11.6	-5.2	-5.2	9.2	5.9
19		4.4	6.8	23.6	33.2	23.6	11.6	11.6	14.0	33.2	2.0	-10.0	-10.0	-5.2	-2.8	2.0	6.8	4.4	-5.2	9.2	-0.4	-26.8	-17.2	6.8	9.2	5.2
20	D	14.0	21.2	38.0	28.4	30.8	14.0	18.8	42.8	6.8	4.4	-10.0	-14.8	-19.6	-10.0	6.8	6.8	11.6	9.2	11.6	14.0	2.0	-10.0	-17.2	6.8	8.6
21	D	52.4	30.8	23.6	21.2	14.0	14.0	9.2	18.8	11.6	-0.4	-10.0	-10.0	-22.0	6.8	18.8	6.8	-29.2	-31.6	-48.4	-29.2	-14.8	6.8	11.6	11.6	2.6
22		18.8	28.4	42.8	45.2	35.6	30.8	14.0	16.4	9.2	-0.4	-5.2	-5.2	-5.2	-5.2	-0.4	11.6	6.8	9.2	11.6	9.2	9.2	9.2	2.0	4.4	12.2
23		16.4	45.2	35.6	9.2	11.6	11.6	9.2	9.2	9.2	4.4	-0.4	-5.2	-10.0	-2.8	4.4	9.2	6.8	2.0	-0.4	-0.4	-19.6	-26.8	6.8	35.6	6.7
24		66.8	47.6	47.6	38.0	18.8	45.2	16.4	14.0	-5.2	-0.4	2.0	-5.2	-5.2	2.0	4.4	9.2	14.0	9.2	4.4	-0.4	6.8	4.4	2.0	-0.4	14.0
25		6.8	11.6	14.0	14.0	14.0	14.0	11.6	9.2	11.6	14.0	2.0	-10.0	-7.6	-0.4	6.8	14.0	14.0	21.2	11.6	4.4	-5.2	2.0	4.4	6.8	7.7
26	Q	9.2	9.2	9.2	18.8	26.0	21.2	9.2	11.6	9.2	6.8	-0.4	-7.6	-10.0	-5.2	-0.4	9.2	21.2	23.6	23.6	21.2	18.8	11.6	9.2	9.2	10.6
27	Q	9.2	9.2	9.2	9.2	9.2	9.2	6.8	6.8	4.4	-0.4	-2.8	-5.2	-7.6	-2.8	4.4	9.2	14.0	16.4	18.8	18.8	16.4	16.4	14.0	9.2	8.0
28		9.2	9.2	9.2	9.2	11.6	16.4	9.2	4.4	4.4	2.0	-0.4	-0.4	-2.8	-0.4	9.2	9.2	6.8	21.2	14.0	4.4	4.4	4.4	-0.4	2.0	6.5
29		2.0	11.6	18.8	33.2	23.6	16.4	14.0	6.8	16.4	-5.2	-10.0	-7.6	-2.8	-0.4	9.2	11.6	9.2	9.2	11.6	9.2	9.2	4.4	-5.2	4.4	7.9
30		-0.4	9.2	23.6	2.0	6.8	9.2	9.2	18.8	21.2	4.4	-2.8	-0.4	2.0	4.4	9.2	11.6	18.8	26.0	21.2	16.4	4.4	-5.2	2.0	4.4	9.0
31		6.8	30.8	28.4	21.2	11.6	14.0	11.6	11.6	23.6	16.4	-0.4	-5.2	-0.4	-5.2	-2.8	6.8	9.2	11.6	18.8	9.2	6.8	4.4	9.2	4.4	10.1
MEAN	A	13.2	18.8	22.5	22.1	19.4	19.1	14.5	12.7	9.1	4.5	-2.2	-5.2	-5.2	-0.1	6.4	10.0	11.5	12.5	10.1	6.8	3.8	3.4	4.2	8.2	9.2
MEAN	Q	10.2	10.6	9.7	12.6	14.5	11.6	8.2	8.2	6.3	4.4	.6	-3.3	-3.8	-0.4	5.4	10.6	16.9	19.3	20.7	17.8	14.5	12.6	11.1	9.7	9.5
MEAN	D	26.5	26.5	28.9	27.0	26.5	24.1	21.7	18.3	8.7	7.8	-5.2	-6.2	-7.6	3.9	12.6	11.6	5.8	4.9	-8.6	-11.0	-7.6	-5.2	-3.8	4.4	8.5

VERTICAL INTENSITY

TABLE 15 GREAT WHALE RIVER Z = 59C00 PLUS TABULAR VALUES IN GAMMAS MAY 1968

HOUR UT DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		330	323	358	351	316	337	344	337	330	323	330	330	330	323	316	316	330	351	358	385	309	97	131	110	307
2		179	303	255	255	296	412	467	426	412	481	447	330	330	323	330	344	344	344	358	358	358	364	364	358	352
3		303	296	303	529	570	673	454	399	385	344	337	344	323	337	344	344	351	358	358	351	358	358	351	358	380
4	Q	344	330	289	303	337	358	358	337	323	330	337	337	330	337	344	344	351	351	358	358	371	364	358	358	342
5	Q	345	345	345	331	331	317	331	338	338	338	304	310	331	331	331	331	338	345	352	352	352	338	345	345	336
6	Q	345	345	338	331	345	331	324	331	331	331	338	331	331	331	331	331	324	324	331	331	338	331	338	338	333
7	D	338	331	304	304	365	571	578	544	455	537	297	173	256	317	194	283	345	359	317	317	317	276	269	201	344
8		214	297	324	297	331	304	331	352	352	324	304	269	310	331	338	338	331	338	359	372	352	345	359	352	326
9	D	311	394	538	421	394	421	476	408	476	462	421	408	305	291	263	291	332	373	360	99	-4	78	222	284	334
10		318	305	305	318	366	332	346	325	346	353	346	339	332	332	332	332	318	318	332	332	332	346	353	360	334
11		339	366	490	394	408	456	435	401	538	435	346	305	318	318	318	325	332	332	346	353	360	360	346	277	371
12	D	174	188	325	318	511	662	552	442	394	387	421	346	325	332	332	332	339	332	339	353	373	353	339	339	367
13		299	292	285	326	436	477	415	347	354	443	367	285	312	312	319	340	347	367	367	374	347	354	361	347	353
14		326	278	230	306	354	395	450	402	340	340	347	326	319	319	319	319	326	333	347	361	347	347	347	340	338
15		333	292	182	312	361	553	615	669	539	374	319	326	319	319	319	312	312	319	319	319	326	347	361	312	365
16		278	264	271	367	484	415	395	395	333	306	361	312	244	244	306	374	388	402	374	402	395	361	347	347	349
17		348	327	334	355	382	437	410	416	356	403	327	238	245	279	272	300	334	368	382	355	300	190	307	320	334
18		313	252	348	362	375	320	375	513	423	334	320	313	320	327	327	348	362	410	368	341	341	327	307	334	348
19		327	300	348	444	362	327	334	403	334	334	320	320	300	293	307	320	348	375	396	355	286	259	300	334	334
20	D	300	259	334	382	519	499	513	567	382	513	458	327	300	307	320	334	341	362	348	348	348	348	183	183	366
21	D	308	301	397	328	328	335	356	465	459	363	294	287	239	225	253	342	294	170	81	81	-29	81	184	301	268
22		239	294	321	596	582	520	459	424	411	342	335	335	328	321	335	335	349	363	356	335	335	335	314	301	369
23		273	260	349	328	335	335	342	335	328	301	294	280	287	273	301	328	349	363	404	328	294	253	205	266	309
24		411	376	424	472	404	445	452	603	431	438	376	253	280	314	328	335	335	335	349	363	321	342	349	321	377
25		315	336	329	329	288	302	329	336	336	329	281	288	322	336	322	329	350	350	350	377	364	350	370	357	332
26	Q	350	350	295	343	398	364	329	336	329	336	329	336	336	322	322	322	322	315	322	329	336	343	343	336	335
27	Q	336	329	329	329	322	329	322	329	336	336	336	329	322	322	315	309	309	309	309	309	315	315	336	357	325
28		343	336	322	315	322	336	336	315	336	336	336	329	329	322	322	322	329	336	350	384	377	370	384	370	340
29		351	303	268	303	371	365	371	365	365	358	303	323	323	323	303	310	351	392	419	371	337	337	323	303	339
30		296	296	303	419	303	323	337	426	358	289	316	323	323	303	289	303	316	330	337	337	365	385	351	344	332
31		316	365	351	358	371	351	330	337	392	296	310	289	275	310	330	323	344	365	358	344	351	351	358	351	338
MEAN	A	310	311	329	359	383	407	402	407	383	368	341	311	308	312	312	326	337	345	345	335	318	310	316	316	341
MEAN	Q	344	340	319	327	347	340	333	334	331	334	329	329	330	329	329	327	329	329	334	336	342	338	344	347	334
MEAN	D	286	294	380	351	423	498	495	485	433	452	378	308	285	294	272	316	330	319	289	239	201	227	239	261	336

HORIZONTAL INTENSITY

TABLE 16 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS JUNE 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		413	420	393	330	185	254	309	344	316	219	150	330	289	351	296	330	351	399	538	566	490	455	580	503	367
2		476	448	303	233	254	275	296	289	372	282	240	282	330	351	337	365	379	420	510	614	573	614	628	434	388
3		399	496	399	344	296	282	282	303	330	337	296	261	240	323	351	351	365	427	406	448	462	510	469	462	368
4		455	289	240	344	303	226	323	323	185	213	330	358	337	330	323	351	372	393	413	455	483	455	573	496	357
5	Q	448	420	399	365	261	213	247	344	372	372	358	344	344	330	337	344	351	372	386	393	420	413	406	379	359
6	Q	372	379	379	372	365	372	330	372	372	358	344	323	296	296	337	358	365	372	379	379	386	379	386	393	361
7		385	412	447	433	419	371	239	232	274	308	288	274	205	364	371	322	329	398	412	412	405	398	405	385	354
8		398	419	392	329	308	322	336	350	322	343	350	364	364	364	357	315	343	385	461	509	468	468	454	440	382
9		398	398	385	378	198	170	267	322	392	385	371	371	364	364	350	364	364	392	398	482	592	703	606	461	395
10	D	502	440	385	315	205	52	115	87	115	170	239	-31	-259	218	315	357	405	419	405	426	558	669	710	502	305
11	D	149	468	468	177	142	343	336	302	-93	163	149	25	198	302	267	322	378	405	475	627	606	537	565	558	328
12	D	565	606	322	274	322	315	177	-3	115	-66	-232	-183	-100	101	239	308	371	489	579	627	606	634	579	475	297
13	D	446	411	197	252	10	127	211	58	-198	-344	-260	-184	-101	-18	-46	183	356	481	723	744	730	640	488	481	224
14	D	446	356	377	397	363	328	252	183	-281	335	-170	-46	-233	-46	148	391	460	474	508	488	522	543	467	446	279
15		432	391	384	377	349	301	321	120	169	301	321	328	356	363	356	356	349	377	384	411	411	391	467	508	355
16		439	391	397	391	404	377	370	363	363	342	231	107	190	314	335	356	377	460	515	633	626	709	557	564	409
17		508	432	377	307	252	211	224	141	-25	65	-32	321	356	335	335	356	370	391	397	404	411	418	467	404	309
18		404	411	377	370	328	335	190	17	-18	224	328	321	280	342	363	370	370	460	584	674	612	488	439	508	366
19		487	334	189	327	161	99	223	119	119	85	126	223	306	362	355	445	459	507	487	514	577	590	563	514	340
20		459	452	376	403	320	189	320	327	348	376	369	355	348	355	355	362	355	348	369	376	403	390	396	390	364
21	Q	376	376	362	362	362	362	362	362	369	376	376	376	369	369	369	369	369	376	376	383	390	390	390	383	373
22		376	390	383	390	355	237	78	9	-68	-54	-26	-88	36	334	390	390	390	396	403	445	521	487	417	274	
23		424	445	396	313	341	293	119	106	175	237	293	348	376	369	355	348	348	348	369	383	417	424	438	452	338
24	Q	417	396	390	390	362	313	334	369	369	362	369	376	362	362	355	355	355	362	369	376	390	390	383	383	370
25	Q	382	382	382	382	368	375	368	326	354	368	375	375	368	361	354	347	347	354	361	375	382	389	389	423	370
26		458	458	430	402	382	368	375	368	375	361	354	319	319	340	361	347	368	389	389	409	423	486	513	458	394
27		430	423	389	354	229	264	285	264	340	361	312	347	305	347	333	333	354	361	423	451	472	492	492	472	368
28		416	395	375	389	361	354	347	354	368	368	361	361	347	326	333	347	347	375	409	423	430	437	416	423	378
29		451	430	402	382	361	368	326	347	389	382	382	375	375	354	354	347	368	382	402	527	555	499	617	499	411
30		451	458	375	430	389	250	326	312	236	333	347	368	347	333	333	354	361	389	430	569	555	589	562	548	402
MEAN	A	425	418	369	350	298	278	276	247	215	252	231	243	244	307	321	348	369	403	442	483	493	501	496	459	353
MEAN	Q	399	391	382	374	343	327	328	355	367	367	364	359	348	343	350	355	357	367	374	381	393	392	391	392	367
MEAN	D	422	456	350	283	208	233	218	125	-69	52	-55	-84	-99	111	185	312	394	453	538	582	604	604	562	492	287

DECLINATION

TABLE 17 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES JUNE 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		3.9	13.5	13.5	20.7	47.1	27.9	8.7	6.3	3.9	-0.9	-3.3	-12.9	-10.5	-5.7	-5.7	3.9	15.9	15.9	-15.3	-12.9	3.9	8.7	-10.5	-3.3	4.7
2		6.3	18.3	27.9	51.9	49.5	30.3	15.9	8.7	1.5	-0.9	-5.7	-10.5	-12.9	-10.5	3.9	11.1	13.5	6.3	-15.3	-20.1	-10.5	-3.3	-15.3	25.5	6.9
3		35.1	20.7	20.7	27.9	27.9	18.3	18.3	11.1	-0.9	-5.7	-3.3	-5.7	-0.9	1.5	-3.3	-5.7	6.3	1.5	15.9	8.7	8.7	-3.3	1.5	1.5	8.2
4		-0.9	39.9	37.5	18.3	18.3	32.7	13.5	13.5	20.7	13.5	3.9	-5.7	-5.7	1.5	13.5	20.7	20.7	23.1	18.3	11.1	3.9	8.7	-8.1	1.5	13.1
5	Q	3.9	6.3	13.5	18.3	39.9	39.9	20.7	8.7	6.3	1.5	-0.9	-3.3	-5.7	1.5	3.9	13.5	18.3	18.3	20.7	20.7	11.1	3.9	1.5	6.3	11.2
6	Q	6.3	8.7	11.1	13.5	11.1	11.1	13.5	8.7	6.3	3.9	-0.9	-3.3	-5.7	-3.3	3.9	8.7	18.3	20.7	20.7	18.3	15.9	11.1	8.7	8.7	9.0
7		8.7	8.7	3.9	8.7	18.3	15.9	15.9	18.3	3.9	-8.1	-8.1	-12.9	-20.1	-5.7	-0.9	1.5	20.7	23.1	18.3	15.9	13.5	11.1	8.7	8.7	7.0
8		6.3	1.5	15.9	20.7	8.7	11.1	11.1	8.7	3.9	-0.9	-10.5	-10.5	-8.1	-0.9	-3.3	-8.1	25.5	32.7	13.5	-3.3	3.9	1.5	1.5	3.9	5.2
9		8.7	11.1	15.9	15.9	44.7	32.7	13.5	3.9	-0.9	-3.3	-10.5	-8.1	-8.1	-3.3	6.3	15.9	18.3	13.5	15.9	6.3	-3.3	-20.1	-0.9	30.3	8.1
10	D	18.3	27.9	37.5	30.3	35.1	51.9	51.9	39.9	11.1	-3.3	-17.7	-36.9	-5.7	1.5	-3.3	1.5	15.9	13.5	25.5	15.9	-8.1	-29.7	-3.3	39.9	12.9
11	D	85.5	109.5	56.7	107.1	97.5	25.5	3.9	6.3	-10.5	18.3	-10.5	-24.9	-41.7	-12.9	-17.7	-5.7	11.1	13.5	3.9	-12.9	-20.1	3.9	3.9	20.7	17.1
12	D	13.5	30.3	39.9	32.7	30.3	23.1	23.1	11.1	23.1	27.9	1.5	15.9	6.3	-5.7	-3.3	1.5	-5.7	-29.7	-46.5	-41.7	-20.1	-5.7	8.7	1.5	5.5
13	D	1.5	25.5	66.3	47.1	51.9	51.9	23.1	37.5	11.1	32.7	47.1	49.5	39.9	30.3	30.3	6.3	-17.7	-39.3	-68.1	-58.5	-36.9	-15.3	6.3	8.7	13.8
14	D	13.5	27.9	13.5	8.7	13.5	18.3	23.1	23.1	20.7	20.7	30.3	-3.3	-17.7	-34.5	-22.5	-8.1	-0.9	-5.7	-8.1	6.3	-0.9	-10.5	-8.1	6.3	4.4
15		3.9	6.3	8.7	13.5	18.3	25.5	18.3	37.5	15.9	-0.9	-3.3	-3.3	-5.7	1.5	3.9	8.7	11.1	13.5	20.7	13.5	18.3	18.3	8.7	-3.3	10.4
16		6.3	11.1	11.1	13.5	8.7	8.7	8.7	8.7	6.3	3.9	-0.9	3.9	-3.3	-3.3	-3.3	3.9	11.1	8.7	1.5	-10.5	1.5	15.9	13.5	6.3	5.5
17		8.7	35.1	20.7	27.9	20.7	30.3	37.5	27.9	-0.9	25.5	6.3	-8.1	-10.5	-8.1	1.5	1.5	3.9	8.7	11.1	13.5	11.1	13.5	6.3	11.1	12.3
18		8.7	11.1	13.5	13.5	15.9	11.1	20.7	32.7	15.9	18.3	-0.9	-0.9	-0.9	3.9	3.9	3.9	-5.7	-15.3	-29.7	-32.1	-12.9	8.7	11.1	11.1	4.4
19		13.5	32.7	49.5	20.7	44.7	51.9	27.9	30.3	18.3	13.5	8.7	-8.1	6.3	-0.9	1.5	1.5	-5.7	-12.9	1.5	-0.9	-12.9	-3.3	-0.9	11.1	12.0
20		18.3	11.1	27.9	13.5	23.1	30.3	15.9	11.1	6.3	1.5	-3.3	-3.3	-5.7	-0.9	1.5	11.1	18.3	25.5	25.5	23.1	13.5	11.1	8.7	11.1	12.3
21	Q	11.1	11.1	8.7	8.7	11.1	11.1	8.7	8.7	6.3	3.9	1.5	-0.9	-0.9	-0.9	1.5	8.7	18.3	25.5	23.1	18.3	13.5	11.1	8.7	6.3	9.3
22		6.3	8.7	6.3	8.7	13.5	18.3	90.3	27.9	32.7	-3.3	-10.5	-15.3	-10.5	-5.7	-3.3	3.9	8.7	11.1	13.5	13.5	6.3	-10.5	-5.7	3.9	8.7
23		3.9	3.9	27.9	23.1	15.9	15.9	30.3	30.3	11.1	3.9	-3.3	-10.5	-10.5	-5.7	3.9	11.1	20.7	23.1	18.3	13.5	11.1	8.7	-0.9	-0.9	10.2
24	Q	3.9	8.7	8.7	11.1	13.5	18.3	15.9	13.5	8.7	3.9	-0.9	-5.7	-5.7	-3.3	1.5	11.1	18.3	23.1	23.1	18.3	13.5	11.1	3.9	3.9	9.1
25	Q	3.9	3.9	8.7	6.3	8.7	8.7	11.1	13.5	6.3	1.5	-0.9	-0.9	-0.9	3.9	3.9	8.7	8.7	20.7	25.5	27.9	20.7	13.5	8.7	1.5	8.9
26		8.7	11.1	3.9	3.9	8.7	8.7	3.9	1.5	-0.9	-5.7	-10.5	-5.7	-3.3	-5.7	-5.7	8.7	18.3	15.9	18.3	11.1	3.9	-0.9	-12.9	1.5	3.2
27		6.3	11.1	15.9	13.5	35.1	8.7	15.9	13.5	1.5	-5.7	-10.5	-12.9	-3.3	3.9	1.5	6.3	15.9	25.5	15.9	8.7	6.3	3.9	1.5	3.9	7.6
28		6.3	15.9	13.5	11.1	13.5	13.5	13.5	11.1	8.7	1.5	-3.3	-3.3	-3.3	-3.3	1.5	11.1	13.5	8.7	11.1	18.3	18.3	13.5	8.7	11.1	8.8
29		8.7	3.9	8.7	13.5	18.3	8.7	11.1	8.7	6.3	1.5	-0.9	-5.7	-5.7	-5.7	1.5	3.9	3.9	15.9	23.1	1.5	1.5	1.5	6.3	8.7	5.8
30		3.9	8.7	27.9	27.9	20.7	37.5	13.5	13.5	18.3	6.3	-0.9	-5.7	-8.1	-5.7	-0.9	3.9	8.7	8.7	8.7	-15.3	-5.7	-10.5	-12.9	6.3	6.2
MEAN	A	11.1	18.1	21.2	21.7	26.1	23.3	20.0	16.5	8.7	5.5	-0.7	-5.3	-5.6	-2.7	.5	5.5	10.9	10.5	7.0	2.5	2.3	2.2	1.6	8.5	8.7
MEAN	Q	5.8	7.7	10.1	11.6	16.9	17.8	14.0	10.6	6.8	2.9	-0.4	-2.8	-3.8	-0.4	2.9	10.1	16.4	21.7	22.6	20.7	14.9	10.1	6.3	5.3	9.5
MEAN	D	26.5	44.2	42.8	45.2	45.7	34.1	25.0	23.6	11.1	19.3	10.1	.1	-3.8	-4.3	-3.3	-0.9	.5	-9.5	-18.7	-18.2	-17.2	-11.5	1.5	15.4	10.7

VERTICAL INTENSITY

TABLE 18 GREAT WHALE RIVER Z = 59C00 PLUS TABULAR VALUES IN GAMMAS JUNE 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
HOUR UT																										
1		337	309	309	323	350	391	364	337	371	425	371	289	261	302	309	302	323	378	350	316	323	316	248	173	324
2		296	330	384	418	446	473	514	507	466	439	343	316	323	337	330	323	323	330	350	337	316	296	179	193	357
3		179	214	282	343	364	350	378	398	391	343	323	261	255	268	309	337	357	378	350	330	337	309	309	282	319
4		310	269	344	297	385	406	338	351	426	338	324	331	324	331	324	324	331	351	365	351	351	338	310	290	338
5	Q	351	338	310	310	379	351	324	310	331	338	331	317	310	317	324	317	331	338	351	358	365	365	331	324	334
6	Q	324	317	317	324	324	324	297	310	331	331	317	303	269	256	297	303	324	324	331	331	338	338	331	331	316
7		325	332	318	291	291	345	475	461	414	400	332	298	222	257	298	311	325	318	325	325	325	325	325	325	332
8		332	325	304	345	339	366	339	352	373	325	304	304	304	311	325	339	352	345	352	380	380	359	345	325	339
9		311	291	304	318	427	448	339	339	332	332	325	325	325	325	325	332	332	352	380	420	380	270	188	236	331
10	D	278	230	237	312	613	510	572	695	742	462	305	483	299	230	305	346	367	340	353	346	374	305	94	19	367
11	D	360	394	299	640	551	490	483	503	654	722	736	654	408	319	299	292	305	333	340	264	162	258	217	182	411
12	D	217	251	408	483	456	503	681	592	559	374	367	278	258	305	305	305	367	394	367	292	312	196	278	326	371
13	D	313	293	491	518	614	559	573	607	641	463	586	573	341	327	375	327	361	382	108	81	54	115	306	341	389
14	D	313	300	293	313	347	375	491	518	539	621	539	682	532	306	224	327	334	334	327	354	313	231	204	313	380
15		354	361	347	354	395	395	443	463	382	347	347	327	341	341	341	341	334	341	341	361	361	354	361	341	361
16		342	355	335	301	321	342	342	342	342	342	328	280	212	287	314	335	355	369	355	273	198	171	280	301	309
17		184	355	355	423	396	505	444	505	594	444	355	328	342	342	328	342	342	348	342	342	348	355	348	342	375
18		335	307	287	314	348	355	444	383	314	348	321	342	314	314	328	348	362	396	342	246	287	328	342	314	334
19		295	424	445	384	486	384	377	506	343	349	274	220	247	322	329	349	370	349	349	329	315	267	254	267	343
20		247	302	322	315	349	424	349	329	329	343	343	343	329	329	329	322	322	329	329	322	336	349	356	343	333
21	Q	336	329	329	329	329	322	329	329	329	329	329	329	329	322	322	322	322	322	315	315	329	336	343	343	328
22		344	337	323	316	316	385	309	446	412	425	412	296	262	262	303	309	323	330	337	344	350	364	344	357	342
23		357	323	344	323	344	405	514	535	432	357	330	316	316	330	316	316	316	330	344	350	357	364	385	357	361
24	Q	344	344	330	330	316	303	303	323	337	337	337	337	337	337	337	337	337	344	344	344	357	357	344	344	336
25	Q	338	331	331	331	324	331	324	317	317	331	338	338	324	317	310	317	331	345	338	331	338	345	338	345	330
26		263	194	324	331	331	331	331	331	331	331	331	317	269	269	304	304	310	331	331	331	338	365	351	317	315
27		317	304	290	351	331	290	345	365	338	324	283	276	249	290	317	331	345	345	331	365	351	358	345	310	323
28		250	270	332	332	318	311	305	305	332	332	332	325	318	318	305	305	318	339	352	346	346	352	332	325	321
29		325	311	339	332	311	298	346	332	332	332	332	332	332	332	325	332	332	346	332	339	318	277	270	325	324
30		346	339	243	257	325	332	346	359	359	325	318	332	332	318	311	318	318	346	359	366	325	325	257	243	321
MEAN	A	307	313	329	352	381	387	400	415	414	384	360	348	309	307	316	324	336	347	336	326	319	310	297	294	342
MEAN	Q	338	332	323	325	334	326	315	318	329	333	330	325	314	310	318	319	329	334	336	336	345	348	337	337	329
MEAN	D	296	293	345	453	516	487	560	583	635	528	507	534	367	298	302	319	347	356	299	268	243	221	220	236	384

HORIZONTAL INTENSITY

TABLE 19 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS JULY 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
HOUR UT																										
1		520	409	416	292	222	271	278	167	105	285	243	292	305	326	347	354	368	382	423	437	416	395	430	479	340
2		472	444	368	402	382	368	278	195	167	84	112	236	347	354	347	340	354	375	382	402	402	416	458	513	342
3	D	465	416	292	389	278	188	132	22	70	347	326	347	361	361	368	361	375	382	395	430	472	416	423	423	335
4		444	402	395	340	292	250	167	-41	28	195	278	347	333	340	361	375	389	389	416	492	486	472	437	416	333
5		444	409	368	250	236	361	375	347	278	105	271	389	354	368	368	340	361	389	409	409	402	416	409	409	353
6		408	415	374	360	332	194	242	325	318	214	221	325	367	360	367	360	374	388	401	401	429	436	415	401	351
7		388	394	394	374	339	304	131	97	104	97	318	381	381	374	367	353	367	381	401	415	415	401	401	394	332
8		401	394	394	346	325	173	173	208	201	152	304	353	374	374	360	360	374	394	401	401	415	401	388	388	336
9	Q	388	388	388	401	284	187	194	242	304	339	374	374	374	374	360	353	360	367	381	394	401	415	429	450	355
10	D	498	471	422	429	367	166	201	304	311	7	55	173	76	-35	360	388	401	408	436	561	602	623	678	630	356
11		525	407	511	400	234	324	297	276	303	331	345	373	345	345	338	331	359	373	435	518	567	546	608	518	400
12		511	407	324	317	248	297	359	373	373	373	373	359	359	345	359	331	345	366	373	373	366	373	373	373	360
13	D	373	400	400	387	317	255	241	331	373	373	373	359	359	359	359	359	373	560	830	767	594	636	574	560	438
14	D	442	234	248	276	158	324	345	310	338	359	324	290	303	331	345	352	359	387	456	477	414	428	456	421	349
15		407	463	428	400	290	297	359	359	359	366	345	352	373	359	366	359	359	380	393	373	407	442	442	456	380
16		441	372	386	399	316	143	344	365	323	309	330	358	358	344	330	351	323	358	399	413	392	392	406	420	357
17		413	399	372	365	344	330	337	365	372	365	337	323	254	344	358	358	358	372	399	427	406	427	406	420	369
18		441	469	323	261	206	323	296	330	372	379	344	302	330	344	344	358	379	413	386	399	413	392	399	434	360
19		413	406	392	323	212	254	275	282	296	226	302	275	330	372	344	344	379	406	406	427	503	593	552	545	369
20	Q	469	406	330	337	330	344	372	379	379	379	372	365	358	351	351	351	358	358	379	399	386	406	399	413	374
21		412	398	385	385	371	357	371	343	288	364	371	357	350	343	371	350	357	371	385	391	426	468	509	509	385
22	D	454	301	350	391	364	308	246	281	18	-52	-52	149	301	350	378	371	398	405	433	447	544	488	482	461	326
23		468	426	350	274	260	274	198	73	128	398	357	364	371	357	350	357	378	405	412	412	426	398	398	426	344
24	Q	391	385	378	378	371	308	225	260	357	371	357	357	350	357	357	357	357	371	391	398	391	391	398	385	360
25		385	398	398	378	343	301	218	322	385	343	329	357	364	357	329	357	371	385	385	391	405	419	398	405	363
26		404	390	404	307	245	342	363	328	321	245	155	307	342	328	363	349	356	370	418	508	481	640	543	536	377
27		501	453	384	287	349	280	197	280	273	259	321	294	314	342	363	370	370	363	370	384	397	404	397	411	348
28		460	432	439	384	231	321	363	370	377	356	342	356	370	370	349	342	349	370	404	453	446	404	390	439	380
29	Q	418	453	390	411	300	183	307	384	370	370	370	370	370	356	356	363	356	370	384	390	397	397	397	384	369
30		390	384	384	384	384	370	370	377	377	384	377	370	370	356	335	356	363	370	390	390	439	494	453	446	388
31	Q	453	418	384	384	287	300	335	259	370	384	356	321	335	356	356	349	356	370	384	390	390	397	397	390	363
MEAN	A	439	405	380	355	297	281	277	274	279	281	298	328	338	341	355	355	365	386	415	435	440	449	447	447	361
MEAN	Q	424	410	374	382	314	264	287	305	356	368	366	357	357	359	356	354	357	367	384	395	393	402	404	404	364
MEAN	D	446	365	342	374	297	248	233	250	222	207	205	263	280	273	362	366	381	428	510	536	525	518	522	499	361

DECLINATION

TABLE 20 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES JULY 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		8.8	25.8	16.1	25.8	30.7	16.1	11.3	16.1	20.9	-5.7	-3.3	-3.3	-8.2	-8.2	-3.3	4.0	6.4	6.4	-0.9	1.6	8.8	8.8	4.0	-5.7	7.2
2		-3.3	16.1	16.1	6.4	6.4	6.4	11.3	11.3	6.4	25.8	-15.4	-20.3	-17.8	-10.6	-3.3	1.6	11.3	11.3	8.8	11.3	11.3	6.4	1.6	-8.2	3.8
3	D	4.0	16.1	30.7	11.3	25.8	28.2	50.1	-0.9	1.6	-0.9	-3.3	-13.0	-15.4	-13.0	-5.7	-3.3	6.4	16.1	11.3	4.0	1.6	6.4	4.0	1.6	6.8
4		1.6	4.0	11.3	13.7	25.8	16.1	20.9	33.1	23.4	4.0	4.0	-3.3	-3.3	-0.9	-3.3	1.6	6.4	11.3	11.3	1.6	1.6	6.4	6.4	6.4	8.3
5		-3.3	8.8	11.3	42.8	20.9	8.8	8.8	8.8	13.7	25.8	4.0	-8.2	-10.6	-5.7	1.6	4.0	23.4	20.9	16.1	20.9	16.1	8.8	6.4	1.6	10.2
6		4.0	4.0	1.6	6.4	11.3	13.7	23.4	8.8	6.4	20.9	11.3	-8.2	-13.0	-10.6	-3.3	1.6	11.3	11.3	16.1	16.1	11.3	6.4	6.4	6.4	6.8
7		6.4	4.0	1.6	11.3	11.3	11.3	23.4	20.9	20.9	-5.7	-5.7	-8.2	-3.3	-5.7	-0.9	4.0	16.1	11.3	13.7	11.3	6.4	4.0	1.6	1.6	6.3
8		-0.9	1.6	6.4	18.5	16.1	37.9	37.9	13.7	8.8	13.7	-10.6	-15.4	-13.0	-5.7	-3.3	6.4	11.3	16.1	18.5	16.1	11.3	11.3	11.3	8.8	9.0
9	Q	8.8	6.4	8.8	6.4	25.8	25.8	30.7	16.1	6.4	1.6	-3.3	-8.2	-5.7	-3.3	1.6	6.4	16.1	18.5	18.5	16.1	11.3	11.3	6.4	6.4	9.5
10	D	1.6	13.7	18.5	30.7	16.1	16.1	20.9	11.3	1.6	16.1	-8.2	-17.8	-5.7	45.2	6.4	1.6	6.4	11.3	6.4	-8.2	-3.3	-8.2	6.4	4.0	7.6
11		6.4	54.9	25.8	28.2	45.2	28.2	25.8	28.2	6.4	-5.7	-13.0	-15.4	-15.4	-13.0	-5.7	-3.3	6.4	13.7	8.8	-5.7	-13.0	-10.6	-10.6	18.5	7.7
12		8.8	23.4	20.9	20.9	20.9	11.3	8.8	6.4	6.4	1.6	-0.9	-5.7	-8.2	-8.2	-5.7	-3.3	11.3	16.1	16.1	16.1	16.1	11.3	11.3	6.4	8.4
13	D	6.4	6.4	4.0	8.8	28.2	35.5	25.8	11.3	4.0	1.6	-0.9	-3.3	-3.3	-0.9	4.0	11.3	-13.0	-46.9	-49.4	8.8	25.8	11.3	6.4	18.5	4.2
14	D	54.9	86.4	30.7	40.3	33.1	4.0	6.4	6.4	4.0	4.0	-0.9	-10.6	-10.6	-17.8	-8.2	-8.2	4.0	4.0	-5.7	-3.3	16.1	16.1	11.3	4.0	10.8
15		11.3	16.1	30.7	8.8	37.9	23.4	11.3	8.8	8.8	6.4	4.0	-0.9	-3.3	-0.9	1.6	6.4	16.1	16.1	8.8	18.5	11.3	6.4	4.0	6.4	10.7
16		1.6	11.3	8.8	8.8	20.9	45.2	6.4	6.4	8.8	6.4	-0.9	-3.3	-3.3	-3.3	4.0	4.0	-8.2	4.0	8.8	6.4	11.3	11.3	8.8	6.4	7.1
17		4.0	6.4	8.8	6.4	13.7	11.3	11.3	8.8	8.8	6.4	4.0	1.6	1.6	-5.7	-3.3	-0.9	4.0	11.3	8.8	6.4	11.3	8.8	6.4	6.4	6.1
18		1.6	-5.7	33.1	25.8	28.2	8.8	16.1	8.8	4.0	1.6	1.6	-3.3	-5.7	-13.0	-13.0	16.1	8.8	6.4	18.5	16.1	11.3	13.7	8.8	1.6	7.9
19		-0.9	4.0	11.3	20.9	35.5	20.9	13.7	11.3	6.4	13.7	1.6	1.6	-3.3	-3.3	1.6	6.4	16.1	13.7	18.5	8.8	-3.3	-17.8	-10.6	-3.3	6.8
20	Q	1.6	4.0	13.7	18.5	16.1	11.3	8.8	6.4	4.0	1.6	-3.3	-5.7	-5.7	-3.3	1.6	6.4	16.1	16.1	18.5	16.1	16.1	6.4	4.0	1.6	7.1
21		-0.9	4.0	8.8	8.8	11.3	8.8	8.8	11.3	13.7	-0.9	-3.3	-5.7	-5.7	-8.2	1.6	6.4	13.7	6.4	16.1	28.2	11.3	1.6	-8.2	-5.7	5.1
22	D	1.6	20.9	20.9	8.8	16.1	13.7	20.9	11.3	25.8	50.1	-17.8	-17.8	-13.0	1.6	-8.2	13.7	16.1	6.4	6.4	8.8	-13.0	-3.3	-3.3	-3.3	6.8
23		-3.3	6.4	13.7	35.5	25.8	16.1	16.1	23.4	35.5	1.6	-3.3	-8.2	-8.2	-8.2	-8.2	8.8	18.5	18.5	11.3	11.3	1.6	4.0	1.6	-0.9	8.7
24	Q	4.0	6.4	6.4	8.8	8.8	13.7	18.5	20.9	11.3	1.6	-3.3	-5.7	-5.7	-3.3	1.6	6.4	11.3	13.7	11.3	11.3	11.3	8.8	6.4	6.4	7.1
25		6.4	6.4	4.0	8.8	11.3	11.3	16.1	6.4	1.6	-0.9	-5.7	-10.6	-15.4	-10.6	-10.6	16.1	16.1	16.1	23.4	25.8	20.9	11.3	8.8	6.4	6.8
26		4.0	6.4	6.4	35.5	25.8	8.8	6.4	6.4	6.4	6.4	4.0	-10.6	-17.8	-10.6	-3.3	-0.9	18.5	16.1	13.7	4.0	11.3	-0.9	4.0	-0.9	5.8
27		-0.9	28.2	13.7	35.5	18.5	25.8	13.7	11.3	8.8	16.1	-3.3	-13.0	-20.3	-22.7	-15.4	-3.3	6.4	13.7	16.1	16.1	13.7	8.8	6.4	1.6	7.3
28		-8.2	-3.3	4.0	6.4	20.9	13.7	8.8	6.4	6.4	4.0	-0.9	-3.3	-10.6	-13.0	-13.0	-8.2	6.4	6.4	1.6	-3.3	-0.9	11.3	6.4	-3.3	1.4
29	Q	-0.9	1.6	6.4	11.3	20.9	40.3	11.3	6.4	6.4	1.6	-3.3	-3.3	-3.3	-5.7	-0.9	6.4	11.3	16.1	20.9	20.9	16.1	11.3	8.8	8.8	8.7
30		6.4	1.6	6.4	1.6	8.8	6.4	6.4	4.0	6.4	1.6	-3.3	-5.7	-8.2	-3.3	-3.3	4.0	11.3	18.5	18.5	18.5	8.8	-0.9	-0.9	1.6	4.4
31	Q	-0.9	-3.3	6.4	6.4	16.1	8.8	6.4	13.7	4.0	1.6	-0.9	-0.9	-5.7	-8.2	-0.9	6.4	11.3	20.9	20.9	16.1	13.7	8.8	6.4	6.4	6.4
MEAN	A	4.2	12.3	13.1	17.0	21.1	17.7	16.3	11.7	9.6	6.9	-2.6	-7.6	-8.6	-5.8	-3.1	3.8	10.2	11.0	10.7	10.9	8.8	5.8	4.2	3.4	7.1
MEAN	Q	2.5	3.0	8.3	10.3	17.6	20.0	15.1	12.7	6.4	1.6	-2.8	-4.8	-5.2	-4.8	.6	6.4	13.2	17.1	18.0	16.1	13.7	9.3	6.4	5.9	7.8
MEAN	D	13.7	28.7	20.9	20.0	23.9	19.5	24.8	7.9	7.4	14.2	-6.2	-12.5	-9.6	3.0	-2.3	3.0	4.0	-1.8	-6.2	2.0	5.4	4.5	4.9	4.9	7.2

VERTICAL INTENSITY

TABLE 21 GREAT WHALE RIVER Z = 59000 PLUS TABULAR VALUES IN GAMMAS JULY 1968

DAY	HOUR UT	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		313	292	333	436	484	374	457	491	340	319	333	271	271	306	319	333	347	340	367	361	347	340	333	333	352
2		313	189	340	333	313	319	340	354	436	326	237	237	299	313	313	319	326	347	347	347	333	354	361	333	322
3	D	333	292	292	326	333	443	539	621	649	340	319	319	333	333	333	347	347	347	347	374	409	361	361	354	377
4		348	341	320	286	320	416	430	464	471	437	375	320	293	307	334	334	341	341	348	389	348	334	348	341	358
5		279	279	266	375	368	327	334	320	368	416	266	320	320	334	334	327	327	334	348	355	362	362	362	348	335
6		334	320	293	293	341	334	334	320	348	348	279	286	320	327	327	320	334	334	334	341	362	341	334	327	326
7		328	335	328	308	335	356	369	390	465	280	267	315	321	321	321	335	349	349	342	335	328	335	335	342	337
8		337	330	316	261	351	447	378	392	413	378	302	309	316	323	323	323	323	323	323	330	344	351	344	337	341
9	Q	330	330	330	323	302	275	351	351	323	337	337	330	330	337	330	323	323	330	330	337	344	337	337	337	330
10	D	303	241	234	303	379	572	400	414	545	552	365	234	317	234	317	324	345	352	359	345	296	241	-7	186	327
11		241	269	269	331	372	407	379	393	365	352	324	345	345	345	345	338	345	345	372	379	372	365	331	241	340
12		317	310	503	421	497	414	345	338	338	345	345	345	345	338	338	331	324	324	324	324	324	331	338	338	354
13	D	332	332	332	325	228	270	360	311	332	339	339	332	325	332	332	332	353	429	401	97	242	263	118	104	298
14	D	228	366	291	491	573	449	401	387	339	339	339	332	318	346	346	339	325	325	360	339	325	332	339	325	356
15		325	291	270	339	297	311	346	339	332	339	339	339	346	339	339	339	339	325	339	353	353	353	360	346	333
16		299	292	333	340	333	347	313	326	319	313	313	326	326	333	326	326	340	354	354	340	333	333	347	354	330
17		340	326	326	319	319	319	306	326	333	333	313	313	285	333	340	340	340	340	340	347	368	368	347	347	332
18		347	271	257	444	396	347	319	306	333	340	326	299	299	326	319	333	340	347	354	354	354	340	340	340	335
19		341	327	327	238	369	334	334	390	383	376	300	272	300	334	341	348	355	341	341	341	355	362	327	300	335
20	Q	293	320	286	341	341	341	327	334	341	341	341	334	327	327	327	327	334	334	341	348	362	369	362	369	336
21		362	334	327	327	320	307	314	327	314	320	327	320	314	307	314	320	327	341	369	376	355	369	390	355	335
22	D	308	280	294	321	335	439	446	446	550	598	474	363	273	280	328	321	349	356	398	398	363	377	356	342	375
23		315	294	301	377	453	474	563	605	384	363	342	335	328	328	335	342	342	328	335	335	342	356	356	363	371
24	Q	349	335	335	335	328	328	335	294	301	335	335	335	328	328	335	342	342	342	342	356	356	349	356	342	336
25		343	336	336	316	343	378	399	336	329	329	309	302	316	316	322	316	316	316	322	316	329	343	350	343	332
26		336	329	322	475	274	316	329	343	316	322	329	302	322	322	322	343	343	350	371	392	343	274	288	295	332
27		164	281	343	426	371	399	336	322	392	329	295	274	288	322	336	322	316	322	316	329	350	357	343	350	329
28		337	323	317	344	420	358	330	330	337	330	330	337	344	344	330	330	330	337	358	372	330	323	344	358	342
29	C	310	330	317	317	351	323	303	323	330	330	323	323	323	323	330	323	323	330	330	330	330	344	344	337	327
30		337	337	330	296	323	330	330	330	330	330	330	330	330	330	330	323	317	323	323	330	358	372	358	344	332
31	Q	337	303	317	330	358	296	303	351	317	337	323	289	296	323	330	330	330	330	323	330	337	344	351	344	326
MEAN	A	315	308	316	345	359	366	366	373	377	357	325	313	316	323	330	331	335	340	347	342	344	341	327	325	338
MEAN	Q	324	324	317	329	336	313	324	331	322	336	332	322	321	328	331	329	331	333	333	340	346	349	350	346	331
MEAN	D	301	302	289	353	370	435	429	436	483	433	367	316	313	305	331	333	344	362	373	311	327	315	233	262	347

HORIZONTAL INTENSITY

TABLE 22 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS AUGUST 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1	Q	390	384	377	384	363	321	349	349	238	245	321	370	370	356	342	349	363	377	384	390	411	418	411	390	360
2	Q	397	397	384	377	377	356	377	377	377	363	342	287	349	356	356	370	370	370	384	397	425	404	411	404	375
3		404	404	335	155	30	328	342	127	217	307	370	390	384	384	390	370	384	390	411	425	425	425	411	397	342
4		397	384	397	384	370	273	342	377	390	390	390	384	377	370	370	377	377	390	404	411	404	411	384	411	382
5		397	397	397	377	162	328	397	390	356	238	93	294	307	321	328	342	390	411	411	411	418	481	453	474	357
6		424	431	327	175	327	355	369	383	362	327	355	355	348	348	355	369	376	410	438	445	507	431	403	445	378
7		410	389	383	417	362	85	182	320	279	258	299	272	230	327	341	362	383	396	396	410	403	403	438	438	341
8		403	272	403	417	92	237	230	119	209	383	396	389	362	341	376	369	369	383	389	396	438	410	452	473	346
9		528	480	265	410	389	334	279	355	389	383	355	355	362	355	355	348	362	369	383	507	452	438	500	480	393
10		445	410	396	410	369	299	182	286	334	293	313	369	369	348	341	327	348	355	376	396	438	438	459	466	365
11		465	451	416	416	305	264	250	361	375	368	368	361	361	361	354	361	368	382	395	395	395	388	382	382	372
12		416	437	402	382	368	354	326	319	361	361	354	361	368	361	340	333	354	382	416	437	409	395	402	368	375
13		375	382	382	402	361	340	368	382	375	375	375	368	361	354	319	319	347	375	395	479	562	458	506	534	395
14	D	555	451	278	208	312	160	84	105	132	167	77	181	222	347	333	375	375	395	409	506	485	534	617	562	328
15	D	472	423	305	174	160	257	243	1	84	236	243	195	250	312	375	375	437	465	534	472	555	562	513	465	338
16	D	429	277	422	367	69	48	187	221	311	318	256	367	381	325	270	270	381	491	574	491	713	671	429	422	362
17	D	242	422	408	41	41	284	318	277	325	173	221	325	228	55	83	277	381	436	436	457	505	512	408	491	306
18		394	381	381	263	-63	20	228	90	27	117	263	270	339	325	339	374	374	387	429	436	505	498	464	457	304
19		450	401	387	360	284	228	228	256	187	104	166	311	367	339	339	332	353	374	408	408	415	415	387	394	329
20		401	401	394	387	381	367	367	353	318	332	353	346	353	353	332	346	374	387	436	429	464	429	408	422	381
21		400	393	400	359	234	255	317	227	324	380	359	359	359	359	352	345	345	352	373	393	393	393	386	393	352
22		380	380	380	380	373	373	373	380	373	366	352	310	324	338	338	338	352	359	380	400	400	414	497	504	378
23		477	483	380	317	68	276	345	296	248	283	345	338	338	345	345	352	359	380	442	580	560	483	504	504	377
24	D	483	414	456	407	373	116	-22	227	276	158	186	165	352	352	352	352	380	407	435	477	470	463	442	407	339
25		414	407	380	380	380	393	380	373	373	366	366	352	352	345	338	338	345	359	373	435	380	400	393	386	375
26		379	372	372	379	379	379	379	372	330	323	379	365	344	330	330	344	351	379	385	399	399	406	399	392	369
27		392	399	295	282	379	379	365	330	385	358	358	372	365	344	337	337	351	358	379	392	379	379	379	385	362
28	Q	392	399	399	385	344	295	392	379	365	365	372	372	358	351	344	337	344	365	379	399	392	399	392	385	371
29	Q	385	392	385	385	379	379	379	372	372	365	365	358	351	344	344	344	351	365	379	392	399	399	392	385	373
30	Q	392	413	427	392	385	385	379	372	365	365	365	358	358	358	351	351	365	379	392	399	406	406	399	392	381
31		399	420	420	379	309	399	406	413	392	385	365	192	129	212	226	302	379	448	489	538	517	455	406	406	375
MEAN	A	416	402	379	340	279	286	301	296	305	305	314	325	333	333	332	345	367	389	413	436	452	443	433	433	361
MEAN	Q	392	397	394	385	369	347	375	369	343	340	353	349	357	353	347	350	358	371	383	396	407	405	401	392	372
MEAN	D	436	397	374	239	191	173	162	166	226	210	197	246	287	278	282	330	390	439	478	480	546	548	482	469	334

DECLINATION

TABLE 23 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES AUGUST 1968

DAY	HOUR UT	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1	Q	5.9	5.9	5.9	3.5	10.8	15.6	8.3	8.3	18.0	13.2	-1.4	-8.7	-11.1	-8.7	-1.4	8.3	13.2	18.0	20.4	15.6	8.3	5.9	3.5	3.5	6.7
2	Q	3.5	5.9	5.9	5.9	5.9	5.9	5.9	8.3	5.9	3.5	1.1	3.5	-3.8	-3.8	1.1	10.8	15.6	18.0	18.0	10.8	3.5	5.9	1.1	-1.4	5.7
3		1.1	3.5	15.6	73.8	35.0	5.9	3.5	8.3	5.9	-8.7	-15.9	-18.3	-13.5	-13.5	-8.7	3.5	15.6	22.9	18.0	15.6	5.9	1.1	1.1	-1.4	6.5
4		1.1	3.5	5.9	5.9	5.9	10.8	5.9	5.9	1.1	1.1	-3.8	-6.2	-8.7	-6.2	-1.4	5.9	10.8	15.6	13.2	10.8	5.9	3.5	5.9	1.1	3.9
5		4.0	1.6	6.4	8.8	13.7	8.8	4.0	1.6	4.0	8.8	25.8	-10.6	-15.4	-3.3	-3.3	11.3	16.1	20.9	13.7	16.1	13.7	4.0	1.6	-3.3	6.2
6		4.0	4.0	6.4	8.8	30.7	23.4	11.3	-0.9	-3.3	-5.7	-13.0	-10.6	-13.0	-10.6	-3.3	6.4	11.3	16.1	11.3	11.3	-3.3	6.4	11.3	4.0	4.3
7		28.2	40.3	11.3	8.8	13.7	40.3	11.3	1.6	-3.3	-3.3	-13.0	-17.8	-8.2	-0.9	-0.9	6.4	4.0	8.8	13.7	11.3	11.3	8.8	-0.9	-0.9	7.1
8		6.4	18.5	30.7	16.1	30.7	16.1	8.8	23.4	16.1	-3.3	-8.2	-10.6	-5.7	-5.7	1.6	8.8	13.7	11.3	18.5	13.7	6.4	6.4	1.6	-3.3	8.8
9		-0.4	6.9	16.6	9.3	4.5	14.2	16.6	11.8	2.1	-2.8	-10.1	-10.1	-10.1	-7.7	-0.4	2.1	2.1	16.6	23.9	-2.8	4.5	2.1	-0.4	-10.1	3.3
10		-0.4	9.3	4.5	4.5	6.9	16.6	31.2	16.6	6.9	6.9	2.1	-7.7	-7.7	-7.7	-2.8	-2.8	6.9	14.2	19.0	16.6	6.9	2.1	-5.2	-7.7	5.4
11		-2.8	-0.4	-2.8	2.1	16.6	16.6	6.9	-2.8	-2.8	-7.7	-12.5	-12.5	-14.9	-7.7	-0.4	6.9	9.3	14.2	16.6	16.6	14.2	11.8	9.3	6.9	3.4
12		2.1	-0.4	4.5	9.3	6.9	11.8	14.2	14.2	4.5	2.1	-2.8	-7.7	-7.7	-2.8	2.1	9.3	21.4	21.4	19.0	11.8	14.2	11.8	6.9	6.9	7.2
13		7.4	7.4	7.4	5.0	12.3	14.7	5.0	2.6	2.6	2.6	-2.3	-7.2	-9.6	-9.6	-14.4	-7.2	7.4	21.9	26.8	7.4	-16.8	.1	-2.3	-9.6	2.1
14	D	9.8	2.6	12.3	24.4	12.3	21.9	55.9	9.8	-4.7	9.8	.1	-14.4	.1	-7.2	-2.3	17.1	9.8	2.6	7.4	-2.3	-2.3	-9.6	-19.3	2.6	5.7
15	D	-7.2	5.0	43.8	34.1	36.5	26.8	12.3	48.6	24.4	7.4	-7.2	-26.6	-21.7	-12.0	-9.6	.1	-7.2	-2.3	-2.3	7.4	-7.2	-9.6	.1	.1	5.6
16	D	19.5	19.5	5.0	12.3	94.7	63.2	17.1	14.7	5.0	.1	-9.6	-16.8	-14.4	-4.7	7.4	12.3	12.3	-31.4	-36.3	.1	-53.2	-24.1	2.6	5.0	4.2
17	D	56.4	15.2	7.9	54.0	44.3	3.1	20.0	7.9	3.1	7.9	3.1	-6.7	-6.7	7.9	29.7	20.0	-4.2	12.8	3.1	-4.2	-6.7	-16.3	3.1	3.1	10.7
18		5.5	12.8	12.8	73.4	80.7	20.0	12.8	34.6	56.4	-4.2	-6.7	-9.1	-11.5	-6.7	-6.7	3.1	10.3	7.9	-4.2	-6.7	-11.5	-16.3	-6.7	-6.7	9.7
19		-16.3	.6	15.2	10.3	20.0	20.0	10.3	7.9	24.9	5.5	7.9	-6.7	-16.3	-9.1	-1.8	3.1	7.9	22.4	15.2	15.2	7.9	5.5	7.9	5.5	6.8
20		7.9	5.5	5.5	7.9	10.3	12.8	7.9	5.5	12.8	5.5	-1.8	-6.7	-1.8	-4.2	-1.8	10.3	17.6	17.6	7.9	7.9	3.1	5.5	3.1	-4.2	5.6
21		-1.3	1.1	3.6	13.3	35.1	22.9	10.8	13.3	8.4	-1.3	-3.7	-8.6	-11.0	-3.7	1.1	8.4	18.1	25.4	25.4	22.9	15.7	10.8	8.4	6.0	9.2
22		8.4	8.4	10.8	8.4	8.4	8.4	6.0	6.0	3.6	3.6	-1.3	-3.7	-11.0	-8.6	-1.3	8.4	13.3	18.1	20.5	13.3	6.0	1.1	-13.4	-6.2	4.5
23		-8.6	3.6	22.9	32.7	39.9	10.8	6.0	8.4	18.1	-3.7	-11.0	-13.4	-11.0	-1.3	6.0	13.3	22.9	18.1	15.7	6.0	-13.4	3.6	3.6	-15.8	6.4
24	D	-3.7	20.5	6.0	3.6	8.4	78.7	30.2	-1.3	-1.3	8.4	-3.7	-6.2	-11.0	-13.4	-1.3	8.4	15.7	15.7	13.3	6.0	6.0	3.6	3.6	6.0	8.0
25		1.6	4.1	6.5	8.9	6.5	11.3	8.9	8.9	6.5	6.5	4.1	-0.8	-3.2	-0.8	4.1	8.9	13.8	21.0	21.0	13.8	16.2	13.8	6.5	6.5	8.1
26		8.9	8.9	8.9	8.9	8.9	8.9	8.9	6.5	8.9	6.5	-3.2	-3.2	-3.2	-0.8	6.5	16.2	21.0	21.0	21.0	18.6	13.8	8.9	6.5	4.1	8.8
27		4.1	6.5	30.7	13.8	6.5	8.9	6.5	8.9	4.1	4.1	-0.8	-3.2	-5.7	-3.2	1.6	8.9	13.8	18.6	18.6	16.2	18.6	13.8	8.9	8.9	8.7
28	Q	6.5	6.5	8.9	8.9	8.9	18.6	4.1	4.1	4.1	1.6	-0.8	-5.7	-5.7	-3.2	-0.8	4.1	18.6	21.0	21.0	18.6	16.2	11.3	8.9	8.9	7.7
29	Q	9.4	9.4	4.6	9.4	9.4	9.4	7.0	7.0	7.0	4.6	-0.3	-2.7	-5.2	-2.7	2.1	9.4	19.1	23.9	23.9	19.1	14.3	11.8	9.4	9.4	8.7
30	Q	9.4	4.6	7.0	9.4	9.4	7.0	7.0	4.6	2.1	2.1	-0.3	-2.7	-2.7	-0.3	4.6	14.3	19.1	21.5	23.9	19.1	14.3	11.8	11.8	14.3	8.8
31		11.8	9.4	14.3	50.6	36.1	11.8	2.1	2.1	2.1	-0.3	4.6	16.7	16.7	7.0	21.5	11.8	26.4	19.1	4.6	-5.2	-10.0	2.1	2.1	4.6	10.9
MEAN	A	5.9	8.1	11.1	17.6	21.6	18.2	11.8	9.5	7.8	2.3	-2.7	-7.9	-8.2	-5.0	.9	8.0	12.8	15.3	13.9	10.3	3.3	3.1	2.6	1.2	6.7
MEAN	Q	6.9	6.4	6.4	7.4	8.9	11.3	6.4	6.4	7.4	5.0	-0.3	-3.3	-5.7	-3.7	1.1	9.4	17.1	20.5	21.5	16.6	11.3	9.4	6.9	6.9	7.5
MEAN	D	15.0	12.6	15.0	25.6	39.2	38.7	27.1	15.9	5.3	6.7	-3.5	-14.1	-10.7	-5.9	4.8	11.6	5.3	-0.5	-3.0	1.4	-12.7	-11.2	-2.0	3.3	6.8

VERTICAL INTENSITY

TABLE 24 GREAT WHALE RIVER Z = 59000 PLUS TABULAR VALUES IN GAMMAS AUGUST 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1	Q	330	330	330	323	281	281	309	309	274	261	281	330	330	330	323	323	330	343	330	330	343	350	357	343	320
2	Q	330	330	323	316	302	295	309	309	323	316	309	274	302	323	316	330	330	330	330	330	350	357	350	343	322
3		343	316	350	440	488	371	433	412	467	371	316	316	316	323	330	323	330	330	343	330	343	357	357	350	361
4		337	324	324	317	337	275	289	310	324	331	331	331	331	331	331	331	331	331	324	324	337	344	337	344	326
5		337	324	324	331	413	324	331	337	324	393	379	275	289	275	289	303	324	324	317	324	317	344	358	337	329
6		324	317	282	241	324	331	358	358	344	331	303	303	317	324	324	331	331	337	351	358	344	324	331	337	326
7		283	235	345	276	359	483	428	387	421	366	325	290	249	297	304	318	345	318	332	338	345	338	352	345	337
8		194	276	318	332	518	518	504	559	401	325	352	338	332	325	325	332	332	332	332	332	345	366	359	345	362
9		318	249	338	345	318	366	387	304	332	345	338	332	325	318	318	318	325	332	345	352	359	325	332	283	329
10		326	277	312	312	333	374	374	312	319	346	333	346	346	339	339	346	346	346	346	339	346	360	360	339	338
11		305	319	312	312	333	360	353	319	339	346	346	333	333	333	326	319	305	305	312	319	319	319	319	326	325
12		334	306	334	334	327	327	285	306	320	327	320	320	334	334	334	340	340	334	340	347	354	340	334	334	329
13		327	334	334	334	306	313	313	327	334	334	334	334	334	327	327	327	334	340	334	354	403	347	347	258	331
14	D	313	327	320	361	444	520	368	430	506	533	471	361	347	306	320	334	334	347	409	389	382	368	306	306	379
15	D	321	321	369	507	569	404	383	548	390	452	390	293	259	293	307	362	376	355	328	335	335	266	273	238	361
16	D	135	293	321	341	452	341	493	541	459	431	397	321	335	321	300	335	390	459	341	369	128	114	300	328	343
17	D	135	259	307	266	404	410	452	479	417	528	383	321	335	307	259	341	376	383	383	376	397	314	348	335	355
18		267	308	336	329	315	439	453	549	460	425	363	308	287	301	322	342	363	370	391	377	418	363	363	336	366
19		287	336	349	336	473	432	398	467	370	349	349	308	342	342	342	349	363	377	398	391	370	363	349	356	367
20		349	336	322	322	308	336	356	342	301	308	308	322	336	342	336	342	349	356	356	356	370	363	370	363	340
21		343	350	337	316	364	406	385	385	309	343	350	343	343	337	330	330	343	350	350	350	357	357	350	350	349
22		343	337	330	337	337	330	330	337	337	337	337	316	302	323	330	337	337	337	337	350	357	378	392	350	339
23		351	276	324	407	510	386	372	407	351	303	303	317	317	317	324	344	351	365	365	358	338	331	338	276	347
24	D	310	289	289	317	351	503	510	469	482	427	365	379	365	351	344	344	344	358	372	351	351	358	365	365	373
25		365	351	344	338	324	324	351	344	338	344	344	344	338	338	331	331	331	331	331	344	358	351	358	351	342
26		345	339	339	339	345	339	339	339	325	297	352	345	339	332	332	332	332	332	339	345	352	352	345	345	338
27		345	339	359	339	339	339	339	325	332	339	339	345	352	345	345	345	345	345	352	359	352	345	339	339	343
28	Q	339	345	339	339	297	345	339	345	339	339	339	339	339	345	345	352	345	345	345	352	359	359	352	339	343
29	Q	340	340	333	340	340	340	340	340	340	333	340	340	340	340	340	340	346	346	340	340	346	346	346	340	340
30	Q	340	340	340	340	340	340	340	340	333	326	340	340	340	340	346	346	346	353	353	346	340	346	353	340	342
31		340	340	291	353	360	333	340	346	340	333	333	278	209	229	271	353	436	436	395	388	326	367	374	367	339
MEAN	A	311	315	328	337	371	370	373	383	363	359	344	324	321	322	323	335	345	350	349	350	347	339	346	333	343
MEAN	Q	335	337	333	331	312	320	327	329	322	315	322	324	330	335	334	338	340	344	340	340	348	352	352	341	333
MEAN	D	243	298	321	358	444	436	441	493	451	474	401	335	328	316	306	343	364	380	367	364	318	284	318	314	362

HORIZONTAL INTENSITY

TABLE 25 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS SEPTEMBER 1968

HOUR UT / DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		379	309	309	316	185	282	261	268	289	199	81	157	240	316	365	379	379	385	406	406	406	420	420	406	315
2		399	406	413	399	399	372	309	330	192	102	136	205	302	330	351	372	385	420	482	489	434	434	420	489	357
3		476	455	302	448	392	365	323	351	337	240	268	282	358	372	337	337	358	413	413	510	538	517	420	399	384
4		441	392	358	199	247	351	379	337	337	219	247	164	261	337	344	399	392	399	406	420	413	434	448	392	347
5		386	407	400	407	407	109	116	331	352	345	400	400	338	380	359	359	366	373	414	421	421	449	470	470	370
6		373	421	366	290	338	255	103	269	338	386	373	359	352	352	345	345	366	380	380	407	518	608	573	497	375
7		483	490	393	380	386	400	380	380	380	380	373	352	338	352	338	352	352	400	470	573	712	580	449	393	420
8	D	331	220	269	338	310	262	248	165	82	75	19	-22	-57	158	158	241	338	483	490	414	393	380	373	393	253
9		401	367	387	339	194	214	374	387	346	332	332	325	360	360	325	346	360	374	381	408	422	401	387	381	354
10		394	401	408	346	325	374	367	346	381	374	353	353	353	332	332	332	360	367	387	401	394	401	401	401	370
11		408	318	256	311	187	263	332	353	346	374	367	367	360	353	353	360	353	367	381	394	401	401	394	381	349
12		388	382	368	285	298	298	285	111	118	153	132	243	271	298	222	285	395	402	437	506	458	541	589	506	332
13	D	333	368	368	395	347	292	188	222	340	368	285	-76	-41	118	278	292	285	444	548	458	416	451	451	492	317
14	D	402	229	63	271	347	375	236	-20	111	139	111	111	208	292	326	382	368	382	395	416	506	534	430	423	293
15	D	395	382	42	222	70	257	305	215	222	326	375	319	298	333	368	285	382	409	499	430	402	423	423	402	324
16		403	410	279	50	119	203	251	272	265	272	334	376	383	376	369	369	383	389	410	417	417	410	410	396	332
17		389	334	306	396	293	341	362	279	320	383	383	376	383	376	376	369	369	383	389	383	396	396	389	389	365
18	Q	383	383	383	369	327	369	396	383	383	383	383	376	369	355	355	355	369	389	396	410	403	396	410	424	381
19		410	410	383	251	36	306	286	133	244	168	355	396	369	369	369	362	369	389	396	410	403	403	403	410	335
20		425	425	390	238	363	397	397	384	384	384	384	384	377	370	363	370	370	384	411	411	397	432	384	397	384
21		411	404	397	411	356	190	113	287	370	397	390	370	335	349	363	356	370	390	390	453	411	404	397	404	363
22		453	446	439	404	404	411	390	363	370	384	377	349	300	328	349	370	384	384	404	411	460	550	515	439	403
23	D	398	378	211	301	398	364	288	274	191	11	253	391	371	329	260	350	398	391	378	385	385	385	405	391	329
24	Q	398	385	391	391	391	385	385	385	385	385	378	371	371	357	350	350	357	371	391	419	385	391	391	391	381
25	Q	391	385	385	385	385	385	385	385	385	385	385	385	378	371	357	350	350	364	378	385	391	398	398	398	381
26	Q	398	391	398	398	398	391	371	295	350	385	398	385	385	371	350	343	350	364	364	378	385	391	391	398	376
27	Q	399	399	399	392	379	337	386	399	386	386	386	386	372	372	358	351	344	351	365	379	386	386	399	399	379
28		413	406	406	399	399	392	392	372	379	365	379	372	372	365	344	344	344	365	392	413	455	427	406	399	388
29		434	413	427	427	358	129	233	337	358	365	372	386	379	372	358	358	351	372	386	399	441	427	413	406	371
30		399	392	406	406	392	386	386	379	386	379	365	358	372	372	358	351	372	379	399	441	455	496	517	538	403
MEAN	A	403	384	344	339	314	315	307	299	311	301	312	307	315	337	336	347	364	389	411	425	434	442	429	420	358
MEAN	Q	394	389	391	387	376	373	384	369	377	384	386	380	375	365	354	350	354	368	379	394	390	393	398	402	380
MEAN	D	372	315	191	306	294	310	253	171	189	184	209	145	156	246	278	310	354	422	462	421	421	434	416	421	303

DECLINATION

TABLE 26 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES SEPTEMBER 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		9.4	9.4	11.8	19.1	16.7	14.3	7.0	7.0	7.0	11.8	19.1	4.6	-0.3	4.6	4.6	9.4	14.3	14.3	16.7	9.4	9.4	4.6	2.1	4.6	9.6
2		4.6	4.6	4.6	7.0	11.8	9.4	14.3	9.4	11.8	16.7	-19.7	-14.8	-5.2	-0.3	2.1	9.4	16.7	16.7	9.4	4.6	11.8	11.8	9.4	-2.7	6.0
3		-0.3	9.4	-0.3	7.0	11.8	9.4	16.7	-0.3	-7.6	-12.4	-10.0	-19.7	-10.0	-5.2	4.6	4.6	28.8	21.5	19.1	-2.7	-10.0	-17.3	-2.7	-0.3	1.4
4		-5.2	-2.7	4.6	72.4	62.8	36.1	9.4	4.6	-0.3	-0.3	-2.7	-2.7	-2.7	4.6	11.8	7.0	23.9	21.5	16.7	14.3	9.4	4.6	-2.7	11.8	12.3
5		12.3	7.5	7.5	7.5	19.6	56.0	19.6	5.1	-4.7	2.6	.2	.2	2.6	.2	5.1	12.3	19.6	22.0	17.2	14.8	14.8	5.1	5.1	5.1	10.7
6		19.6	2.6	24.4	29.3	14.8	34.2	24.4	7.5	5.1	-2.2	-2.2	-2.2	-4.7	-2.2	-2.2	12.3	12.3	14.8	24.4	19.6	12.3	7.5	5.1	9.9	11.0
7		14.8	.2	7.5	7.5	7.5	7.5	5.1	2.6	.2	.2	-2.2	-4.7	-7.1	-2.2	.2	5.1	14.8	22.0	14.8	2.6	-16.8	22.0	31.7	29.3	6.8
8	D	31.7	19.6	41.4	43.8	34.2	24.4	9.9	24.4	5.1	2.6	-11.9	-21.6	.2	-4.7	5.1	-14.3	-19.2	-24.1	5.1	12.3	5.1	2.6	5.1	2.6	7.5
9		.7	.7	24.9	20.1	39.5	51.6	8.0	3.1	3.1	3.1	3.1	.7	.7	-1.7	.7	10.4	20.1	20.1	22.5	10.4	5.6	10.4	10.4	10.4	11.6
10		3.1	3.1	22.5	27.4	24.9	5.6	5.6	5.6	3.1	.7	.7	.7	-1.7	.7	3.1	12.8	27.4	32.2	20.1	10.4	5.6	5.6	3.1	3.1	9.4
11		3.1	24.9	24.9	15.3	27.4	10.4	5.6	3.1	3.1	3.1	3.1	.7	-1.7	.7	5.6	12.8	17.7	20.1	20.1	15.3	10.4	8.0	8.0	10.4	10.5
12		8.0	8.0	8.0	5.6	12.8	10.4	8.0	8.0	3.1	-9.0	-23.6	-13.8	-4.2	5.6	12.8	37.1	12.8	5.6	3.1	-1.7	.7	-1.7	-18.7	.7	3.2
13	D	23.0	52.1	54.6	52.1	37.6	23.0	8.5	6.1	-1.2	-6.1	-6.1	-6.1	1.2	27.9	10.9	13.3	40.0	1.2	-20.6	-8.5	8.5	3.6	-6.1	-6.1	12.6
14	D	1.2	49.7	86.1	40.0	13.3	8.5	18.2	90.9	10.9	-10.9	-6.1	-1.2	-6.1	-3.7	10.9	8.5	10.9	10.9	6.1	8.5	-3.7	-10.9	3.6	6.1	14.2
15	D	13.3	-3.7	-3.7	57.0	44.8	25.4	15.8	10.9	8.5	-8.5	-8.5	-3.7	-1.2	6.1	-3.7	10.9	13.3	-1.2	-18.2	8.5	6.1	1.2	-1.2	-13.3	6.5
16		-6.1	6.1	23.0	90.9	61.8	40.0	13.3	6.1	-3.7	-6.1	-3.7	-3.7	-1.2	1.2	3.6	13.3	15.8	15.8	15.8	10.9	13.3	10.9	8.5	10.9	14.0
17		13.8	28.4	33.2	21.1	28.4	18.7	11.4	13.8	9.0	1.7	4.1	1.7	1.7	4.1	6.6	11.4	13.8	16.3	21.1	18.7	11.4	9.0	6.6	9.0	13.1
18	Q	11.4	13.8	13.8	16.3	13.8	13.8	9.0	9.0	6.6	6.6	6.6	4.1	4.1	4.1	6.6	11.4	16.3	21.1	18.7	11.4	11.4	11.4	9.0	9.0	10.8
19		11.4	11.4	16.3	35.7	42.9	18.7	13.8	-0.7	-5.6	6.6	1.7	-0.7	1.7	1.7	6.6	13.8	23.5	21.1	21.1	18.7	13.8	11.4	11.4	11.4	12.8
20		9.0	6.6	18.7	67.2	11.4	11.4	9.0	6.6	6.6	6.6	6.6	4.1	4.1	4.1	6.6	11.4	16.3	16.3	13.8	13.8	13.8	11.4	13.8	13.8	12.6
21		11.9	11.9	11.9	11.9	11.9	36.2	31.3	2.2	2.2	2.2	4.6	2.2	2.2	14.3	9.5	16.8	14.3	26.4	21.6	9.5	9.5	9.5	11.9	11.9	12.4
22		9.5	7.1	7.1	7.1	7.1	11.9	11.9	7.1	2.2	-0.2	-0.2	-2.7	7.1	7.1	9.5	11.9	14.3	14.3	11.9	11.9	7.1	-5.1	-7.5	2.2	6.3
23	D	14.3	7.1	11.9	48.3	4.6	4.6	4.6	7.1	4.6	9.5	2.2	-5.1	-5.1	4.6	11.9	2.2	26.4	16.8	14.3	11.9	7.1	7.1	7.1	7.1	9.4
24	Q	7.1	7.1	7.1	9.5	7.1	7.1	7.1	4.6	4.6	4.6	2.2	2.2	-0.2	-0.2	4.6	9.5	16.8	16.8	14.3	9.5	11.9	9.5	7.1	7.1	7.4
25	Q	7.6	7.6	10.0	7.6	7.6	7.6	7.6	7.6	7.6	7.6	5.1	2.7	2.7	.3	.3	2.7	12.4	17.3	17.3	17.3	12.4	7.6	7.6	5.1	7.9
26	Q	5.1	2.7	5.1	2.7	2.7	2.7	5.1	7.6	5.1	2.7	2.7	.3	-2.2	-4.6	-7.0	2.7	17.3	17.3	17.3	14.8	12.4	7.6	7.6	7.6	5.6
27	Q	7.6	5.1	5.1	5.1	.3	.3	.3	2.7	2.7	2.7	2.7	-2.2	-2.2	-4.6	-2.2	5.1	12.4	14.8	14.8	12.4	12.4	7.6	7.6	7.6	4.9
28		5.6	3.2	.8	5.6	3.2	5.6	5.6	5.6	5.6	3.2	-1.7	-1.7	-1.7	-4.1	-1.7	10.5	15.3	22.6	17.8	15.3	8.1	3.2	5.6	8.1	5.8
29		3.2	-1.7	-1.7	3.2	12.9	42.0	12.9	3.2	-1.7	-1.7	-1.7	-1.7	-6.5	-6.5	-4.1	3.2	8.1	12.9	15.3	12.9	5.6	3.2	8.1	8.1	5.3
30		5.6	8.1	5.6	5.6	5.6	5.6	5.6	3.2	3.2	3.2	3.2	.8	-1.7	-1.7	-1.7	3.2	12.9	12.9	12.9	8.1	8.1	3.2	.8	-6.5	4.4
MEAN	A	8.5	10.3	16.2	25.0	20.0	18.4	10.8	9.1	3.2	1.3	-1.1	-2.8	-1.2	1.7	4.0	9.4	16.3	15.3	13.5	10.5	7.6	5.5	5.2	6.1	8.9
MEAN	Q	7.7	7.3	8.2	8.2	6.3	6.3	5.8	6.3	5.3	4.8	3.9	1.4	.5	-1.0	.5	6.3	15.0	17.4	16.5	13.1	12.1	8.7	7.7	7.3	7.3
MEAN	D	16.7	25.0	38.1	48.2	26.9	17.2	11.4	27.9	5.6	-2.7	-6.1	-7.5	-2.2	6.0	7.0	4.1	14.3	.7	-2.7	6.5	4.6	.7	1.7	-0.7	10.0

VERTICAL INTENSITY

TABLE 27 GREAT WHALE RIVER Z = 59C00 PLUS TABULAR VALUES IN GAMMAS SEPTEMBER 1968

HOUR		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
UT		TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	MEAN
DAY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1		325	346	311	366	394	394	428	408	380	435	401	284	249	256	311	339	359	373	366	353	353	359	366	353	355
2		346	346	346	346	332	339	366	339	4C1	401	366	318	284	298	346	353	359	366	401	346	339	353	353	339	349
3		353	311	229	298	339	366	435	346	353	373	353	298	318	325	325	325	346	359	339	346	366	325	339	339	338
4		299	299	292	360	470	409	360	429	395	402	340	257	230	299	326	360	367	367	367	374	381	367	340	333	351
5		333	340	312	285	278	409	299	381	360	312	333	354	319	367	354	354	354	360	367	367	374	381	354	285	343
6		286	334	300	238	334	478	574	444	355	355	341	341	334	348	355	348	348	355	361	348	348	197	142	148	334
7		66	258	313	327	306	320	341	341	341	341	341	334	334	334	334	341	348	348	361	355	183	52	162	107	287
8	D	217	348	272	375	361	568	492	561	671	568	464	533	361	272	313	313	238	155	300	389	382	368	375	361	386
9		301	246	273	411	307	349	328	356	356	349	335	328	342	349	356	356	362	362	369	369	356	349	356	356	342
10		356	342	287	376	390	362	349	335	349	342	342	335	342	342	349	356	362	376	383	362	356	362	369	369	354
11		350	363	425	405	432	384	343	350	329	329	329	343	343	350	350	350	357	363	363	363	357	343	343	343	359
12		343	343	329	336	391	425	446	494	425	357	315	267	240	281	322	302	343	398	418	391	405	370	315	274	355
13	D	233	370	308	405	425	576	563	473	391	357	350	487	363	260	336	398	391	384	363	343	357	391	377	308	384
14	D	275	392	351	378	426	392	584	454	413	385	516	316	309	303	344	371	385	385	392	406	399	337	371	358	385
15	D	282	241	172	316	488	454	474	619	413	323	337	323	303	303	351	392	371	385	392	385	399	378	371	344	367
16		324	331	317	365	489	489	441	379	359	345	338	338	345	365	372	372	372	372	365	372	365	372	365	352	371
17		317	269	269	345	352	345	365	365	317	338	352	359	359	365	365	365	365	372	372	372	372	365	359	359	349
18	Q	344	344	337	337	303	337	344	344	344	337	344	344	351	351	358	351	358	364	371	385	385	371	371	371	352
19		344	344	344	447	564	406	440	371	419	447	330	358	344	351	358	358	358	358	351	344	351	351	351	351	376
20		344	337	309	358	358	351	351	351	351	344	344	344	344	358	358	358	358	351	358	364	364	358	351	344	350
21		344	344	344	344	289	413	447	364	323	344	344	344	330	282	316	344	364	378	351	358	371	351	344	344	349
22		330	303	337	344	344	309	337	371	344	344	344	330	275	275	316	351	351	344	351	358	371	330	268	337	332
23	D	344	303	316	303	447	440	413	364	413	509	344	323	344	323	344	303	323	358	351	358	358	358	358	358	360
24	Q	351	351	344	344	351	344	344	344	344	344	344	344	344	344	344	344	337	344	344	364	364	351	344	344	346
25	Q	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344	344
26	Q	344	351	358	351	344	344	337	316	309	330	344	351	344	344	344	344	337	337	344	351	351	351	344	344	342
27	Q	344	344	344	330	220	364	344	344	337	344	344	344	344	351	344	351	344	344	351	351	351	344	344	344	340
28		351	351	344	330	330	337	337	330	323	316	323	316	323	330	330	344	351	358	364	378	378	371	344	337	342
29		344	241	303	330	344	406	344	323	323	316	316	330	337	344	344	344	344	351	358	371	392	371	358	358	341
30		358	344	358	358	344	344	337	330	330	330	316	309	323	323	337	337	358	358	351	358	378	385	399	309	345
MEAN	A	316	326	316	348	370	393	397	386	370	365	351	340	324	324	341	349	352	356	362	364	362	343	339	327	351
MEAN	Q	345	347	345	341	312	347	342	338	336	340	344	345	345	347	347	347	344	347	351	359	359	352	349	349	345
MEAN	D	270	331	284	355	430	486	505	494	460	428	402	397	336	292	338	355	342	333	359	376	379	366	370	346	376

HORIZONTAL INTENSITY

TABLE 28 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS OCTOBER 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		517	448	379	344	372	372	372	351	309	192	206	372	358	344	351	358	372	399	427	462	483	496	531	559	390
2	D	392	309	316	365	344	115	143	372	372	206	-2	-252	-37	275	337	392	379	406	469	434	392	448	427	413	292
3		365	-265	240	275	358	102	136	150	-134	-120	212	392	372	372	372	372	372	379	386	392	392	386	386	386	261
4		386	386	379	379	379	379	372	372	372	379	379	372	372	358	344	344	358	386	386	379	386	386	386	379	375
5	Q	387	380	387	387	387	373	317	213	207	290	345	373	366	359	359	352	359	366	380	387	387	387	387	387	355
6		387	387	387	393	387	380	387	400	338	366	373	387	373	373	359	345	359	373	387	393	407	400	400	393	380
7		400	387	414	324	393	359	317	359	367	387	380	373	373	359	345	352	359	380	442	490	497	497	414	421	392
8		428	414	414	387	338	317	317	324	297	352	373	373	359	359	352	345	345	359	373	387	400	400	414	414	368
9		401	422	221	353	360	388	374	388	388	388	388	388	388	374	346	353	360	374	394	388	422	429	457	471	384
10		422	353	429	401	374	332	270	291	311	325	346	388	381	374	360	360	360	360	367	374	388	388	388	394	364
11	Q	394	388	394	394	401	388	360	325	381	388	388	388	388	381	367	360	360	367	374	388	388	394	401	401	381
12	D	415	360	401	408	318	277	374	318	145	21	83	291	332	374	381	374	388	450	422	595	533	526	374	381	356
13	D	264	389	423	437	299	243	202	264	84	1	195	292	285	389	382	395	361	389	395	402	423	437	444	458	327
14		395	395	423	395	202	264	347	264	202	305	402	395	375	402	389	361	382	375	416	402	409	430	409	402	364
15		389	389	382	382	368	347	340	299	264	285	340	375	382	375	368	361	368	368	375	375	389	389	389	389	362
16		389	389	389	402	354	312	229	167	181	319	402	395	382	368	354	354	361	368	375	389	395	395	389	402	352
17		424	438	466	438	369	396	403	383	348	334	376	390	383	369	362	369	369	376	383	403	431	438	445	487	399
18		507	445	459	417	431	403	383	327	223	313	390	396	390	383	362	362	362	369	369	390	396	403	417	396	387
19		410	417	410	403	403	390	376	362	327	383	390	376	383	396	369	355	355	362	403	480	542	514	473	500	407
20		431	417	403	410	390	390	362	196	119	168	383	376	390	383	390	362	362	369	376	383	383	390	390	390	359
21	Q	391	384	384	384	391	391	384	384	370	370	384	391	384	370	349	342	349	349	377	384	391	391	391	391	378
22	Q	391	391	391	391	397	391	391	391	391	391	391	391	377	363	349	342	342	349	370	377	391	391	391	391	380
23	Q	391	391	391	391	391	391	391	391	391	391	391	391	384	370	349	342	349	363	377	384	391	391	391	397	382
24		397	397	397	397	404	404	411	397	391	391	391	391	384	377	363	356	370	391	418	446	404	397	377	384	393
25		378	385	392	405	350	329	336	364	253	128	101	260	357	378	378	364	364	371	385	398	392	392	405	398	344
26		398	398	392	392	392	392	378	343	267	267	322	378	392	378	364	364	364	378	392	412	419	405	419	551	381
27		482	412	405	392	392	392	364	232	218	378	398	398	378	364	350	357	364	378	378	385	392	392	398	405	375
28		398	392	392	392	392	378	239	329	405	392	392	392	385	378	364	364	364	371	378	378	392	405	433	454	381
29	D	545	531	448	406	406	406	337	393	393	399	386	399	372	365	365	351	372	503	434	462	483	420	393	393	415
30		393	413	399	406	379	372	379	365	351	323	185	226	247	171	323	365	351	365	372	393	427	420	420	399	352
31	D	418	369	176	231	252	238	99	-129	-191	252	-399	-552	-108	58	183	245	217	2	113	196	224	335	335	321	120
MEAN	A	409	378	383	383	367	342	325	309	270	289	300	319	340	353	354	355	358	367	384	403	411	415	409	416	360
MEAN	Q	391	386	389	389	393	386	368	341	348	366	379	386	379	368	355	348	352	359	375	384	389	391	392	393	375
MEAN	D	407	392	353	370	324	256	231	243	160	176	52	36	169	292	329	351	343	350	367	418	411	433	394	393	302

DECLINATION

TABLE 29 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES OCTOBER 1968

HOUR UT DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		-4.1	22.6	25.0	10.5	5.6	3.2	3.2	3.2	.8	5.6	5.6	-4.1	-8.9	-8.9	.8	5.6	3.2	8.1	8.1	8.1	5.6	.8	-6.5	-11.3	3.4
2	D	22.6	54.1	34.7	12.9	17.8	51.7	10.5	-4.1	-6.5	-11.3	5.6	-11.3	3.2	-6.5	17.8	10.5	25.0	12.9	-1.7	3.2	8.1	8.1	-1.7	.8	10.7
3		5.6	10.5	44.4	27.4	25.0	22.6	10.5	15.3	8.1	-1.7	20.2	-1.7	.8	5.6	5.6	8.1	10.5	12.9	12.9	12.9	10.5	8.1	8.1	8.1	12.1
4		8.1	8.1	8.1	8.1	8.1	5.6	5.6	5.6	3.2	3.2	3.2	3.2	.8	.8	3.2	5.6	10.5	12.9	15.3	15.3	10.5	8.1	8.1	8.1	7.0
5	Q	8.6	8.6	8.6	8.6	8.6	8.6	11.0	13.4	8.6	-1.2	1.3	-1.2	-3.6	-3.6	1.3	8.6	11.0	15.8	13.4	13.4	11.0	8.6	8.6	8.6	7.3
6		8.6	8.6	6.1	6.1	8.6	8.6	8.6	3.7	3.7	-6.0	-1.2	-1.2	-1.2	-1.2	-1.2	6.1	15.8	20.7	20.7	15.8	11.0	8.6	8.6	6.1	6.8
7		6.1	-3.6	-1.2	6.1	13.4	11.0	8.6	3.7	6.1	6.1	6.1	6.1	1.3	1.3	1.3	8.6	11.0	11.0	3.7	1.3	8.6	-1.2	6.1	1.3	5.1
8		-13.3	1.3	3.7	8.6	27.9	18.3	8.6	8.6	8.6	3.7	3.7	3.7	-1.2	-6.0	-1.2	6.1	13.4	13.4	13.4	13.4	13.4	11.0	3.7	3.7	6.9
9		9.1	11.5	43.0	13.9	13.9	9.1	6.6	6.6	6.6	4.2	1.8	-0.7	-5.5	-3.1	-0.7	11.5	6.6	13.9	13.9	16.3	11.5	9.1	-0.7	-3.1	8.1
10		-0.7	26.0	-0.7	4.2	9.1	13.9	13.9	6.6	4.2	6.6	4.2	1.8	1.8	-0.7	4.2	6.6	9.1	13.9	16.3	16.3	13.9	11.5	9.1	9.1	8.3
11	Q	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	1.8	1.8	4.2	4.2	1.8	1.8	4.2	4.2	11.5	13.9	18.8	18.8	13.9	13.9	9.1	9.1	8.5
12	D	6.6	18.8	33.3	38.2	30.9	23.6	-0.7	-10.3	-0.7	-7.9	-5.5	-3.1	-0.7	9.1	11.5	16.3	13.9	-10.3	-22.5	-12.8	-12.8	-5.5	21.2	-5.5	5.2
13	D	53.2	38.7	4.7	4.7	14.4	19.3	26.5	9.6	16.8	9.6	19.3	14.4	9.6	4.7	4.7	-2.6	12.0	4.7	12.0	14.4	16.8	9.6	-0.2	2.3	13.3
14		21.7	24.1	21.7	16.8	33.8	19.3	14.4	14.4	4.7	2.3	4.7	2.3	-0.2	-0.2	2.3	2.3	7.1	12.0	9.6	12.0	14.4	9.6	2.3	9.6	10.9
15		9.6	9.6	9.6	9.6	9.6	12.0	9.6	14.4	4.7	-0.2	9.6	4.7	4.7	2.3	4.7	7.1	9.6	16.8	19.3	16.8	14.4	9.6	9.6	9.6	9.4
16		9.6	9.6	7.1	9.6	12.0	19.3	21.7	31.4	16.8	4.7	2.3	4.7	2.3	2.3	4.7	9.6	16.8	16.8	19.3	19.3	14.4	12.0	9.6	9.6	11.9
17		5.2	-2.1	7.6	10.1	14.9	10.1	7.6	5.2	5.2	5.2	7.6	5.2	.3	-4.5	.3	2.8	10.1	12.5	14.9	14.9	14.9	10.1	10.1	5.2	7.2
18		-4.5	2.8	-2.1	7.6	7.6	7.6	10.1	10.1	10.1	.3	5.2	5.2	2.8	.3	.3	5.2	10.1	14.9	19.8	17.3	14.9	12.5	7.6	2.8	7.0
19		5.2	5.2	7.6	5.2	7.6	7.6	7.6	5.2	7.6	5.2	5.2	2.8	7.6	.3	.3	5.2	10.1	14.9	14.9	10.1	.3	7.6	.3	-6.9	5.7
20		2.8	5.2	5.2	5.2	10.1	7.6	7.6	24.6	24.6	-4.5	5.2	2.8	.3	.3	.3	5.2	7.6	19.8	24.6	17.3	14.9	12.5	10.1	10.1	9.1
21	Q	10.6	10.6	10.6	10.6	10.6	8.1	8.1	10.6	8.1	5.7	5.7	3.3	.8	.8	3.3	8.1	10.6	17.8	15.4	15.4	13.0	10.6	10.6	10.6	9.1
22	Q	10.6	10.6	10.6	8.1	10.6	8.1	10.6	8.1	5.7	8.1	5.7	5.7	3.3	.8	.8	5.7	15.4	20.3	20.3	15.4	15.4	10.6	10.6	10.6	9.6
23	Q	10.6	8.1	10.6	8.1	8.1	10.6	8.1	8.1	8.1	5.7	5.7	5.7	.8	.8	.8	5.7	13.0	15.4	15.4	17.8	15.4	13.0	10.6	10.6	9.0
24		10.6	8.1	8.1	8.1	5.7	10.6	5.7	5.7	5.7	3.3	3.3	5.7	.8	-1.6	.8	10.6	13.0	15.4	15.4	15.4	17.8	15.4	10.6	10.6	8.5
25		8.6	8.6	8.6	6.2	25.6	11.1	6.2	6.2	13.5	3.8	-5.9	-1.1	6.2	1.3	6.2	11.1	15.9	15.9	18.3	15.9	15.9	13.5	11.1	8.6	9.6
26		6.2	6.2	6.2	6.2	8.6	11.1	11.1	11.1	13.5	11.1	6.2	1.3	-1.1	-1.1	3.8	11.1	15.9	15.9	15.9	18.3	15.9	13.5	11.1	-1.1	9.0
27		-3.5	6.2	8.6	8.6	8.6	8.6	8.6	13.5	18.3	3.8	3.8	1.3	-1.1	-3.5	3.8	11.1	15.9	15.9	15.9	15.9	13.5	11.1	11.1	8.6	8.5
28		6.2	8.6	8.6	8.6	8.6	8.6	20.8	6.2	6.2	6.2	6.2	3.8	1.3	-1.1	1.3	13.5	15.9	18.3	18.3	15.9	13.5	11.1	6.2	15.9	9.5
29	D	-5.4	-10.3	1.8	6.7	9.1	14.0	11.6	1.8	6.7	1.8	1.8	1.8	-5.4	-7.8	-3.0	1.8	-34.5	1.8	30.9	18.8	4.3	6.7	6.7	4.3	2.8
30		6.7	4.3	6.7	9.1	14.0	14.0	11.6	11.6	14.0	11.6	11.6	16.4	16.4	30.9	16.4	6.7	11.6	16.4	18.8	14.0	4.3	9.1	6.7	14.0	12.4
31	D	21.3	16.4	52.8	47.9	40.7	35.8	11.6	-15.1	-3.0	-17.6	35.8	135.2	23.7	16.4	-46.7	-63.6	-90.3	-7.8	9.1	6.7	14.0	9.1	11.6	16.4	10.8
MEAN	A	8.1	11.2	13.2	11.3	14.1	13.8	10.1	7.9	7.5	2.2	6.1	7.0	2.0	1.0	1.7	5.0	7.3	12.8	14.2	13.3	11.4	9.3	7.4	6.0	8.5
MEAN	Q	9.9	9.4	9.9	8.9	9.4	8.9	9.4	9.9	6.5	4.0	4.5	3.5	.6	.1	2.1	6.5	12.3	16.6	16.6	16.2	13.7	11.3	9.9	9.9	8.7
MEAN	D	19.6	23.5	25.5	22.1	22.6	28.9	11.9	-3.6	2.7	-5.1	11.4	27.4	6.1	3.2	-3.1	-7.5	-14.8	.3	5.6	6.1	6.1	5.6	7.5	3.6	8.6

VERTICAL INTENSITY

TABLE 30 GREAT WHALE RIVER Z = 59C00 PLUS TABULAR VALUES IN GAMMAS OCTOBER 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
HOUR UT																										
1		199	276	331	476	421	366	352	359	393	442	345	338	338	331	331	338	345	366	393	407	386	359	345	227	353
2	D	193	386	386	310	414	629	469	372	359	414	642	137	310	317	345	352	379	372	386	379	372	379	352	276	372
3		248	400	393	518	435	622	490	677	608	642	372	359	359	359	359	366	359	359	366	366	359	366	359	359	421
4		359	359	359	359	359	359	359	345	352	345	345	359	359	359	359	359	359	366	366	359	359	359	352	352	357
5	Q	352	345	345	352	352	352	331	331	331	303	331	345	359	359	359	359	359	359	359	372	359	359	359	359	349
6		358	358	358	351	351	344	351	371	316	316	330	344	344	351	344	344	351	358	358	371	371	358	358	358	350
7		351	344	295	282	371	406	427	371	344	344	344	351	358	358	358	358	351	358	385	385	413	385	371	371	362
8		309	358	365	344	358	392	413	371	330	316	330	344	344	344	351	358	358	358	358	371	371	371	358	344	355
9		288	282	392	330	337	330	344	344	344	344	344	351	358	358	358	358	358	371	365	358	371	385	351	344	348
10		282	268	365	351	358	330	295	316	330	316	330	337	351	358	358	351	358	351	351	351	351	351	344	344	337
11	Q	343	343	350	343	343	343	343	301	329	343	343	343	350	350	343	343	350	350	350	350	343	343	343	343	343
12	D	336	301	246	294	370	488	467	509	537	357	364	301	274	322	377	357	377	294	191	149	204	267	232	135	323
13	D	377	447	329	253	384	433	543	509	537	433	287	253	287	336	364	398	364	370	357	370	370	370	343	281	375
14		294	274	329	336	454	509	398	419	398	329	350	357	336	370	370	377	384	384	384	370	370	391	370	370	372
15		370	370	364	357	350	370	357	329	3C8	329	329	357	357	357	364	370	370	370	370	370	370	370	364	350	357
16		349	349	356	321	363	349	404	397	314	328	335	356	363	356	356	369	363	356	356	356	363	356	356	349	355
17		349	342	314	307	349	335	349	356	335	328	335	342	356	363	369	376	369	369	363	363	376	411	383	390	355
18		293	300	273	363	328	342	342	328	3C0	300	342	349	356	356	349	349	356	356	356	356	356	356	376	369	339
19		363	369	369	356	349	349	342	342	328	342	342	335	349	356	356	356	349	349	356	349	266	342	335	321	344
20		363	356	356	349	356	356	363	466	342	293	328	328	349	356	356	349	356	356	356	356	356	356	356	349	354
21	Q	348	348	348	348	355	348	341	341	327	327	327	348	355	355	362	355	355	368	368	368	362	355	355	355	351
22	Q	348	348	348	348	341	355	341	348	355	355	355	355	355	362	355	355	362	362	355	362	362	355	355	355	353
23	Q	355	348	355	348	348	341	341	348	348	348	355	355	355	362	355	355	355	355	355	362	362	355	348	355	352
24		341	341	341	341	341	327	348	355	348	355	348	341	348	341	341	341	348	348	368	396	375	375	362	355	351
25		355	355	355	341	320	355	355	355	438	279	251	244	299	341	341	348	355	362	362	368	368	368	362	355	343
26		354	354	347	340	340	340	340	340	326	312	312	333	347	354	354	354	354	354	354	361	361	354	361	312	344
27		340	340	347	354	354	354	374	478	395	354	354	354	354	354	354	354	354	367	367	367	367	354	354	354	362
28		354	354	354	354	347	354	333	312	340	347	340	347	354	354	347	354	340	354	354	354	354	354	361	222	343
29	D	271	298	319	340	319	361	451	367	340	340	326	340	326	326	333	312	354	451	298	340	333	340	333	361	341
30		361	354	354	354	347	340	347	347	354	347	291	284	284	312	326	312	326	361	367	367	367	367	361	250	337
31	D	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	A	327	342	345	347	360	382	377	380	367	351	344	329	341	349	353	354	357	362	356	358	357	360	352	329	353
MEAN	Q	349	346	349	348	348	348	339	334	338	335	342	349	354	357	354	353	356	359	357	363	357	353	352	353	350
MEAN	D	294	358	320	299	372	477	483	439	443	386	4C5	258	299	325	355	355	369	372	308	310	320	339	315	263	353

HORIZONTAL INTENSITY

TABLE 31 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS NOVEMBER 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
HOUR UT																										
1	D	427	164	393	406	406	372	351	330	344	358	296	109	136	-30	81	282	441	420	406	406	469	219	254	171	301
2	D	192	32	199	226	116	226	213	157	5	19	-44	-16	150	102	116	330	344	406	406	420	524	635	538	136	226
3	D	206	116	309	406	406	316	136	53	261	372	386	372	303	268	309	351	386	379	393	379	420	434	393	393	323
4	D	365	351	393	365	296	60	199	102	60	129	226	282	240	275	344	399	393	386	386	441	476	420	386	372	306
5		380	380	380	366	387	380	352	255	255	248	331	352	345	352	352	352	359	366	373	380	387	387	380	380	353
6		380	380	373	373	359	380	373	380	380	380	380	373	380	366	359	359	352	366	380	407	400	400	449	477	383
7		331	276	338	310	200	200	75	200	200	207	207	324	380	380	407	387	366	366	366	380	380	394	394	394	311
8		387	387	387	394	394	359	283	151	193	68	82	255	317	366	345	366	387	366	366	421	400	435	449	421	332
9	D	401	318	311	346	270	318	325	311	55	-159	208	353	298	346	395	415	381	408	395	395	395	381	381	381	318
10		388	388	381	311	277	318	325	325	242	277	325	228	291	346	374	374	395	395	401	422	408	401	436	450	353
11		401	450	395	311	422	332	353	187	-0	208	187	215	305	374	395	367	381	374	381	388	395	395	395	408	334
12	Q	408	395	395	395	381	374	381	388	388	388	381	381	381	381	367	360	360	367	381	381	395	395	395	395	384
13		395	395	395	408	408	395	395	395	395	374	339	367	388	388	381	367	367	374	395	415	415	422	395	395	390
14	Q	389	389	389	389	396	396	396	396	396	396	396	396	389	382	368	361	368	368	382	382	396	389	402	402	388
15	Q	402	396	396	396	382	396	389	389	389	396	396	389	389	382	368	361	368	375	382	389	389	396	402	396	388
16		396	409	423	423	409	396	396	382	389	396	396	402	389	368	375	382	382	402	409	409	437	479	409	409	403
17		430	409	458	486	451	437	396	375	416	375	389	375	361	326	333	382	423	472	479	513	437	382	458	534	421
18		424	313	431	355	307	286	272	258	217	279	300	376	390	383	369	362	383	403	403	424	452	452	473	459	365
19		459	438	424	424	397	355	300	286	327	369	320	369	355	383	376	369	383	383	383	390	390	403	390	390	378
20		390	397	397	397	397	397	397	383	376	189	272	320	341	230	50	272	403	397	431	424	397	397	397	390	352
21		390	397	397	383	369	376	383	383	383	383	376	376	369	369	362	369	383	410	424	410	410	424	431	445	392
22		425	398	398	398	398	398	391	377	384	384	398	391	377	363	370	370	370	384	404	391	404	411	411	425	392
23		425	439	439	377	467	418	384	377	384	384	384	377	370	377	370	363	363	370	384	384	391	398	398	398	392
24		404	404	411	425	411	384	356	398	398	391	384	384	384	384	370	370	370	384	391	398	404	404	404	404	392
25		481	460	474	446	418	453	425	391	384	370	384	384	377	384	391	384	377	391	398	404	418	411	404	404	409
26		404	418	453	425	411	398	398	391	384	370	377	391	384	377	356	356	370	398	418	398	391	418	432	411	397
27		468	468	399	399	405	426	399	412	371	385	371	399	385	385	371	371	371	392	412	412	440	502	447	426	409
28		440	447	433	426	440	440	399	392	385	322	253	260	357	364	371	371	378	392	399	378	399	433	412	405	387
29	Q	405	399	392	399	371	385	392	392	385	385	385	385	385	385	371	371	385	385	385	385	392	392	392	399	387
30	Q	392	392	392	392	392	392	392	399	392	392	392	392	385	385	378	378	378	378	385	392	385	392	399	405	389
MEAN	A	393	367	392	385	371	359	341	320	304	301	316	332	343	338	339	363	379	388	397	404	413	413	410	396	365
MEAN	Q	399	394	392	394	384	388	390	392	390	391	390	388	385	383	370	366	372	374	383	385	391	392	398	399	387
MEAN	D	318	196	321	350	299	259	245	191	145	144	214	220	225	192	249	356	389	400	397	408	457	418	390	290	295

DECLINATION

TABLE 32 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES NOVEMBER 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1	D	35.8	26.1	23.7	11.6	11.6	14.0	14.0	11.6	11.6	6.7	9.1	6.7	-51.5	-41.8	-34.5	-15.1	6.7	21.3	-10.3	-22.4	1.8	47.9	118.3	77.0	11.7
2	D	91.6	67.3	11.6	-41.8	6.7	45.5	9.1	47.9	-3.0	14.0	21.3	28.5	26.1	21.3	26.1	-5.4	4.3	-7.8	9.1	11.6	1.8	-5.4	-12.7	96.4	19.3
3	D	81.9	55.2	18.8	-0.6	6.7	6.7	21.3	38.2	9.1	6.7	9.1	6.7	9.1	14.0	11.6	6.7	-3.0	16.4	21.3	21.3	9.1	6.7	9.1	9.1	16.3
4	D	12.1	9.6	14.5	19.3	41.2	82.4	43.6	21.8	9.6	-2.5	-7.3	-7.3	-0.1	7.2	7.2	19.3	24.2	21.8	16.9	4.8	-2.5	2.3	12.1	12.1	15.1
5		12.1	12.1	12.1	-0.1	12.1	14.5	14.5	21.8	21.8	7.2	2.3	4.8	9.6	2.3	7.2	14.5	16.9	19.3	16.9	14.5	12.1	7.2	12.1	12.1	11.6
6		12.1	12.1	12.1	12.1	16.9	14.5	12.1	12.1	12.1	9.6	9.6	12.1	7.2	4.8	7.2	14.5	16.9	16.9	16.9	16.9	16.9	16.9	7.2	-4.9	11.8
7		2.8	34.4	17.4	31.9	2.8	29.5	39.2	10.1	17.4	10.1	-6.8	2.8	-2.0	5.3	2.8	5.3	12.6	17.4	22.3	17.4	15.0	15.0	12.6	12.6	13.7
8		12.6	12.6	12.6	12.6	10.1	12.6	24.7	17.4	7.7	5.3	-4.4	5.3	15.0	12.6	7.7	19.8	27.1	36.8	29.5	17.4	15.0	12.6	7.7	12.6	14.3
9	D	15.0	29.5	22.3	7.7	41.7	24.7	12.6	7.7	36.8	17.4	-9.3	-2.0	17.4	7.7	7.7	12.6	17.4	12.6	15.0	17.4	17.4	17.4	15.0	12.6	15.6
10		13.1	13.1	13.1	13.1	32.4	17.9	15.5	13.1	13.1	3.3	5.8	15.5	27.6	13.1	8.2	10.6	10.6	20.3	17.9	17.9	15.5	13.1	10.6	8.2	14.3
11		27.6	-1.5	27.6	34.9	20.3	25.2	15.5	17.9	15.5	-1.5	3.3	-1.5	8.2	13.1	17.9	17.9	20.3	22.8	17.9	17.9	13.1	13.1	13.1	10.6	15.4
12	Q	8.2	8.2	8.2	13.1	13.1	13.1	13.1	13.1	10.6	10.6	10.6	8.2	8.2	3.3	5.8	10.6	15.5	17.9	17.9	17.9	15.5	13.1	13.1	13.1	11.7
13		11.1	11.1	11.1	8.7	13.6	16.0	13.6	13.6	11.1	8.7	11.1	6.3	6.3	3.8	6.3	13.6	16.0	20.8	20.8	20.8	18.4	18.4	13.6	13.6	12.8
14	Q	13.6	13.6	11.1	13.6	13.6	13.6	11.1	11.1	13.6	11.1	8.7	8.7	8.7	8.7	6.3	11.1	18.4	20.8	20.8	18.4	18.4	13.6	13.6	13.6	13.1
15	Q	11.1	11.1	11.1	13.6	13.6	13.6	13.6	11.1	11.1	11.1	11.1	11.1	8.7	8.7	8.7	11.1	16.0	18.4	18.4	18.4	16.0	13.6	13.6	13.6	12.8
16		11.1	11.1	8.7	11.1	13.6	13.6	13.6	11.1	13.6	11.1	8.7	3.8	6.3	1.4	3.8	13.6	16.0	18.4	18.4	13.6	16.0	3.8	8.7	11.1	10.9
17		8.7	13.6	-1.0	16.0	11.1	13.6	23.3	28.1	3.8	3.8	8.7	8.7	3.8	6.3	16.0	8.7	13.6	13.6	8.7	13.6	20.8	20.8	3.8	1.4	11.2
18		18.4	23.3	30.5	30.5	47.5	37.8	25.7	11.1	6.3	-1.0	3.8	-1.0	3.8	6.3	8.7	13.6	13.6	18.4	23.3	18.4	13.6	8.7	3.8	3.8	15.4
19		6.3	13.6	13.6	13.6	37.8	20.8	13.6	18.4	13.6	8.7	3.8	6.3	6.3	1.4	3.8	13.6	16.0	18.4	18.4	13.6	13.6	11.1	13.6	13.6	13.0
20		13.6	11.1	8.7	8.7	8.7	13.6	13.6	11.1	8.7	13.6	-1.0	-3.4	-3.4	-1.0	32.9	45.1	18.4	13.6	13.6	13.6	13.6	8.7	8.7	3.8	11.4
21		3.3	-1.5	8.2	13.1	13.1	13.1	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	10.6	15.5	15.5	15.5	17.9	22.8	17.9	10.6	8.2	8.2	10.7
22		8.2	8.2	8.2	8.2	8.2	10.6	13.1	10.6	10.6	8.2	5.8	5.8	5.8	3.3	8.2	13.1	17.9	17.9	15.5	15.5	13.1	13.1	8.2	10.6	10.3
23		8.2	8.2	10.6	5.8	-3.9	15.5	13.1	10.6	8.2	8.2	8.2	8.2	8.2	5.8	5.8	10.6	13.1	13.1	13.1	13.1	13.1	13.1	10.6	8.2	9.5
24		8.2	8.2	8.2	10.6	8.2	10.6	8.2	8.2	8.2	8.2	8.2	8.2	5.8	5.8	8.2	13.1	10.6	13.1	13.1	13.1	13.1	10.6	10.6	8.2	9.5
25		-1.5	-3.9	3.3	3.3	3.3	3.3	8.2	8.2	5.8	3.3	5.8	3.3	-1.5	3.3	8.2	13.1	17.9	15.5	17.9	17.9	13.1	13.1	10.6	8.2	7.5
26		7.7	2.8	2.8	2.8	7.7	7.7	7.7	7.7	7.7	5.3	7.7	5.3	2.8	2.8	7.7	17.4	19.8	17.4	12.6	17.4	17.4	12.6	10.1	7.7	9.1
27		2.8	2.8	-4.4	7.7	5.3	22.3	7.7	10.1	5.3	5.3	7.7	7.7	7.7	5.3	7.7	12.6	17.4	15.0	17.4	17.4	12.6	5.3	10.1	7.7	9.0
28		.4	2.8	2.8	7.7	7.7	10.1	7.7	10.1	10.1	7.7	10.1	2.8	5.3	5.3	7.7	12.6	17.4	15.0	15.0	19.8	12.6	7.7	7.7	7.7	8.9
29	Q	7.7	7.7	10.1	10.1	12.6	10.1	10.1	10.1	10.1	7.7	7.7	7.7	7.7	7.7	7.7	12.6	15.0	15.0	15.0	12.6	12.6	12.6	12.6	12.6	10.6
30	Q	12.6	10.1	10.1	10.1	12.6	10.1	10.1	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	10.1	12.6	12.6	12.6	10.1	10.1	10.1	10.1	7.7	9.7
MEAN	A	15.9	14.4	11.6	10.3	15.0	18.5	15.2	14.7	10.9	7.5	5.8	6.2	5.8	5.1	8.0	12.4	15.1	16.9	16.1	14.7	13.2	12.2	13.2	14.4	12.2
MEAN	C	10.6	10.1	10.1	12.1	13.1	12.1	11.6	10.6	10.6	9.7	9.2	8.7	8.2	7.2	7.2	11.1	15.5	16.9	16.9	15.5	14.5	12.6	12.6	12.1	11.6
MEAN	D	47.3	37.6	18.2	-0.8	21.5	34.6	20.1	25.4	12.8	8.5	4.6	6.5	.2	1.7	3.6	3.6	9.9	12.8	10.4	6.5	5.5	13.8	28.3	41.4	15.6

VERTICAL INTENSITY

TABLE 33 GREAT WHALE RIVER Z = 59000 PLUS TABULAR VALUES IN GAMMAS NOVEMBER 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1	D	273	280	161	300	342	461	412	384	370	377	356	566	629	398	370	377	419	405	245	210	224	287	412	328	358
2	D	376	286	453	286	432	439	509	579	614	551	425	306	279	272	293	334	355	369	369	390	383	320	167	313	379
3	D	627	333	333	368	417	550	627	634	431	382	382	368	368	326	354	424	389	403	424	424	410	410	410	403	425
4	D	367	339	353	367	423	430	416	591	528	437	304	325	297	297	339	374	374	381	395	402	402	395	381	381	388
5		379	386	379	351	365	372	365	386	351	330	344	337	358	358	365	365	372	379	379	386	393	400	379	379	369
6		378	378	371	350	336	364	364	364	378	371	371	364	378	378	371	378	378	385	406	420	406	392	399	294	374
7		300	461	377	349	335	433	615	468	440	391	335	293	321	349	384	377	377	377	377	377	377	384	377	377	386
8		376	376	376	376	362	369	348	369	404	355	320	209	279	320	369	376	376	390	376	404	397	411	376	306	359
9	D	318	381	388	318	409	430	437	472	549	437	332	304	270	325	374	388	402	388	381	395	374	374	374	367	383
10		373	373	373	331	324	345	366	366	373	345	324	289	289	317	331	366	373	387	401	394	401	387	387	296	355
11		316	233	344	484	316	407	400	463	484	358	233	240	261	302	344	344	358	372	372	372	372	372	372	372	354
12	Q	371	364	371	364	357	343	350	364	364	364	364	357	357	364	364	364	371	378	371	371	371	371	364	364	365
13		369	369	369	355	348	355	362	362	355	348	327	320	348	355	355	369	369	369	376	376	390	397	369	369	362
14	Q	354	354	354	361	354	354	354	354	354	354	354	354	354	354	354	361	361	361	368	368	368	368	368	368	359
15	Q	353	360	360	360	339	353	353	353	353	353	353	353	353	360	360	367	367	367	367	360	360	367	360	367	359
16		366	373	366	359	366	366	366	352	359	359	352	352	338	338	345	331	317	345	359	366	380	359	352	352	355
17		350	329	267	357	364	336	350	350	364	350	350	343	336	280	260	280	239	274	253	204	190	162	71	8	278
18		210	279	224	328	377	426	524	475	475	426	370	335	363	363	363	363	363	377	391	391	398	391	300	349	369
19		362	320	313	320	320	334	390	369	334	334	292	320	292	327	348	355	362	362	362	362	362	362	362	362	343
20		361	361	375	375	368	375	368	361	347	319	250	264	319	271	131	236	305	354	368	375	361	368	361	361	331
21		359	373	359	359	352	345	345	352	352	352	352	352	359	352	345	345	352	359	373	359	366	373	387	401	360
22		400	372	358	358	358	358	358	344	351	344	358	358	358	344	344	344	344	351	358	358	358	358	386	372	358
23		385	350	315	120	267	371	357	350	350	350	343	343	357	357	350	350	343	350	357	350	343	343	343	343	337
24		349	356	349	342	349	356	349	342	342	342	342	342	342	349	342	349	342	342	342	349	342	342	349	349	346
25		340	368	375	354	354	340	340	354	340	326	326	326	333	340	347	340	347	347	354	368	354	354	354	368	348
26		367	381	367	381	374	353	353	353	353	339	339	339	339	325	339	339	353	381	367	367	360	367	381	367	358
27		352	289	255	282	199	310	338	324	331	338	324	338	345	352	352	352	359	352	359	352	366	380	373	380	334
28		393	393	372	344	309	337	351	344	344	323	281	233	281	323	330	337	344	351	358	358	358	365	351	358	339
29	Q	350	350	350	350	329	336	350	350	350	336	336	336	350	343	343	350	350	357	350	350	350	343	350	350	347
30	Q	342	335	342	335	342	335	335	342	342	335	335	335	342	342	335	342	349	349	349	349	349	356	349	363	343
MEAN	A	361	350	345	343	350	376	392	396	390	365	336	330	340	336	340	353	357	366	364	364	362	362	352	346	357
MEAN	Q	354	353	356	354	345	345	349	353	353	349	349	347	352	353	352	357	360	363	361	360	360	361	359	363	354
MEAN	D	392	324	338	328	405	462	480	532	498	437	360	374	369	324	346	380	388	389	363	364	359	357	349	359	387

HORIZONTAL INTENSITY

TABLE 34 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS DECEMBER 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		412	433	447	405	343	371	399	385	343	232	239	253	309	343	315	343	385	392	412	392	399	399	399	399	365
2		399	392	399	399	392	392	371	378	322	343	288	322	371	378	392	399	399	392	399	405	405	419	399	405	382
3	D	412	405	392	267	135	246	378	350	260	142	191	288	246	253	412	412	399	392	433	440	454	523	475	447	348
4	D	433	392	412	399	399	378	225	115	-3	38	52	163	336	350	378	364	385	392	433	419	426	426	468	426	325
5	D	448	413	372	386	226	316	379	330	60	-154	46	233	206	344	358	386	379	386	406	538	538	552	497	455	338
6		413	476	372	330	240	316	303	316	303	316	372	400	393	386	379	372	372	372	379	393	400	393	400	413	367
7	Q	413	413	400	400	400	379	386	372	372	379	372	372	372	393	386	379	372	386	400	386	400	393	400	413	389
8		413	441	483	469	337	323	233	220	199	275	316	351	358	386	406	393	386	400	393	400	413	448	469	455	374
9		428	435	470	421	359	359	373	394	387	373	373	387	387	387	380	380	387	401	394	414	421	421	421	456	400
10		435	407	428	366	255	345	269	172	179	255	269	276	317	373	373	373	373	380	387	401	407	401	407	407	344
11		401	414	414	421	421	428	414	421	401	387	380	387	387	387	373	373	373	387	414	407	407	407	428	428	403
12		387	352	387	477	435	407	449	407	394	387	387	387	380	373	373	380	380	387	401	394	401	401	401	407	397
13		408	408	408	402	395	395	395	395	395	388	388	388	388	388	374	374	367	388	408	429	388	388	402	402	394
14	Q	402	402	395	395	395	395	388	388	367	353	381	395	388	388	381	374	374	381	388	388	395	388	395	395	387
15		395	395	402	415	402	395	325	318	381	388	388	388	395	388	381	374	374	388	388	402	408	415	415	402	388
16		402	402	408	381	298	249	360	360	360	374	367	388	381	381	395	381	374	374	395	415	415	422	429	415	380
17	Q	451	500	430	403	396	382	354	361	375	375	382	396	396	396	389	382	375	375	389	396	403	403	403	403	396
18		403	416	416	430	409	403	389	389	389	389	389	389	382	382	382	389	389	409	403	416	416	416	444	430	403
19		458	486	458	409	409	389	375	299	382	375	396	375	389	416	403	389	389	396	403	403	409	416	423	423	403
20	Q	416	416	403	396	396	396	375	396	403	396	396	396	396	389	375	375	382	389	396	403	403	403	403	403	396
21		417	431	473	431	404	404	376	348	341	369	362	341	390	404	404	390	383	390	431	438	452	473	424	549	409
22		584	549	431	445	459	424	404	383	362	369	390	397	404	390	390	397	376	390	397	410	397	404	404	404	415
23	D	404	410	424	431	452	452	459	410	341	369	320	404	397	362	348	383	410	404	431	431	459	459	487	480	414
24		438	480	410	362	314	341	417	362	355	397	390	390	383	383	376	390	383	390	390	390	404	404	417	410	391
25	D	411	405	391	377	301	259	245	425	432	370	405	391	391	398	391	391	384	391	398	405	405	405	418	405	383
26	Q	405	398	405	405	405	384	391	398	398	398	398	398	391	391	377	377	377	384	391	398	398	405	405	405	395
27		405	405	405	425	418	349	114	225	51	-25	38	204	308	308	356	391	398	391	384	391	405	405	398	398	314
28		405	405	405	405	377	391	356	356	405	405	384	384	384	391	405	384	384	377	384	398	398	398	405	405	391
29		406	406	406	392	406	399	406	399	385	364	378	392	385	392	399	385	378	406	419	419	433	475	475	475	407
30		433	419	267	309	364	350	329	329	309	205	378	378	357	419	399	392	385	385	392	406	412	412	426	440	371
31		440	412	419	412	412	406	406	399	392	399	399	399	406	406	392	371	378	385	399	454	426	489	461	426	412
MEAN	A	422	423	411	399	366	368	356	348	324	311	329	355	367	378	382	382	382	389	401	412	416	424	426	425	383
MEAN	Q	417	426	406	399	398	387	379	383	383	380	386	391	388	391	381	377	376	383	392	394	399	398	401	404	392
MEAN	D	422	405	398	372	303	330	337	326	218	153	203	296	315	341	377	387	391	393	420	447	456	473	469	443	361

DECLINATION

TABLE 35 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES DECEMBER 1968

HOUR UT / DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
1		7.7	7.7	7.7	12.6	19.8	10.1	10.1	12.6	12.6	12.6	7.7	10.1	12.6	12.6	22.3	24.7	27.1	19.8	12.6	12.6	10.1	10.1	7.7	7.7	13.0
2		7.7	7.7	12.6	12.6	10.1	10.1	12.6	7.7	5.3	7.7	17.4	12.6	7.7	12.6	17.4	27.1	22.3	22.3	17.4	17.4	12.6	12.6	12.6	10.1	13.2
3	D	7.7	12.6	12.6	85.3	82.9	31.9	7.7	5.3	2.8	10.1	-4.4	.4	22.3	17.4	17.4	10.1	10.1	22.3	12.6	10.1	7.7	.4	-2.0	2.8	16.1
4	D	.4	2.8	12.6	12.6	12.6	12.6	24.7	34.4	10.1	-11.7	2.8	2.8	2.8	19.8	27.1	17.4	22.3	29.5	12.6	12.6	10.1	12.6	2.8	-2.0	11.8
5	D	-2.0	5.3	2.8	24.7	31.9	27.1	12.6	7.7	17.4	27.1	-21.4	-2.0	5.3	-2.0	17.4	19.8	19.8	12.6	12.6	-6.8	5.3	-6.8	-2.0	2.8	8.7
6		-0.1	2.3	16.9	12.1	58.1	26.6	21.8	12.1	9.6	7.2	9.6	7.2	7.2	7.2	12.1	12.1	12.1	12.1	12.1	9.6	7.2	9.6	9.6	7.2	12.6
7	Q	4.8	4.8	7.2	7.2	12.1	12.1	12.1	12.1	9.6	7.2	7.2	7.2	7.2	4.8	12.1	12.1	12.1	14.5	12.1	12.1	9.6	9.6	7.2	2.3	9.1
8		2.3	-0.1	-4.9	12.1	14.5	12.1	19.3	9.6	2.3	2.3	2.3	7.2	-0.1	4.8	12.1	19.3	16.9	12.1	9.6	16.9	12.1	7.2	-2.5	2.3	7.9
9		4.8	2.3	2.3	7.2	21.8	14.5	12.1	9.6	9.6	9.6	7.2	4.8	7.2	7.2	7.2	14.5	14.5	12.1	16.9	12.1	12.1	12.1	9.6	9.6	10.0
10		12.1	7.2	4.8	9.6	58.1	16.9	19.3	19.3	2.3	-2.5	-9.8	-2.5	7.2	2.3	12.1	14.5	12.1	12.1	12.1	12.1	12.1	9.6	9.6	7.2	10.7
11		4.3	-3.0	1.8	6.7	11.6	4.3	9.1	6.7	6.7	6.7	4.3	6.7	6.7	6.7	6.7	6.7	16.4	21.3	16.4	18.8	11.6	6.7	6.7	6.7	8.2
12		11.6	16.4	26.1	4.3	1.8	33.4	11.6	4.3	4.3	6.7	6.7	6.7	6.7	6.7	9.1	11.6	14.0	14.0	11.6	11.6	9.1	9.1	9.1	9.1	10.6
13		6.7	1.8	9.1	9.1	6.7	6.7	6.7	9.1	9.1	9.1	6.7	6.7	6.7	6.7	6.7	9.1	16.4	16.4	11.6	11.6	11.6	11.6	11.6	9.1	9.0
14	Q	6.7	11.6	11.6	9.1	9.1	11.6	9.1	9.1	11.6	6.7	6.7	9.1	6.7	6.7	11.6	11.6	16.4	16.4	11.6	14.0	11.6	11.6	9.1	6.7	10.2
15		9.1	6.7	4.3	1.8	6.7	11.6	16.4	6.7	6.7	6.7	6.7	6.7	6.7	4.3	1.8	6.7	11.6	11.6	14.0	11.6	11.6	9.1	6.7	6.7	8.0
16		6.2	6.2	6.2	11.1	23.2	37.7	3.8	3.8	1.3	-1.1	1.3	6.2	1.3	1.3	6.2	8.6	11.1	18.3	18.3	15.9	15.9	15.9	11.1	11.1	10.0
17	Q	3.8	6.2	6.2	6.2	6.2	6.2	6.2	6.2	1.3	3.8	6.2	6.2	3.8	1.3	3.8	6.2	8.6	11.1	11.1	11.1	8.6	6.2	6.2	6.2	6.2
18		6.2	3.8	1.3	11.1	8.6	6.2	6.2	6.2	6.2	8.6	8.6	11.1	1.3	-8.3	8.6	11.1	11.1	11.1	11.1	13.5	13.5	6.2	6.2	6.2	7.3
19		1.3	-1.1	1.3	6.2	6.2	11.1	6.2	13.5	6.2	3.8	6.2	3.8	6.2	3.8	6.2	8.6	11.1	8.6	13.5	11.1	11.1	8.6	8.6	3.8	6.9
20	Q	6.2	6.2	6.2	11.1	11.1	8.6	-1.1	3.8	3.8	6.2	6.2	3.8	6.2	6.2	6.2	6.2	8.6	11.1	11.1	11.1	11.1	8.6	8.6	6.2	7.2
21		5.7	.8	3.3	3.3	10.6	8.1	5.7	5.7	5.7	5.7	5.7	3.3	.8	-1.6	3.3	8.1	5.7	20.3	17.8	15.4	10.6	3.3	10.6	5.7	6.8
22		-8.8	-4.0	10.6	10.6	5.7	8.1	5.7	5.7	5.7	5.7	5.7	.8	.8	5.7	10.6	8.1	10.6	13.0	15.4	10.6	10.6	8.1	8.1	5.7	6.6
23	D	5.7	5.7	5.7	5.7	8.1	8.1	15.4	-1.6	-4.0	-1.6	-4.0	.8	-4.0	5.7	15.4	27.5	20.3	10.6	8.1	10.6	5.7	.8	-4.0	-8.8	5.5
24		.8	-4.0	10.6	17.8	22.7	20.3	5.7	3.3	3.3	3.3	5.7	5.7	5.7	5.7	8.1	10.6	13.0	13.0	15.4	10.6	8.1	8.1	.8	-18.6	7.3
25	D	3.3	5.7	-1.6	17.8	85.7	105.1	39.7	-1.6	.8	.8	-4.0	-1.6	-1.6	3.3	5.7	5.7	8.1	8.1	10.6	8.1	5.7	5.7	3.3	3.3	13.2
26	Q	2.8	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.6	10.1	12.5	14.9	14.9	10.1	7.6	7.6	7.6	7.6	7.1
27		7.6	5.2	10.1	-6.9	10.1	14.9	39.2	17.3	5.2	19.8	-9.3	10.1	7.6	24.6	19.8	14.9	14.9	14.9	14.9	12.5	10.1	5.2	5.2	5.2	11.4
28		5.2	5.2	7.6	5.2	7.6	7.6	10.1	7.6	5.2	5.2	7.6	2.8	2.8	.3	.3	10.1	10.1	14.9	14.9	10.1	7.6	7.6	5.2	2.8	6.8
29		5.2	5.2	7.6	7.6	5.2	10.1	10.1	10.1	10.1	12.5	10.1	5.2	10.1	17.3	14.9	10.1	14.9	17.3	17.3	12.5	7.6	.3	.3	-2.1	9.1
30		.3	5.2	29.4	10.1	12.5	10.1	7.6	5.2	5.2	10.1	5.2	5.2	5.2	2.8	7.6	10.1	10.1	10.1	14.9	10.1	10.1	7.6	7.6	2.8	8.5
31		.3	12.5	-2.1	.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	7.6	5.2	.3	2.8	7.6	10.1	14.9	14.9	12.5	10.1	5.2	-2.1	5.2	5.9
MEAN	A	4.4	4.8	7.6	11.3	19.1	16.6	12.1	8.4	6.0	6.4	3.6	5.2	5.5	6.2	10.3	12.3	13.7	14.9	13.5	11.7	9.9	7.4	5.8	4.2	9.2
MEAN	Q	4.8	6.8	7.3	7.8	8.7	8.7	6.3	7.3	6.3	5.8	6.3	6.3	5.8	4.8	8.2	9.2	11.6	13.6	12.1	11.6	9.7	8.7	7.8	5.8	8.0
MEAN	D	3.0	6.4	6.4	29.2	44.2	37.0	20.0	8.8	5.4	5.0	-6.2	.1	5.0	8.8	16.6	16.1	16.1	16.6	11.3	6.9	6.9	2.5	-0.4	-0.4	11.1

VERTICAL INTENSITY

TABLE 36 GREAT WHALE RIVER Z = 59C00 PLUS TABULAR VALUES IN GAMMAS DECEMBER 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	MEAN
HOUR UT																										
1		373	345	338	345	289	331	345	338	338	317	225	218	218	254	303	338	352	381	366	373	359	359	352	352	326
2		352	345	352	352	345	338	324	331	331	310	289	282	303	296	303	324	345	366	366	366	366	366	366	366	337
3	D	352	352	352	388	310	381	352	352	409	388	254	240	232	261	352	338	373	395	388	366	381	352	261	338	340
4	D	282	282	331	352	352	352	409	444	381	366	261	240	310	303	289	359	402	381	381	366	366	373	352	366	346
5	D	358	365	295	239	295	351	351	365	633	549	182	253	309	281	351	365	358	380	380	380	372	351	253	224	343
6		189	210	337	337	394	380	351	344	344	351	323	344	344	351	351	358	365	365	365	365	365	365	365	372	343
7	Q	372	365	358	365	358	351	358	351	344	344	344	330	337	337	337	351	365	380	365	365	365	365	365	380	357
8		380	351	330	337	309	401	394	422	436	344	309	288	295	323	344	344	351	365	380	394	380	380	351	351	357
9		364	364	364	364	379	379	350	364	357	343	336	343	350	350	350	364	364	379	386	386	393	379	379	308	362
10		280	350	336	336	273	343	393	456	435	350	301	315	315	350	350	364	371	379	371	371	364	379	364	371	355
11		364	357	357	364	364	350	350	364	364	350	350	350	350	350	350	364	350	357	379	379	379	364	364	364	360
12		336	336	273	308	315	350	386	364	350	350	350	350	350	350	350	350	357	364	364	364	350	350	350	357	347
13		363	378	356	356	349	349	356	356	349	349	349	349	349	356	349	356	349	356	378	378	363	356	363	370	358
14	Q	356	363	349	349	349	349	349	349	342	328	342	349	349	349	342	349	349	356	356	363	356	356	349	349	350
15		349	349	356	356	356	356	356	349	349	349	349	356	363	356	349	349	349	349	356	363	370	378	356	356	355
16		356	349	356	356	434	413	356	378	349	342	335	356	356	349	342	349	356	356	370	370	378	378	378	370	364
17	Q	362	391	369	355	355	348	355	348	334	348	348	348	348	348	355	355	348	355	362	355	355	355	355	348	354
18		355	362	334	362	369	348	348	348	348	348	334	341	348	334	334	341	348	362	362	362	362	377	377	369	353
19		348	228	341	348	348	362	362	348	377	341	348	348	334	348	355	348	355	355	362	362	362	362	377	384	350
20	Q	362	355	348	355	355	355	355	334	362	348	348	362	362	348	355	355	355	348	348	362	348	348	348	348	353
21		361	354	333	340	340	347	354	347	333	326	319	305	326	333	333	347	361	376	368	376	390	354	227	65	330
22		129	235	256	227	319	340	347	368	354	340	347	347	347	347	347	354	347	361	376	361	354	354	354	354	328
23	D	354	354	368	361	376	340	284	361	340	333	319	326	333	284	312	326	361	368	347	368	376	390	376	333	346
24		326	319	270	368	418	383	347	361	340	354	354	354	347	340	347	361	368	368	354	361	361	361	383	390	356
25	D	353	346	297	128	121	360	417	346	375	360	339	325	325	339	346	353	360	360	367	360	360	360	360	360	334
26	Q	353	353	360	360	360	360	346	353	353	353	346	353	353	360	360	360	367	367	367	360	353	360	353	353	357
27		353	360	353	276	332	375	396	332	346	367	375	276	234	269	325	353	367	360	360	367	367	367	360	360	343
28		360	360	360	346	332	360	360	375	360	353	346	339	332	346	353	360	360	375	367	375	360	367	375	367	358
29		359	352	352	345	331	338	352	352	338	324	317	317	317	289	317	345	374	388	395	374	374	359	395	423	351
30		381	345	395	282	324	352	359	359	381	338	303	303	310	324	331	345	359	366	366	374	381	374	366	381	350
31		345	345	338	345	345	359	352	359	345	345	345	352	352	345	345	352	366	374	395	402	395	359	345	366	357
MEAN	A	340	340	339	333	339	358	359	362	368	352	322	321	326	328	340	351	360	368	369	370	368	365	352	348	349
MEAN	Q	361	366	357	357	356	353	353	347	347	344	346	349	350	349	350	354	357	361	360	361	356	357	354	356	354
MEAN	D	340	340	329	294	291	357	363	374	427	399	271	277	302	294	330	348	371	377	372	368	371	365	320	325	342

MEAN VALUES OF MAGNETIC ELEMENTS

HORIZONTAL INTENSITY-ALL DAYS

TABLE 37 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS 1968

U.T.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0-1	356	373	393	424	416	425	439	416	403	409	393	422	406	424	407	386
1-2	356	336	386	394	381	418	405	402	384	378	367	423	386	401	386	370
2-3	348	348	377	354	341	369	380	379	344	383	392	411	369	367	364	375
3-4	341	338	326	310	341	350	355	340	339	383	385	399	351	347	340	366
4-5	332	318	298	294	312	298	297	279	314	367	371	366	321	297	318	347
5-6	310	302	277	300	294	278	281	286	315	342	359	368	309	285	309	335
6-7	279	257	273	292	290	276	277	301	307	325	341	356	298	286	299	308
7-8	261	236	237	280	278	247	274	296	299	309	320	348	282	274	281	292
8-9	250	237	225	249	252	215	279	305	311	270	304	324	268	263	263	279
9-10	262	234	240	275	257	252	281	305	301	289	301	311	276	274	276	277
10-11	278	221	245	291	265	231	298	314	312	300	316	329	283	277	287	286
11-12	265	246	252	299	288	243	328	325	307	319	332	355	297	296	294	299
12-13	297	283	281	311	306	244	338	333	315	340	343	367	313	305	312	322
13-14	304	295	310	331	325	307	341	333	337	353	338	378	329	326	333	329
14-15	303	307	321	330	328	321	355	332	336	354	339	382	334	334	336	333
15-16	310	318	320	338	343	348	355	345	347	355	363	382	344	348	340	343
16-17	318	322	331	352	366	369	365	367	364	358	379	382	356	367	351	350
17-18	325	332	349	372	397	403	386	389	389	367	388	389	374	394	369	359
18-19	334	352	375	393	428	442	415	413	411	384	397	401	396	425	391	371
19-20	346	367	405	424	450	483	435	436	425	403	404	412	416	451	414	382
20-21	357	373	430	429	459	493	440	452	434	411	413	416	426	461	426	390
21-22	360	387	444	456	481	501	449	443	442	415	413	424	435	468	439	396
22-23	368	379	433	451	461	496	447	433	429	409	410	426	428	459	431	395
23-24	372	373	418	445	439	459	447	433	420	416	396	425	420	444	425	392
MEAN	318	314	331	350	354	353	361	361	358	360	365	383	351	357	350	345

DECLINATION-ALL DAYS

TABLE 38 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES 1968

U.T.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0-1	17.6	16.3	11.7	12.4	13.2	11.1	4.2	5.9	8.5	8.1	15.9	4.4	10.8	8.6	10.2	13.5
1-2	16.5	22.3	14.2	15.5	18.8	18.1	12.3	8.1	10.3	11.2	14.4	4.8	13.9	14.3	12.8	14.5
2-3	15.3	20.3	15.4	20.3	22.5	21.2	13.1	11.1	16.2	13.2	11.6	7.6	15.7	17.0	16.3	13.7
3-4	20.8	17.9	20.7	25.8	22.1	21.7	17.0	17.6	25.0	11.3	10.3	11.3	18.5	19.6	20.7	15.1
4-5	20.5	20.6	26.2	22.4	19.4	26.1	21.1	21.6	20.0	14.1	15.0	19.1	20.5	22.1	20.7	18.8
5-6	22.5	24.4	23.7	20.3	19.1	23.3	17.7	18.2	18.4	13.8	18.5	16.6	19.7	19.6	19.1	20.5
6-7	21.8	26.5	19.0	16.8	14.5	20.0	16.3	11.8	10.8	10.1	15.2	12.1	16.3	15.6	14.2	18.9
7-8	18.4	23.4	17.8	12.5	12.7	16.5	11.7	9.5	9.1	7.9	14.7	8.4	13.6	12.6	11.8	16.2
8-9	17.9	17.4	13.5	13.9	9.1	8.7	9.6	7.8	3.2	7.5	10.9	6.0	10.5	8.8	9.5	13.0
9-10	14.7	14.0	8.1	7.9	4.5	5.5	6.9	2.3	1.3	2.2	7.5	6.4	6.8	4.8	4.9	10.7
10-11	14.0	13.9	7.3	3.8	-2.2	-0.7	-2.6	-2.7	-1.1	6.1	5.8	3.6	3.8	-2.1	4.0	9.3
11-12	14.7	11.4	10.4	1.9	-5.2	-5.3	-7.6	-7.9	-2.8	7.0	6.2	5.2	2.3	-6.5	4.1	9.4
12-13	14.0	13.8	8.9	1.7	-5.2	-5.6	-8.6	-8.2	-1.2	2.0	5.8	5.5	1.9	-6.9	2.8	9.8
13-14	14.2	14.8	6.1	3.2	-0.1	-2.7	-5.8	-5.0	1.7	1.0	5.1	6.2	3.2	-3.4	3.0	10.1
14-15	17.7	14.5	8.7	7.0	6.4	.5	-3.1	.9	4.0	1.7	8.0	10.3	6.4	1.2	5.3	12.7
15-16	21.0	15.9	14.3	13.6	10.0	5.5	3.8	8.0	9.4	5.0	12.4	12.3	10.9	6.8	10.6	15.4
16-17	23.2	18.2	17.0	18.7	11.5	10.9	10.2	12.8	16.3	7.3	15.1	13.7	14.6	11.4	14.8	17.6
17-18	23.8	17.6	17.8	17.9	12.5	10.5	11.0	15.3	15.3	12.8	16.9	14.9	15.5	12.3	16.0	18.3
18-19	23.1	18.9	17.5	15.6	10.1	7.0	10.7	13.9	13.5	14.2	16.1	13.5	14.5	10.4	15.2	17.9
19-20	22.5	19.7	15.2	10.0	6.8	2.5	10.9	10.3	10.5	13.3	14.7	11.7	12.3	7.6	12.3	17.1
20-21	20.1	18.6	13.8	10.0	3.8	2.3	8.8	3.3	7.6	11.4	13.2	9.9	10.2	4.5	10.7	15.5
21-22	18.8	16.4	10.7	7.9	3.4	2.2	5.8	3.1	5.5	9.3	12.2	7.4	8.6	3.6	8.3	13.7
22-23	16.7	16.2	10.7	7.3	4.2	1.6	4.2	2.6	5.2	7.4	13.2	5.8	7.9	3.2	7.6	13.0
23-24	16.0	14.8	9.5	7.1	8.2	8.5	3.4	1.2	6.1	6.0	14.4	4.2	8.3	5.3	7.2	12.3
MEAN	18.6	17.8	14.1	12.2	9.2	8.7	7.1	6.7	8.9	8.5	12.2	9.2	11.1	7.9	10.9	14.5

MEAN VALUES OF MAGNETIC ELEMENTS

VERTICAL INTENSITY-ALL DAYS

TABLE 39 GREAT WHALE RIVER Z = 59000 PLUS TABULAR VALUES IN GAMMAS 1968

U.T.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0-1	276	249	281	283	310	307	315	311	316	327	361	340	306	311	302	306
1-2	267	262	274	292	311	313	308	315	326	342	350	340	308	311	308	305
2-3	269	269	260	309	329	329	316	328	316	345	345	339	313	325	308	306
3-4	278	292	275	327	359	352	345	337	348	347	343	333	328	348	324	312
4-5	281	280	278	341	383	381	359	371	370	360	350	339	341	374	337	313
5-6	291	292	336	355	407	387	366	370	393	382	376	358	359	382	367	329
6-7	315	333	349	371	402	400	366	373	397	377	392	359	369	385	373	350
7-8	324	336	366	375	407	415	373	383	386	380	396	362	375	395	377	355
8-9	327	335	355	358	383	414	377	363	370	367	390	368	367	384	362	355
9-10	310	348	326	344	368	384	357	359	365	351	365	352	352	367	346	344
10-11	307	306	308	317	341	360	325	344	351	344	336	322	330	343	330	318
11-12	304	282	286	318	311	348	313	324	340	329	330	321	317	324	318	309
12-13	286	275	281	303	308	309	316	321	324	341	340	326	311	314	312	307
13-14	285	285	280	306	312	307	323	322	324	349	336	328	313	316	315	309
14-15	287	295	287	314	312	316	330	323	341	353	340	340	320	320	324	315
15-16	297	299	297	322	326	324	331	335	349	354	353	351	328	329	330	325
16-17	312	309	307	331	337	336	335	345	352	357	357	360	336	338	337	334
17-18	318	308	315	334	345	347	340	350	356	362	366	368	342	345	342	340
18-19	320	302	310	340	345	336	347	349	362	356	364	369	342	344	342	339
19-20	322	308	304	328	335	326	342	350	364	358	364	370	339	338	339	341
20-21	317	303	297	316	318	319	344	347	362	357	362	368	334	332	333	338
21-22	309	291	301	317	310	310	341	339	343	360	362	365	329	325	330	332
22-23	296	277	290	316	316	297	327	346	339	352	352	352	322	322	324	319
23-24	288	264	281	303	316	294	325	333	327	329	346	348	313	317	310	312
MEAN	299	296	302	326	341	342	338	343	351	353	357	349	333	341	333	325

MEAN VALUES OF MAGNETIC ELEMENTS

HORIZONTAL INTENSITY-QUIET DAYS

TABLE 40 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS 1968

U.T.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0-1	341	341	366	375	377	399	424	392	394	391	399	417	385	398	381	375
1-2	340	344	383	372	382	391	410	397	389	386	394	426	384	395	382	376
2-3	339	352	359	365	379	382	374	394	391	389	392	406	377	382	376	372
3-4	337	345	331	365	379	374	382	385	387	389	394	399	372	380	368	369
4-5	336	340	301	357	333	343	314	369	376	393	384	398	354	340	357	364
5-6	336	336	330	361	340	327	264	347	373	386	388	387	348	320	363	362
6-7	328	315	318	359	358	328	287	375	384	368	390	379	349	337	357	353
7-8	319	315	320	355	355	355	305	369	369	341	392	383	348	346	346	352
8-9	314	329	302	364	352	367	356	343	377	348	390	383	352	355	348	354
9-10	307	332	320	361	352	367	368	340	384	366	391	380	356	357	358	352
10-11	304	336	333	358	347	364	366	353	386	379	390	386	358	357	364	354
11-12	307	333	336	354	355	359	357	349	380	386	388	391	358	355	364	355
12-13	312	332	329	347	357	348	357	357	375	379	385	388	355	355	357	354
13-14	312	326	327	344	350	343	359	353	365	368	383	391	352	351	351	353
14-15	310	319	327	341	343	350	356	347	354	355	370	381	346	349	344	345
15-16	308	314	325	334	344	355	354	350	350	348	366	377	344	351	339	341
16-17	312	314	327	336	351	357	357	358	354	352	372	376	347	356	342	343
17-18	312	315	334	346	366	367	367	371	368	359	374	383	355	368	352	346
18-19	318	325	344	358	377	374	384	383	379	375	383	392	366	380	364	354
19-20	323	333	355	369	383	381	395	396	394	384	385	394	374	389	375	359
20-21	333	345	361	375	388	393	393	407	390	389	391	399	380	395	379	367
21-22	344	347	367	380	386	392	402	405	393	391	392	398	383	396	383	370
22-23	343	362	366	377	393	391	404	401	398	392	398	401	386	397	383	376
23-24	364	363	373	379	390	392	404	392	402	393	399	404	388	394	387	382
MEAN	325	334	339	360	364	367	364	372	380	375	387	392	363	367	363	360

MEAN VALUES OF MAGNETIC ELEMENTS

DECLINATION-QUIET DAYS

TABLE 41 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES 1968

U.T.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0-1	16.0	17.9	14.5	13.1	10.2	5.8	2.5	6.9	7.7	9.9	10.6	4.8	10.0	6.4	11.3	12.3
1-2	15.5	16.9	11.2	12.1	10.6	7.7	3.0	6.4	7.3	9.4	10.1	6.8	9.8	7.0	10.0	12.3
2-3	14.5	14.5	15.5	10.7	9.7	10.1	8.3	6.4	8.2	9.9	10.1	7.3	10.4	8.7	11.1	11.6
3-4	16.0	15.5	19.8	11.1	12.6	11.6	10.3	7.4	8.2	8.9	12.1	7.8	11.8	10.5	12.0	12.8
4-5	15.0	16.4	25.6	15.0	14.5	16.9	17.6	8.9	6.3	9.4	13.1	8.7	13.9	14.4	14.0	13.3
5-6	16.9	16.0	17.9	12.6	11.6	17.8	20.0	11.3	6.3	8.9	12.1	8.7	13.3	15.2	11.4	13.4
6-7	17.9	19.3	15.0	10.2	8.2	14.0	15.1	6.4	5.8	9.4	11.6	6.3	11.6	10.9	10.1	13.8
7-8	16.9	18.4	13.6	9.2	8.2	10.6	12.7	6.4	6.3	9.9	10.6	7.3	10.8	9.5	9.7	13.3
8-9	15.5	16.4	14.0	8.3	6.3	6.8	6.4	7.4	5.3	6.5	10.6	6.3	9.2	6.7	8.5	12.2
9-10	15.5	15.0	11.6	7.8	4.4	2.9	1.6	5.0	4.8	4.0	9.7	5.8	7.3	3.5	7.1	11.5
10-11	16.0	14.5	10.7	5.4	.6	-0.4	-2.8	-0.3	3.9	4.5	9.2	6.3	5.6	-0.8	6.1	11.5
11-12	14.1	14.5	10.7	3.5	-3.3	-2.8	-4.8	-3.3	1.4	3.5	8.7	6.3	4.0	-3.5	4.8	10.9
12-13	10.7	13.6	9.2	3.9	-3.8	-3.8	-5.2	-5.7	.5	.6	8.2	5.8	2.8	-4.6	3.6	9.6
13-14	12.1	12.1	7.3	5.4	-0.4	-0.4	-4.8	-3.7	-1.0	.1	7.2	4.8	3.2	-2.3	3.0	9.1
14-15	15.0	11.6	7.3	10.2	5.4	2.9	.6	1.1	.5	2.1	7.2	8.2	6.0	2.5	5.0	10.5
15-16	20.3	12.6	12.6	13.5	10.6	10.1	6.4	9.4	6.3	6.5	11.1	9.2	10.7	9.1	9.7	13.3
16-17	21.3	17.4	17.4	18.8	16.9	16.4	13.2	17.1	15.0	12.3	15.5	11.6	16.1	15.9	15.9	16.4
17-18	24.1	19.8	21.7	22.7	19.3	21.7	17.1	20.5	17.4	16.6	16.9	13.6	19.3	19.6	19.6	18.6
18-19	24.6	23.2	24.1	22.2	20.7	22.6	18.0	21.5	16.5	16.6	16.9	12.1	19.9	20.7	19.9	19.2
19-20	24.1	24.6	23.2	20.7	17.8	20.7	16.1	16.6	13.1	16.2	15.5	11.6	18.4	17.8	18.3	19.0
20-21	22.7	23.6	20.8	17.9	14.5	14.9	13.7	11.3	12.1	13.7	14.5	9.7	15.8	13.6	16.1	17.6
21-22	19.8	20.8	19.3	15.9	12.6	10.1	9.3	9.4	8.7	11.3	12.6	8.7	13.2	10.3	13.8	15.5
22-23	18.9	19.3	19.3	13.5	11.1	6.3	6.4	6.9	7.7	9.9	12.6	7.8	11.6	7.7	12.6	14.6
23-24	16.5	15.0	16.0	13.5	9.7	5.3	5.9	6.9	7.3	9.9	12.1	5.8	10.3	7.0	11.7	12.3
MEAN	17.5	17.0	15.8	12.4	9.5	9.5	7.8	7.5	7.3	8.7	11.6	8.0	11.1	8.6	11.0	13.5

MEAN VALUES OF MAGNETIC ELEMENTS

VERTICAL INTENSITY-QUIET DAYS

TABLE 42 GREAT WHALE RIVER Z = 59000 PLUS TABULAR VALUES IN GAMMAS 1968

U.T.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0-1	319	302	315	320	344	338	324	335	345	349	354	361	334	335	332	334
1-2	319	304	307	318	340	332	324	337	347	346	353	366	333	333	329	335
2-3	316	303	292	311	319	323	317	333	345	349	356	357	327	323	324	333
3-4	316	300	318	301	327	325	329	331	341	348	354	357	329	328	327	332
4-5	311	293	288	302	347	334	336	312	312	348	345	356	324	332	312	326
5-6	303	293	304	305	340	326	313	320	347	348	345	353	325	325	326	323
6-7	305	293	303	312	333	315	324	327	342	339	349	353	325	325	324	325
7-8	303	288	300	316	334	318	331	329	338	334	353	347	324	328	322	323
8-9	299	291	303	316	331	329	322	322	336	338	353	347	324	326	323	322
9-10	296	293	289	312	334	333	336	315	340	335	349	344	323	330	319	321
10-11	292	296	286	312	329	330	332	322	344	342	349	346	323	328	321	321
11-12	295	297	293	312	329	325	322	324	345	349	347	349	324	325	325	322
12-13	295	297	299	308	330	314	321	330	345	354	352	350	325	324	327	323
13-14	293	297	300	311	329	310	328	335	347	357	353	349	326	325	329	323
14-15	296	299	303	312	329	318	331	334	347	354	352	350	327	328	329	324
15-16	301	295	303	315	327	319	329	338	347	353	357	354	328	329	329	327
16-17	312	296	304	318	329	329	331	340	344	356	360	357	331	332	330	331
17-18	315	300	308	319	329	334	333	344	347	359	363	361	334	335	333	335
18-19	319	304	312	322	334	336	333	340	351	357	361	360	336	336	336	336
19-20	321	306	317	325	336	336	340	340	359	363	360	361	339	338	341	337
20-21	319	311	319	325	342	345	346	348	359	357	360	356	341	345	340	336
21-22	309	307	321	326	338	348	349	352	352	353	361	357	339	347	338	334
22-23	296	308	319	329	344	337	350	352	349	352	359	354	337	346	337	329
23-24	286	296	314	325	347	337	346	341	349	353	363	356	334	343	335	325
MEAN	306	299	305	316	334	329	331	333	345	350	354	354	330	332	329	328

MEAN VALUES OF MAGNETIC ELEMENTS

HORIZONTAL INTENSITY-DISTURBED DAYS

TABLE 43 GREAT WHALE RIVER H = 9500 PLUS TABULAR VALUES IN GAMMAS 1968

U.T.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0-1	325	424	413	470	406	422	446	436	372	407	318	422	405	428	416	372
1-2	351	347	380	405	365	456	365	397	315	392	196	405	365	396	373	325
2-3	332	350	405	358	308	350	342	374	191	353	321	398	340	343	327	350
3-4	314	350	327	269	358	283	374	239	306	370	350	372	326	314	318	346
4-5	281	309	293	313	315	208	297	191	294	324	299	303	286	253	306	298
5-6	269	297	149	253	271	233	248	173	310	256	259	330	254	231	242	289
6-7	225	236	144	277	253	218	233	162	253	231	245	337	235	216	226	261
7-8	142	164	158	269	211	125	250	166	171	243	191	326	201	188	211	206
8-9	132	168	200	149	161	-69	222	226	189	160	145	218	158	135	175	166
9-10	136	188	221	239	107	52	207	210	184	176	144	153	168	144	205	155
10-11	175	99	237	269	100	-55	205	197	209	52	214	203	159	112	192	173
11-12	95	158	251	197	109	-84	263	246	145	36	220	296	161	134	157	192
12-13	232	211	239	190	164	-99	280	287	156	169	225	315	197	158	188	246
13-14	256	217	289	297	235	111	273	278	246	292	192	341	252	224	281	251
14-15	264	275	323	316	268	185	362	282	278	329	249	377	292	274	312	291
15-16	308	323	322	338	333	312	366	330	310	351	356	387	336	335	330	344
16-17	318	336	322	366	393	394	381	390	354	343	389	391	365	390	346	358
17-18	330	354	370	404	437	453	428	439	422	350	400	393	398	439	386	369
18-19	347	406	406	438	499	538	510	478	462	367	397	420	439	506	418	393
19-20	362	430	448	527	530	582	536	480	421	418	408	447	466	532	453	412
20-21	382	395	496	481	539	604	525	546	421	411	457	456	476	554	452	422
21-22	377	419	494	487	568	604	518	548	434	433	418	473	481	560	462	422
22-23	379	370	437	442	560	562	522	482	416	394	390	469	452	532	422	402
23-24	369	351	408	438	506	492	499	469	421	393	290	443	423	492	415	363
MEAN	279	299	322	341	333	287	361	334	303	302	295	361	318	329	317	309

MEAN VALUES OF MAGNETIC ELEMENTS

DECLINATION-DISTURBED DAYS

TABLE 44 GREAT WHALE RIVER D = 20.0 DEGREES WEST PLUS TABULAR VALUES IN MINUTES 1968

U.T.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0-1	27.5	19.8	9.7	17.9	26.5	26.5	13.7	15.0	16.7	19.6	47.3	3.0	20.3	20.4	16.0	24.4
1-2	22.2	25.6	17.9	25.1	26.5	44.2	28.7	12.6	25.0	23.5	37.6	6.4	24.6	28.0	22.9	22.9
2-3	22.7	19.8	19.3	24.6	28.9	42.8	20.9	15.0	38.1	25.5	18.2	6.4	23.5	26.9	26.9	16.8
3-4	35.2	19.8	20.8	33.2	27.0	45.2	20.0	25.6	48.2	22.1	-0.8	29.2	27.1	29.4	31.1	20.9
4-5	30.4	21.2	31.3	26.0	26.5	45.7	23.9	39.2	26.9	22.6	21.5	44.2	30.0	33.8	26.7	29.4
5-6	26.1	26.5	34.7	27.5	24.1	34.1	19.5	38.7	17.2	28.9	34.6	37.0	29.1	29.1	27.1	31.0
6-7	24.1	27.5	32.3	17.9	21.7	25.0	24.8	27.1	11.4	11.9	20.1	20.0	22.0	24.7	18.4	22.9
7-8	20.3	29.4	19.3	11.1	18.3	23.6	7.9	15.9	27.9	-3.6	25.4	8.8	17.0	16.4	13.7	21.0
8-9	23.2	20.8	-0.8	27.9	8.7	11.1	7.4	5.3	5.6	2.7	12.8	5.4	10.8	8.1	8.8	15.6
9-10	15.5	9.2	-0.8	8.7	7.8	19.3	14.2	6.7	-2.7	-5.1	8.5	5.0	7.2	12.0	.0	9.5
10-11	10.7	22.7	1.6	1.1	-5.2	10.1	-6.2	-3.5	-6.1	11.4	4.6	-6.2	2.9	-1.2	2.0	7.9
11-12	17.4	8.3	2.5	4.9	-6.2	.1	-12.5	-14.1	-7.5	27.4	6.5	.1	2.2	-8.2	6.8	8.1
12-13	12.6	12.6	9.7	8.7	-7.6	-3.8	-9.6	-10.7	-2.2	6.1	.2	5.0	1.8	-7.9	5.6	7.6
13-14	14.1	20.8	10.7	4.4	3.9	-4.3	3.0	-5.9	6.0	3.2	1.7	8.8	5.5	-0.8	6.1	11.3
14-15	24.6	23.2	8.3	3.9	12.6	-3.3	-2.3	4.8	7.0	-3.1	3.6	16.6	8.0	2.9	4.0	17.0
15-16	22.7	24.6	15.5	11.1	11.6	-0.9	3.0	11.6	4.1	-7.5	3.6	16.1	9.6	6.3	5.8	16.8
16-17	23.7	20.3	14.0	16.4	5.8	.5	4.0	5.3	14.3	-14.8	9.9	16.1	9.6	3.9	7.5	17.5
17-18	26.1	4.4	10.7	4.9	4.9	-9.5	-1.8	-0.5	.7	.3	12.8	16.6	5.8	-1.8	4.1	15.0
18-19	23.7	1.6	13.1	2.0	-8.6	-18.7	-6.2	-3.0	-2.7	5.6	10.4	11.3	2.4	-9.1	4.5	11.7
19-20	21.3	9.2	7.3	-16.2	-11.0	-18.2	2.0	1.4	6.5	6.1	6.5	6.9	1.8	-6.4	.9	11.0
20-21	16.5	10.7	4.4	-2.3	-7.6	-17.2	5.4	-12.7	4.6	6.1	5.5	6.9	1.7	-8.0	3.2	9.9
21-22	16.5	9.7	1.1	8.3	-5.2	-11.5	4.5	-11.2	.7	5.6	13.8	2.5	2.9	-5.9	3.9	10.6
22-23	15.0	18.4	4.4	17.4	-3.8	1.5	4.9	-2.0	1.7	7.5	28.3	-0.4	7.8	.2	7.8	15.3
23-24	16.5	15.5	4.9	12.1	4.4	15.4	4.9	3.3	-0.7	3.6	41.4	-0.4	10.1	7.0	5.0	18.3
MEAN	21.2	17.6	12.2	12.4	8.5	10.7	7.2	6.8	10.0	8.6	15.6	11.1	11.8	8.3	10.8	16.3

MEAN VALUES OF MAGNETIC ELEMENTS

VERTICAL INTENSITY-DISTURBED DAYS

TABLE 45 GREAT WHALE RIVER Z = 59000 PLUS TABULAR VALUES IN GAMMAS 1968

U.T.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0-1	224	147	263	233	286	296	301	243	270	294	392	340	274	281	265	276
1-2	206	198	253	258	294	293	302	298	331	358	324	340	288	297	300	267
2-3	212	226	241	283	380	345	289	321	284	320	338	329	297	334	282	276
3-4	292	287	231	329	351	453	353	358	355	299	328	294	328	379	304	300
4-5	330	298	311	315	423	516	370	444	430	372	405	291	375	438	357	331
5-6	341	297	406	365	498	487	435	436	486	477	462	357	420	464	434	364
6-7	353	318	432	391	495	560	429	441	505	483	480	363	437	481	453	379
7-8	406	367	422	411	485	583	436	493	494	439	532	374	454	499	442	420
8-9	411	393	420	395	433	635	483	451	460	443	498	427	454	500	429	432
9-10	383	431	396	380	452	528	433	474	428	386	437	399	427	472	398	413
10-11	393	365	325	325	378	507	367	401	402	405	360	271	375	413	364	347
11-12	381	324	275	350	308	534	316	335	397	258	374	277	344	373	320	339
12-13	272	267	274	286	285	367	313	328	336	299	369	302	308	323	299	302
13-14	277	272	279	286	294	298	305	316	292	325	324	294	297	303	296	292
14-15	283	295	290	303	272	302	331	306	338	355	346	330	313	303	321	314
15-16	292	302	303	322	316	319	333	343	355	355	380	348	331	328	334	331
16-17	316	322	314	337	330	347	344	364	342	369	388	371	345	346	340	349
17-18	318	299	328	336	319	356	362	380	333	372	389	377	348	354	342	346
18-19	326	244	319	339	289	299	373	367	359	308	363	372	330	332	331	326
19-20	330	265	275	249	239	268	311	364	376	310	364	368	310	295	302	332
20-21	310	271	262	185	201	243	327	318	379	320	359	371	295	272	286	328
21-22	287	260	255	214	227	221	315	284	366	339	357	365	291	262	294	317
22-23	282	233	267	246	239	220	233	318	370	315	349	320	283	253	300	296
23-24	273	185	274	304	261	236	262	314	346	263	359	325	284	269	297	285
MEAN	312	286	309	310	336	384	347	362	376	353	387	342	342	357	337	332

HOURLY RANGES

TABLE 46 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS JANUARY 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1	D	46	19	25	39	14	8	14	14	5	8	23	27	24	20	10	17	11	7	7	3	3	5	5	8	362	15
2	D	1	1	1	14	23	21	36	45	87	61	92	88	23	9	11	15	9	7	12	10	9	12	10	12	609	25
3		7	14	15	23	4	12	10	12	10	4	2	3	2	2	3	3	1	1	1	1	3	3	1	3	140	6
4	Q	2	1	1	1	1	1	1	2	2	5	6	7	3	2	1	1	1	2	2	3	8	3	9	31	96	4
5		9	5	5	6	8	14	11	8	12	5	9	5	2	3	3	3	7	4	4	3	3	8	8	3	148	6
6	D	5	17	37	16	8	5	3	5	8	17	8	12	19	10	11	16	13	7	6	8	5	5	3	5	249	10
7		3	4	4	19	43	6	3	6	11	7	12	8	5	11	3	3	3	3	1	3	4	3	1	1	167	7
8	Q	2	3	3	2	3	7	4	5	3	5	8	5	3	10	5	1	5	3	3	5	2	1	1	1	90	4
9	Q	1	1	1	1	1	0	1	0	1	0	1	1	1	1	1	1	1	2	1	1	1	1	1	1	22	1
10	Q	3	1	1	2	4	2	10	8	3	3	3	4	1	3	2	2	1	2	2	1	2	2	1	1	64	3
11		1	2	2	1	1	2	3	1	1	1	1	2	9	5	4	5	9	8	11	7	4	11	8	5	104	4
12		12	5	8	19	6	14	7	8	12	12	10	8	5	8	5	7	8	8	4	7	5	13	8	6	205	9
13		3	1	1	3	5	14	10	7	9	6	17	11	14	5	6	3	4	3	3	3	3	6	5	8	150	6
14		44	11	8	12	25	16	15	8	8	8	5	4	4	3	3	3	1	3	3	5	5	5	5	10	214	9
15		8	5	8	6	15	2	13	4	5	5	7	6	5	5	4	3	3	7	8	6	5	6	12	27	175	7
16		8	5	3	3	4	7	5	4	4	4	4	3	3	3	3	6	7	4	11	6	5	5	5	4	116	5
17		2	1	1	12	10	7	11	12	17	14	12	12	19	17	8	6	3	1	5	2	8	5	2	7	194	8
18		10	17	8	3	4	6	24	10	5	8	10	10	11	11	5	3	5	3	1	8	1	1	1	1	166	7
19		1	1	1	1	8	21	14	19	10	23	18	13	8	8	3	5	9	10	8	9	5	13	14	17	239	10
20	D	14	11	30	25	13	2	8	19	16	21	25	22	17	11	12	13	7	4	3	4	3	3	2	1	286	12
21		1	2	3	2	8	24	17	10	12	9	14	11	13	9	5	8	3	5	4	3	8	3	2	3	179	7
22		3	3	2	3	19	9	17	9	3	3	11	15	11	8	5	3	6	8	6	5	3	4	3	1	160	7
23		3	3	4	3	5	16	23	17	14	7	1	3	5	5	5	3	4	2	3	7	9	4	3	2	151	6
24		1	3	3	1	1	1	2	8	15	14	6	4	14	14	5	5	8	3	5	4	4	5	3	2	131	5
25	Q	1	2	3	1	1	5	6	2	1	1	1	2	3	3	2	2	2	1	1	1	1	2	1	1	46	2
26		1	2	3	10	3	5	4	5	12	15	3	1	3	4	14	16	8	4	3	4	4	3	3	5	135	6
27		1	3	3	12	8	6	11	8	10	9	6	3	3	5	1	3	1	3	3	3	3	5	5	8	123	5
28		14	11	11	6	4	5	2	2	1	1	1	2	2	1	1	1	1	3	5	5	4	3	7	11	104	4
29	D	21	15	12	21	36	19	4	4	8	4	7	4	4	2	2	1	2	3	3	8	5	3	6	46	240	10
30		19	12	9	9	14	19	20	4	3	3	5	5	5	5	3	1	2	3	4	3	5	3	2	2	160	7
31		4	10	6	11	18	6	7	2	17	15	9	8	5	3	1	3	2	2	2	1	1	1	1	1	136	6
SUMS		251	191	222	287	317	282	316	268	325	298	337	309	246	206	147	162	147	126	135	139	131	147	138	234	5361	
MEANS		8	6	7	9	10	9	10	9	10	10	11	10	8	7	5	5	5	4	4	4	4	5	4	8		7

HOURLY RANGES

TABLE 47 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS JANUARY 1968

DAY	HOUR UT	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1	D	38	28	14	34	19	8	8	10	3	7	8	21	13	9	5	8	5	5	4	3	4	2	5	3	264	11
2	D	0	1	1	5	24	19	19	29	30	53	40	50	15	5	8	10	9	7	7	4	5	8	12	5	366	15
3		3	7	10	10	3	11	11	4	1	1	1	3	3	2	3	2	1	1	1	1	1	1	1	4	86	4
4	Q	3	1	1	1	0	0	0	1	1	1	1	2	2	1	2	1	2	1	1	1	3	3	4	21	54	2
5		3	1	4	11	8	17	17	3	8	1	5	3	3	1	5	4	3	1	3	3	1	1	5	3	114	5
6	D	5	5	10	7	2	2	1	2	1	4	3	6	10	5	10	12	10	5	3	4	4	4	2	3	120	5
7		2	2	1	14	27	3	1	2	2	3	7	4	5	7	3	3	3	2	1	1	1	1	1	1	97	4
8	Q	1	2	3	3	2	3	2	1	1	1	3	2	3	8	5	3	1	4	3	3	1	1	1	1	58	2
9	Q	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	2	1	1	1	1	1	1	23	1
10	Q	1	1	1	1	5	2	9	11	1	1	1	3	3	3	3	2	1	1	1	1	1	1	1	1	56	2
11		1	1	3	5	1	2	1	0	1	1	1	2	8	9	5	7	11	8	4	3	2	7	4	5	92	4
12		7	2	4	8	10	13	14	6	12	5	3	4	3	4	6	4	10	10	3	3	7	7	3	5	153	6
13		2	2	1	1	2	24	9	3	8	2	11	10	7	3	5	3	3	1	1	1	1	2	5	12	119	5
14		30	17	14	16	37	20	28	8	5	3	3	2	3	4	3	3	3	2	1	2	3	1	7	4	219	9
15		3	5	6	11	12	1	16	3	2	1	2	4	5	2	2	2	2	3	3	3	4	4	4	17	117	5
16		6	3	3	1	2	7	2	1	2	1	1	1	2	3	3	5	7	5	7	8	1	3	3	1	78	3
17		1	1	1	8	13	4	2	3	6	10	7	5	8	8	5	5	4	2	3	2	3	1	2	3	107	4
18		9	21	3	2	3	5	28	5	1	4	4	5	6	8	4	3	4	1	1	6	1	1	1	1	127	5
19		1	0	1	1	6	15	9	12	6	11	5	7	5	5	5	6	7	6	4	3	1	6	10	8	140	6
20	D	6	5	15	17	7	1	2	10	10	9	10	16	18	8	8	12	3	2	2	2	1	2	2	1	169	7
21		1	1	1	1	12	28	17	6	5	5	6	8	8	7	5	5	2	5	3	1	5	1	1	2	136	6
22		2	1	1	1	22	5	11	3	1	2	4	4	5	7	5	5	5	5	4	4	2	1	3	1	104	4
23		1	1	4	2	3	10	15	7	7	3	1	3	5	5	5	4	4	3	4	3	1	3	2	2	98	4
24		1	3	6	1	1	0	1	4	7	4	4	3	7	10	5	5	4	1	2	5	3	3	3	4	87	4
25	Q	1	3	5	3	1	3	3	1	1	1	1	1	3	2	3	2	1	1	1	0	1	1	1	1	41	2
26		0	1	3	8	1	3	1	2	3	4	3	2	2	3	17	14	10	4	1	1	3	2	3	2	93	4
27		1	1	3	17	5	2	3	1	3	3	4	1	3	4	3	3	3	4	1	2	2	1	5	3	78	3
28		5	10	12	6	2	6	1	1	0	1	1	1	2	3	3	2	2	1	1	1	3	3	8	5	80	3
29	D	17	7	12	19	22	12	4	2	3	1	2	1	2	1	3	1	2	2	3	3	3	2	6	12	142	6
30		11	12	7	15	23	23	10	1	1	3	3	3	3	3	2	1	2	1	2	1	2	1	3	4	137	6
31		3	6	10	7	13	3	1	1	7	10	7	4	4	3	1	3	3	2	1	1	1	1	0	1	93	4
SUMS		166	152	161	237	289	253	247	144	140	156	152	182	167	144	143	141	128	98	77	77	72	76	109	137	3648	
MEANS		5	5	5	8	9	8	8	5	5	5	5	6	5	5	5	5	4	3	2	2	2	2	4	4		5

HOURLY RANGES

TABLE 48 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS FEBRUARY 1968

HOUR UT		0 TO	1 TO	2 TO	3 TO	4 TO	5 TO	6 TO	7 TO	8 TO	9 TO	10 TO	11 TO	12 TO	13 TO	14 TO	15 TO	16 TO	17 TO	18 TO	19 TO	20 TO	21 TO	22 TO	23 TO	SUMS	MEANS
DAY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1		0	0	0	1	5	10	24	5	3	4	3	1	5	2	2	1	2	3	5	5	3	6	8	8	106	4
2		16	14	11	5	3	2	3	4	31	31	14	10	13	11	11	10	9	8	11	4	10	10	37	17	295	12
3		51	10	5	4	3	6	14	24	19	7	13	12	10	10	4	12	10	6	5	8	7	8	7	3	258	11
4		4	6	12	8	43	42	21	23	14	12	22	46	18	11	8	6	5	3	5	1	3	2	4	1	320	13
5		1	1	0	1	1	1	4	3	8	4	10	7	8	5	12	10	4	5	3	5	8	6	12	3	122	5
6	Q	1	1	2	3	1	0	0	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	26	1
7	Q	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	3	3	6	3	6	3	32	1
8		5	30	32	5	8	4	3	5	11	8	4	14	17	15	12	6	5	5	4	8	8	17	17	7	250	10
9		12	85	25	48	46	11	21	8	13	22	18	12	30	7	10	1	1	2	4	8	10	7	13	25	439	18
10	D	17	24	14	5	10	7	3	5	17	8	10	15	10	8	3	3	12	14	41	21	11	23	51	39	371	15
11	D	20	39	40	24	22	35	21	23	28	46	84	52	26	13	12	12	8	8	4	10	8	8	11	10	564	24
12		19	22	19	13	8	17	19	17	8	11	6	11	9	5	6	8	3	4	5	5	3	1	1	1	221	9
13		1	1	1	3	3	17	22	12	33	30	15	23	19	17	5	12	7	8	2	3	1	1	3	3	242	10
14	Q	5	2	1	2	2	1	1	1	1	3	1	1	5	3	1	1	1	1	1	3	1	5	1	1	45	2
15	D	1	1	1	3	3	8	6	11	16	32	33	57	39	23	30	15	18	21	12	6	5	5	5	2	353	15
16		2	3	5	9	19	16	26	36	8	14	22	37	15	15	10	10	7	8	6	6	7	3	4	7	295	12
17		3	2	2	1	14	19	21	11	7	16	17	25	32	12	5	3	9	4	7	4	11	19	8	4	256	11
18		10	4	3	1	1	4	12	51	32	35	32	33	30	17	19	36	19	14	13	22	12	12	5	8	425	18
19		14	5	23	30	31	12	13	7	8	4	3	21	8	4	10	3	3	2	3	2	2	3	1	2	214	9
20	D	2	7	3	7	5	7	39	57	44	8	19	114	90	60	71	10	6	8	11	10	12	8	6	17	621	26
21		9	35	42	50	21	8	23	23	42	14	22	17	9	4	8	10	8	5	12	11	16	15	13	4	421	18
22		7	3	3	6	18	32	28	10	8	10	8	19	14	5	5	4	4	7	5	6	1	3	1	1	208	9
23		1	1	1	2	12	14	23	13	4	3	1	1	1	1	3	2	3	3	2	2	4	3	1	1	102	4
24		1	1	3	5	12	20	21	6	18	4	3	2	2	2	2	3	3	2	2	1	1	1	1	1	117	5
25	Q	1	1	3	3	2	5	14	7	7	3	1	0	1	1	2	1	1	1	2	2	4	2	1	1	66	3
26	Q	1	1	1	1	5	3	1	0	0	0	0	0	0	0	1	1	1	1	1	1	5	1	8	5	38	2
27		10	1	1	1	7	14	6	5	2	1	1	1	1	1	2	1	1	1	3	5	15	6	17	16	119	5
28	D	10	21	12	9	3	3	2	1	2	5	12	9	29	14	13	11	11	10	7	14	19	8	11	8	244	10
29		12	42	27	16	10	32	26	25	19	12	14	12	20	9	5	3	5	5	10	7	9	4	4	2	330	14
SUMS		236	363	292	266	318	350	417	394	404	348	389	554	463	277	274	197	168	163	190	184	203	191	258	201	7100	
MEANS		8	13	10	9	11	12	14	14	14	12	13	19	16	10	9	7	6	6	7	6	7	7	9	7		10

HOURLY RANGES

TABLE 49 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS FEBRUARY 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1		0	0	0	0	7	9	14	3	1	2	2	2	4	5	3	4	3	2	1	1	1	2	4	5	75	3
2		15	8	3	3	1	2	1	5	14	12	6	6	5	7	11	7	8	7	5	1	10	8	28	5	178	7
3		41	3	3	3	1	1	3	15	10	4	6	3	5	4	4	8	7	4	3	3	2	3	5	2	143	6
4		4	8	9	6	11	21	31	22	6	10	38	22	13	5	8	5	3	3	3	1	1	1	1	1	233	10
5		1	0	0	0	0	1	2	1	1	1	3	3	5	3	5	8	3	3	3	2	4	3	8	1	61	3
6	Q	1	1	3	3	1	0	0	1	1	1	1	1	1	1	1	1	1	2	1	0	0	1	1	0	24	1
7	Q	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	4	2	2	3	1	3	3	24	1
8		2	16	46	3	4	3	2	1	1	2	3	6	10	8	7	4	5	5	2	4	2	14	7	6	163	7
9		15	64	35	30	29	5	10	10	4	15	17	8	13	10	6	4	2	1	1	1	5	10	8	12	315	13
10	D	19	26	19	3	8	13	4	6	11	8	5	9	7	4	4	3	19	13	19	14	8	5	12	10	249	10
11	D	22	15	14	11	48	44	21	12	22	26	50	74	7	11	5	8	8	5	4	4	6	5	5	4	431	18
12		12	30	21	21	18	17	13	6	3	3	2	5	6	4	4	5	3	4	3	2	3	1	1	1	188	8
13		1	1	1	1	3	21	19	13	20	19	3	10	15	20	7	10	8	8	6	3	1	1	3	2	196	8
14	Q	4	1	1	1	1	1	0	0	1	2	1	1	5	2	2	1	2	1	2	1	1	2	2	1	36	2
15	D	1	1	1	1	2	3	2	5	5	8	22	26	24	18	19	14	17	17	10	7	5	1	3	2	214	9
16		1	1	3	3	21	14	15	15	3	4	7	14	15	7	7	11	5	6	3	4	3	1	3	3	169	7
17		4	1	1	1	8	15	26	6	12	5	7	12	12	12	6	3	7	4	5	3	5	10	5	3	173	7
18		7	3	1	1	1	1	8	28	36	27	33	22	23	12	9	17	14	9	11	13	4	4	3	5	292	12
19		4	5	22	22	44	21	12	2	1	3	2	12	5	3	6	3	2	3	1	1	1	2	0	1	178	7
20	D	2	11	8	3	1	7	29	64	39	8	10	22	35	29	44	8	7	5	8	7	8	9	5	10	379	16
21		8	39	37	30	26	5	13	8	7	22	13	5	4	3	5	5	8	8	7	6	9	11	3	1	283	12
22		3	2	1	7	16	32	12	4	2	3	5	11	8	5	4	5	2	4	3	4	1	1	0	1	136	6
23		0	1	0	1	19	9	10	7	1	2	1	1	1	1	3	2	4	1	1	1	1	1	1	1	70	3
24		1	1	2	4	9	8	8	3	3	3	3	2	3	1	4	4	3	2	1	1	1	0	0	0	67	3
25	Q	0	1	6	2	1	2	6	6	3	1	1	1	1	2	2	4	1	2	1	1	1	1	0	0	46	2
26	Q	1	1	1	2	5	4	0	0	0	0	0	0	1	1	0	2	1	1	1	1	1	2	3	3	31	1
27		5	1	1	0	5	5	3	1	1	1	1	1	2	1	1	3	1	2	1	2	8	7	7	9	69	3
28	D	8	8	13	5	4	3	3	1	1	3	5	6	9	10	7	12	15	6	7	11	9	11	5	6	168	7
29		8	21	15	24	24	15	19	15	5	3	8	9	8	5	4	3	4	3	5	3	3	1	2	2	209	9
SUMS		190	270	267	191	318	282	286	260	214	198	255	294	248	195	189	165	165	135	120	104	107	119	128	100	4800	
MEANS		7	9	9	7	11	10	10	9	7	7	9	10	9	7	7	6	6	5	4	4	4	4	4	3		7

HOURLY RANGES

TABLE 50 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS MARCH 1968

HOUR		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
	UT	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	SUMS	MEANS
DAY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1		11	12	8	7	6	15	13	5	12	5	11	17	7	8	7	5	10	5	5	3	1	1	1	1	176	7
2		2	3	4	11	26	5	3	21	10	3	19	19	3	5	2	4	3	3	3	6	10	5	5	6	181	8
3		12	8	9	10	13	8	5	26	10	7	12	8	12	5	8	8	6	5	22	9	11	12	14	12	252	11
4		17	22	14	14	15	8	5	34	18	14	17	19	14	10	6	6	5	7	8	11	5	11	16	22	318	13
5		15	8	13	5	26	17	5	8	30	37	19	32	43	21	11	5	3	2	7	7	18	12	6	14	364	15
6		8	6	8	6	5	3	5	17	17	4	7	5	8	3	1	3	2	3	5	7	5	7	5	5	145	6
7	Q	3	4	18	13	23	10	2	9	9	11	5	3	2	2	1	2	2	1	3	1	4	4	2	2	136	6
8	Q	6	8	7	5	5	5	4	1	1	0	1	1	1	1	1	0	1	1	2	1	2	3	4	2	63	3
9	Q	2	2	4	5	8	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	6	55	2
10		9	3	8	8	35	8	5	5	4	4	3	4	5	8	7	10	6	5	3	3	7	9	5	1	165	7
11		1	3	5	11	17	15	19	16	7	12	7	3	2	1	1	1	1	1	1	3	6	8	4	3	148	6
12		1	1	1	1	2	5	5	1	2	6	13	8	15	5	4	3	3	3	8	8	8	8	14	4	129	5
13	Q	3	2	1	18	21	17	3	4	3	4	3	1	1	2	1	1	1	1	1	3	2	3	3	8	107	4
14	D	6	8	12	10	9	3	4	7	12	17	14	18	15	16	8	8	5	10	8	10	16	12	13	16	257	11
15	D	7	23	25	14	21	19	41	32	27	18	20	18	19	37	18	17	9	9	10	14	12	21	5	3	439	18
16	D	32	21	17	31	14	28	15	12	7	19	21	18	38	54	14	10	5	5	4	3	17	13	11	15	424	18
17		17	31	4	17	37	28	14	17	15	11	5	6	10	5	4	3	4	3	2	5	7	8	3	4	260	11
18		5	12	16	12	8	12	8	21	16	13	12	7	9	4	6	6	5	7	3	5	7	8	3	4	209	9
19		1	3	7	11	11	7	16	26	21	26	35	19	11	7	8	7	5	5	11	10	5	3	1	1	257	11
20		2	3	27	21	19	6	5	7	2	4	16	25	26	8	12	4	3	5	5	6	6	11	5	5	233	10
21		3	5	8	6	16	14	8	6	8	10	6	2	3	3	3	5	2	5	4	7	5	4	2	1	136	6
22	Q	1	3	5	3	1	4	10	6	5	3	2	4	4	3	2	1	2	2	1	3	1	3	1	1	71	3
23		1	0	1	1	10	7	3	3	5	3	3	3	3	3	4	1	1	2	9	5	12	18	17	7	122	5
24	D	5	5	5	8	39	26	33	20	37	21	14	11	17	10	14	9	7	10	5	5	21	26	8	6	362	15
25		7	17	25	23	22	30	9	16	17	10	12	8	11	14	5	5	6	5	6	12	14	10	19	4	307	13
26		3	2	3	2	8	13	25	26	8	23	29	38	16	5	3	7	3	8	10	8	3	8	10	6	267	11
27		17	8	10	19	26	20	16	19	8	8	18	20	7	8	4	4	5	9	7	10	10	7	7	5	272	11
28		8	3	5	32	37	22	8	23	22	18	7	10	12	8	3	2	1	4	8	5	8	6	10	3	265	11
29		1	7	35	22	12	13	21	13	14	29	13	17	27	8	5	7	5	6	7	6	5	12	24	23	332	14
30	D	19	29	15	6	9	66	44	17	16	11	14	16	18	12	6	9	21	11	8	11	18	7	15	9	407	17
31		6	3	5	3	5	15	8	41	29	14	10	7	8	9	10	7	5	5	21	9	11	14	23	17	285	12
SUMS		231	265	325	355	506	457	363	460	393	366	369	368	368	286	180	161	138	149	198	197	259	276	258	216	7144	
MEANS		7	9	10	11	16	15	12	15	13	12	12	12	12	9	6	5	4	5	6	6	8	9	8	7		10

HOURLY RANGES

TABLE 51 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS MARCH 1968

HOUR		0 TO	1 TO	2 TO	3 TO	4 TO	5 TO	6 TO	7 TO	8 TO	9 TO	10 TO	11 TO	12 TO	13 TO	14 TO	15 TO	16 TO	17 TO	18 TO	19 TO	20 TO	21 TO	22 TO	23 TO	SUMS	MEANS
UT																											
DAY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1		13	8	3	7	5	8	11	4	2	3	3	4	8	7	4	3	8	7	3	1	2	1	1	1	117	5
2		1	1	1	5	22	3	1	12	7	3	5	5	3	3	3	1	2	3	1	2	3	5	5	7	104	4
3		6	4	6	5	5	3	3	12	10	10	5	5	6	4	4	7	5	5	9	7	14	7	8	11	161	7
4		8	19	6	10	12	7	7	21	12	10	17	13	5	8	10	2	3	2	3	10	7	10	12	12	226	9
5		7	14	4	4	54	44	1	1	10	21	49	62	35	12	6	7	2	3	3	5	9	6	5	5	369	15
6		5	6	13	5	5	3	4	5	6	2	2	4	3	1	3	3	5	2	3	2	1	5	3	1	92	4
7	Q	1	3	19	14	13	5	1	1	4	3	1	2	1	2	2	3	2	3	2	1	1	1	2	1	88	4
8	Q	2	7	2	5	4	3	2	1	1	0	1	1	1	1	2	1	3	1	1	1	1	1	1	1	44	2
9	Q	1	1	3	3	10	4	1	0	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	3	42	2
10		7	4	2	6	29	14	5	1	1	1	1	3	4	7	5	10	8	3	4	2	5	5	1	1	129	5
11		1	1	1	14	8	12	17	16	5	5	3	2	1	1	2	1	1	1	1	1	3	3	2	1	103	4
12		1	1	1	1	1	3	2	0	0	1	3	8	8	3	4	1	5	4	4	4	5	5	4	3	72	3
13	Q	2	1	2	10	19	10	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	3	1	6	72	3
14	D	4	14	22	9	11	3	1	3	5	8	10	14	11	15	10	4	7	6	7	7	7	12	17	6	213	9
15	D	5	17	22	15	15	10	24	28	12	11	12	15	12	21	8	10	8	6	11	9	7	12	5	3	298	12
16	D	20	26	10	24	16	26	12	10	3	14	10	10	13	21	11	7	4	4	3	3	17	12	9	11	296	12
17		4	33	5	5	28	18	4	3	4	5	3	5	7	3	2	4	3	2	2	3	3	4	3	3	156	7
18		3	7	18	8	9	10	3	6	8	10	8	5	8	3	4	7	5	4	3	3	3	5	3	2	145	6
19		1	1	3	12	16	5	5	10	19	8	15	7	7	8	6	3	6	7	10	7	4	1	1	1	163	7
20		1	1	37	24	8	3	1	1	1	3	4	14	19	7	5	5	2	5	5	4	3	8	3	3	167	7
21		3	3	5	6	17	9	4	7	3	2	3	1	2	3	4	3	3	2	4	3	2	1	1	1	92	4
22	Q	1	2	3	3	1	1	5	3	2	2	3	3	3	3	2	3	3	2	1	2	1	1	1	1	52	2
23		1	0	0	0	11	5	1	1	1	1	2	3	3	3	3	3	1	2	3	3	4	10	8	3	72	3
24	D	3	3	5	7	15	20	35	28	22	10	6	5	7	8	14	6	8	6	7	5	17	15	5	5	262	11
25		2	18	38	22	14	24	5	4	5	5	5	3	6	5	5	5	2	4	2	7	6	5	9	1	202	8
26		1	1	1	1	4	12	9	10	3	4	14	18	10	5	2	5	9	8	8	3	2	3	5	5	143	6
27		13	12	8	23	18	17	17	11	3	3	7	8	4	3	3	5	8	8	4	6	12	10	5	5	213	9
28		4	3	5	19	26	8	1	19	17	4	3	4	7	5	3	1	2	5	5	3	3	6	5	1	159	7
29		1	2	26	19	12	8	9	9	21	47	16	32	12	7	5	3	4	3	4	3	2	3	18	14	280	12
30	D	10	15	16	7	7	42	24	8	4	2	8	7	9	5	3	4	10	10	7	14	15	5	8	6	246	10
31		4	2	1	3	8	7	1	20	17	4	3	2	5	6	7	6	5	5	10	10	7	5	15	30	183	8
SUMS		136	230	288	296	423	347	217	256	211	205	225	267	222	182	144	125	136	126	132	133	168	171	167	154	4961	
MEANS		4	7	9	10	14	11	7	8	7	7	7	9	7	6	5	4	4	4	4	4	5	6	5	5		7

HOURLY RANGES

TABLE 52 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS APRIL 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1	D	26	17	14	39	18	17	17	28	26	61	33	21	14	14	23	8	7	7	9	10	17	12	10	13	461	19
2		20	21	23	28	8	12	29	14	17	7	10	11	4	8	5	3	3	5	8	10	4	7	12	17	286	12
3		10	22	24	12	24	14	10	5	14	11	14	3	6	3	8	4	4	3	3	1	3	9	8	7	222	9
4		17	14	12	10	10	11	7	17	10	2	3	4	2	1	3	1	3	2	2	5	5	8	2	10	161	7
5	D	4	12	7	10	7	6	10	6	5	8	1	4	3	3	5	10	5	7	23	22	14	28	14	8	222	9
6	D	9	5	14	24	16	16	11	24	47	50	39	28	33	41	15	12	14	17	11	8	5	14	8	4	465	19
7		8	10	14	21	21	14	12	19	10	10	13	17	10	8	10	5	5	1	1	1	3	5	2	7	227	9
8	Q	3	3	8	17	10	7	4	5	3	3	3	3	5	4	3	3	3	3	1	1	1	1	1	1	96	4
9	Q	0	1	1	1	0	2	1	0	0	1	1	1	1	1	1	1	1	1	2	3	2	5	3	3	33	1
10		1	3	7	6	7	14	10	8	3	5	3	3	1	1	2	2	2	2	6	1	3	3	4	1	98	4
11		2	5	10	32	10	2	13	10	8	9	5	10	8	3	3	5	3	2	2	3	3	4	1	1	154	6
12		2	1	1	1	1	3	2	2	1	2	4	3	2	2	1	3	3	3	3	17	5	18	9	17	106	4
13		10	7	18	49	30	17	6	5	8	8	26	29	25	10	10	7	19	11	15	13	23	10	14	8	378	16
14	D	9	8	29	23	16	28	10	4	11	7	36	46	58	21	14	10	10	10	10	10	6	4	8	8	396	17
15		2	6	3	2	4	14	19	10	12	42	35	38	10	23	12	17	10	12	14	8	7	5	5	9	319	13
16		9	15	22	39	26	14	12	8	22	28	10	10	7	5	4	5	2	5	11	9	10	12	8	19	312	13
17		9	5	10	11	15	8	15	14	10	19	21	21	4	5	7	7	4	3	10	8	3	5	6	4	224	9
18		5	11	14	7	5	26	13	9	8	6	10	4	8	3	2	4	4	6	5	4	5	5	3	4	171	7
19	Q	2	1	1	4	4	3	3	5	4	1	1	1	1	1	3	4	3	3	2	1	1	1	1	1	52	2
20	Q	1	1	1	1	2	2	0	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	0	0	26	1
21	Q	0	0	0	1	1	1	5	4	2	2	2	1	2	2	1	1	1	1	2	4	3	3	3	1	43	2
22		3	3	3	7	6	8	32	14	15	12	5	3	3	3	5	3	5	1	2	4	12	4	10	8	171	7
23		15	11	10	17	12	11	11	5	5	8	5	3	3	1	3	3	3	5	4	8	5	8	7	10	173	7
24		15	10	25	28	15	15	11	5	3	5	5	5	5	3	3	5	4	2	3	1	3	3	2	2	178	7
25		1	1	1	2	9	10	12	4	4	2	3	1	1	3	1	2	3	2	3	5	5	19	12	15	121	5
26	D	17	8	18	10	24	57	21	10	7	11	11	17	15	10	8	10	5	7	14	24	16	10	36	22	388	16
27		26	17	7	1	26	10	6	17	35	37	19	8	8	5	5	7	5	7	18	14	19	9	6	4	316	13
28		10	10	69	22	49	23	33	12	5	17	12	5	5	4	5	6	4	7	8	6	6	9	11	12	350	15
29		18	6	26	17	13	14	18	30	17	25	10	9	10	10	5	3	5	4	4	7	8	11	10	11	291	12
30		18	7	14	11	2	2	4	18	10	11	12	2	1	3	4	3	2	3	3	3	3	8	3	3	150	6
SUMS		272	241	406	453	391	381	357	313	323	411	353	312	256	202	172	155	144	144	201	212	201	241	219	230	6590	
MEANS		9	8	14	15	13	13	12	10	11	14	12	10	9	7	6	5	5	5	7	7	7	8	7	8		9

HOURLY RANGES

TABLE 53 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS APRIL 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1	D	37	29	14	28	5	10	9	10	26	19	12	6	9	8	10	7	4	5	8	5	6	14	3	2	286	12
2		25	14	10	25	8	5	18	12	3	2	3	5	3	4	3	3	2	5	4	5	3	6	8	8	184	8
3		7	12	15	15	14	4	4	5	10	13	3	5	3	4	7	7	3	3	1	1	1	2	3	7	149	6
4		12	10	10	23	15	7	4	15	3	1	3	2	1	1	3	2	1	5	3	1	2	3	2	3	132	6
5	D	5	12	6	13	10	8	8	5	5	2	1	3	3	1	4	10	5	8	18	15	17	19	10	7	195	8
6	D	6	3	7	15	10	12	7	11	48	63	48	17	12	29	14	10	12	15	12	8	5	5	2	4	375	16
7		7	12	17	15	17	8	9	3	5	9	8	4	5	7	5	5	5	1	1	1	2	4	1	4	155	6
8	Q	1	2	12	15	12	5	3	1	1	1	2	3	3	3	3	3	2	2	1	1	1	1	0	0	78	3
9	Q	1	1	1	1	0	1	1	0	0	0	1	1	1	1	2	1	2	1	2	3	1	1	1	1	25	1
10		2	2	3	4	5	5	5	5	3	1	1	1	1	2	5	3	3	1	1	1	1	2	1	1	59	2
11		2	4	8	46	3	2	6	8	2	2	3	4	3	1	4	6	4	2	1	3	2	1	1	1	119	5
12		1	1	1	1	1	1	1	1	1	1	4	2	2	2	3	4	3	3	2	5	3	6	5	8	62	3
13		5	6	17	22	15	4	2	3	1	3	12	19	14	5	6	6	16	14	14	8	10	8	10	1	221	9
14	D	5	5	25	22	11	14	4	1	4	3	5	53	44	12	13	8	10	9	8	7	4	1	3	3	274	11
15		2	3	1	1	2	5	5	3	3	12	18	17	7	10	10	9	9	10	14	7	3	5	3	5	164	7
16		5	10	30	32	17	12	3	3	4	5	4	8	4	3	4	3	3	2	6	4	4	7	6	8	187	8
17		6	3	7	8	12	7	14	10	9	5	5	10	3	5	5	5	4	3	8	5	3	3	3	3	146	6
18		3	17	13	4	5	10	15	11	4	4	4	5	5	3	4	3	4	4	3	3	5	3	1	4	137	6
19	Q	1	1	1	3	4	1	1	1	1	1	1	1	1	1	2	2	3	1	1	0	1	1	1	0	31	1
20	Q	1	1	1	1	3	3	0	1	1	1	1	1	1	1	2	1	3	2	1	2	1	1	1	1	32	1
21	Q	1	0	0	1	1	0	3	1	1	2	1	1	1	2	1	3	2	1	1	3	1	1	1	1	30	1
22		1	5	3	5	5	2	12	7	13	5	1	2	1	1	2	5	4	2	2	2	4	3	5	6	98	4
23		22	10	8	19	27	18	11	2	1	3	1	2	3	3	3	3	3	4	2	3	1	3	3	3	158	7
24		11	10	10	37	17	11	3	1	1	1	3	2	3	5	3	3	1	2	3	2	2	1	1	1	134	6
25		1	1	1	2	6	7	5	2	2	1	1	1	1	1	1	3	3	2	3	3	2	8	5	17	79	3
26	D	12	15	8	8	18	33	14	4	6	5	3	5	6	5	5	8	6	7	9	14	11	17	24	19	262	11
27		27	21	4	2	14	5	3	6	21	27	5	4	5	3	7	4	3	4	10	5	10	5	4	1	200	8
28		2	7	60	10	21	11	11	6	3	3	4	2	3	2	5	7	5	3	5	4	4	4	5	10	197	8
29		14	5	13	13	9	15	12	24	17	7	7	4	3	3	2	4	4	3	2	3	3	4	8	8	187	8
30		3	5	5	5	2	1	1	4	10	3	5	2	2	3	3	6	3	3	1	2	2	3	1	1	76	3
SUMS		228	227	311	396	289	227	194	166	209	205	170	192	153	131	141	144	132	127	147	126	115	142	122	138	4432	
MEANS		8	8	10	13	10	8	6	6	7	7	6	6	5	4	5	5	4	4	5	4	4	5	4	5		6

HOURLY RANGES

TABLE 54 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS MAY 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1		5	17	5	2	7	3	2	3	10	10	2	2	5	5	8	12	5	4	7	15	17	20	18	16	200	8
2		26	17	15	12	13	12	19	19	11	33	21	24	9	4	5	3	9	3	2	2	4	4	6	7	280	12
3		10	14	3	29	46	21	23	5	3	6	10	15	12	9	5	3	2	2	1	4	2	4	8	5	242	10
4	Q	3	5	10	6	5	8	1	5	5	4	3	1	3	2	3	3	1	2	1	4	4	1	3	3	86	4
5	Q	1	1	2	3	5	2	2	1	2	3	3	3	1	2	1	2	2	3	1	2	3	1	3	2	51	2
6	Q	1	1	1	1	8	5	6	1	1	1	1	1	1	2	2	3	3	4	3	3	3	3	2	1	58	2
7	D	3	5	3	13	12	24	35	17	18	63	39	40	54	21	60	15	12	6	5	8	8	8	9	14	492	21
8		7	4	8	5	12	18	11	5	6	8	12	23	3	1	3	3	3	2	5	3	4	3	5	3	157	7
9	D	20	25	81	12	27	14	17	10	10	14	22	29	10	8	15	8	8	16	32	14	19	23	12	15	461	19
10		5	8	2	14	7	5	7	6	3	2	2	4	3	1	4	4	3	5	1	7	4	5	11	4	117	5
11		12	17	29	10	16	9	10	8	36	31	28	9	8	8	7	7	9	8	10	7	4	6	8	5	302	13
12	D	37	27	26	21	44	50	48	14	8	14	37	30	14	8	8	9	8	5	6	8	11	9	4	5	451	19
13		10	20	17	5	36	24	15	5	10	13	27	13	8	7	6	8	8	9	6	8	12	10	8	5	290	12
14		5	22	37	17	11	7	9	5	6	4	4	10	8	3	5	6	5	5	12	7	10	5	8	3	214	9
15		5	8	17	7	12	18	29	23	21	19	8	5	3	1	3	3	6	8	4	6	10	10	6	6	238	10
16		10	22	17	17	21	10	17	8	21	15	15	21	19	15	8	12	3	8	5	4	5	8	5	3	289	12
17		2	3	8	14	12	13	25	18	5	10	11	8	8	9	15	7	5	10	14	10	7	22	17	9	262	11
18		5	7	19	33	10	10	13	25	23	14	10	10	4	2	12	6	10	17	10	8	10	15	8	14	295	12
19		3	5	16	32	28	1	2	19	15	18	6	6	4	8	3	3	6	15	8	14	12	14	19	7	264	11
20	D	10	21	30	32	20	12	29	27	26	33	36	23	23	6	4	7	4	9	3	8	4	11	15	10	403	17
21	D	43	30	25	23	12	3	6	30	20	16	12	17	17	19	10	20	42	5	12	17	19	23	18	6	445	19
22		8	12	23	50	41	21	18	10	12	8	8	7	4	5	4	4	4	5	8	3	3	6	16	14	294	12
23		10	32	34	3	2	2	5	4	5	4	3	7	6	8	2	2	3	6	6	12	11	17	14	59	257	11
24		42	48	37	32	19	29	13	18	22	17	10	21	11	7	3	3	3	8	8	8	5	3	4	4	375	16
25		5	2	1	1	8	10	3	2	14	7	4	10	4	3	2	3	7	3	6	7	5	13	1	3	124	5
26	Q	5	5	6	12	30	12	3	3	2	4	4	5	1	1	2	1	1	1	1	1	1	2	1	1	105	4
27	Q	1	1	1	0	1	1	1	3	1	1	2	2	1	2	1	1	1	2	2	3	4	1	5	3	41	2
28		3	3	2	4	1	12	12	10	1	1	1	1	1	2	3	2	1	3	6	9	6	3	3	2	92	4
29		5	12	12	17	9	10	8	17	8	10	20	10	7	4	5	5	5	6	4	3	3	10	6	3	199	8
30		2	3	3	14	12	3	6	30	17	17	6	2	5	5	5	5	4	3	3	8	5	12	14	4	188	8
31		8	23	21	8	8	7	5	7	27	21	5	5	8	17	2	3	3	3	4	3	6	5	5	4	208	9
SUMS		312	420	511	449	495	376	400	358	369	421	372	364	265	195	216	173	186	186	196	216	221	277	262	240	7480	
MEANS		10	14	16	14	16	12	13	12	12	14	12	12	9	6	7	6	6	6	6	7	7	9	8	8		10

HOURLY RANGES

TABLE 55 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS MAY 1968

DAY	HOUR UT	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1		4	18	2	1	11	2	1	1	3	4	3	3	3	3	3	8	5	4	3	6	10	15	10	12	135	6
2		29	13	15	17	13	12	7	5	3	12	12	7	5	4	4	3	3	4	1	1	2	3	2	3	180	8
3		3	5	4	13	17	29	10	2	1	2	2	7	4	7	5	3	2	1	1	3	3	3	5	2	134	6
4	Q	1	2	8	12	7	3	1	2	2	3	2	2	2	3	3	3	3	1	1	3	2	1	1	3	71	3
5	Q	1	1	1	3	2	2	1	1	1	1	2	1	2	2	3	1	2	3	1	1	1	1	1	1	36	2
6	Q	1	1	1	1	4	4	3	0	0	1	1	1	1	1	3	3	2	3	2	2	2	2	2	0	41	2
7	D	1	2	5	8	10	17	25	14	15	37	48	24	34	22	42	18	7	4	3	3	6	3	8	7	363	15
8		7	3	5	4	5	10	8	2	1	3	4	9	4	1	3	3	3	2	3	1	3	2	4	1	91	4
9	D	18	17	49	8	19	11	11	10	15	16	34	25	7	6	6	8	8	14	15	25	21	14	11	11	379	16
10		7	3	3	10	4	4	5	2	1	1	1	3	4	3	4	6	4	7	2	5	3	3	6	2	93	4
11		3	10	13	10	10	7	10	2	10	27	16	5	4	4	5	4	6	5	5	4	4	3	3	4	174	7
12	D	49	19	12	12	26	37	24	8	3	4	8	12	8	8	5	4	4	4	6	7	8	10	3	2	283	12
13		8	26	11	5	17	9	10	5	8	3	14	7	5	3	5	7	10	8	3	5	8	5	3	2	187	8
14		3	14	35	19	5	5	4	2	1	2	1	4	3	5	3	6	4	5	10	6	4	3	5	3	152	6
15		5	10	12	5	12	8	14	12	11	5	3	3	1	3	3	3	6	5	3	3	7	5	4	3	146	6
16		8	23	17	13	8	4	10	10	11	5	10	17	22	10	6	5	3	4	4	3	3	3	2	2	203	8
17		1	2	6	18	15	6	17	18	7	15	11	7	4	5	8	8	12	6	6	3	3	12	10	1	201	8
18		2	6	27	30	11	11	8	12	17	5	3	6	3	2	5	6	11	18	8	7	5	10	10	5	228	10
19		2	4	32	37	15	1	1	5	18	6	2	3	5	4	3	4	4	3	8	9	11	10	5	1	193	8
20	D	8	26	22	19	14	8	9	26	21	42	55	19	5	6	4	8	6	6	4	2	3	5	7	10	335	14
21	D	29	24	10	10	5	3	3	9	12	10	5	5	11	10	8	10	15	8	12	13	17	22	18	4	273	11
22		15	14	12	32	26	10	19	7	8	3	5	2	2	1	3	3	3	10	5	2	1	1	5	13	202	8
23		11	18	16	2	3	1	3	1	2	3	2	3	4	3	3	2	3	8	8	7	6	9	17	37	172	7
24		29	26	32	24	9	17	15	15	31	11	6	8	5	4	5	3	3	7	5	5	3	3	2	4	272	11
25		4	1	1	1	5	9	2	1	3	3	7	3	2	3	3	1	3	3	5	3	2	3	1	1	70	3
26	Q	1	1	4	7	21	7	1	1	1	2	2	2	1	1	2	4	2	1	1	1	1	1	1	1	67	3
27	Q	1	1	1	0	1	1	1	1	1	1	1	1	1	2	2	2	1	2	1	1	1	1	3	1	29	1
28		1	1	2	1	3	8	5	1	1	1	1	1	1	2	3	1	4	4	5	3	3	2	2	1	57	2
29		3	12	11	21	11	4	5	11	12	14	7	3	3	4	3	3	3	5	3	3	3	6	5	2	157	7
30		1	5	7	14	9	1	2	13	16	5	2	1	2	3	4	7	5	2	1	3	3	3	5	3	117	5
31		4	19	14	3	7	3	1	2	11	8	5	3	4	5	2	3	2	9	5	3	3	2	1	1	120	5
SUMS		260	327	390	360	325	254	236	201	247	255	275	197	162	140	161	150	149	166	140	143	152	166	162	143	5161	
MEANS		8	11	13	12	10	8	8	6	8	8	9	6	5	5	5	5	5	5	5	5	5	5	5	5		7

HOURLY RANGES

TABLE 56 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS JUNE 1968

		HOUR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
		UT	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	SUMS	MEANS
DAY			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1			2	6	3	14	32	15	3	6	9	21	18	13	10	3	5	7	6	10	13	14	11	17	15	13	266	11
2			4	21	29	28	21	13	12	17	8	14	8	10	7	5	7	5	3	8	12	14	18	15	22	35	336	14
3			52	13	9	12	12	5	8	11	10	5	13	12	13	10	5	5	14	9	4	10	13	10	7	9	271	11
4			8	51	22	11	18	17	8	5	21	10	11	4	6	3	3	8	4	4	4	10	8	6	14	17	273	11
5	Q		3	6	3	7	25	11	12	3	2	3	3	4	2	3	3	1	1	4	2	3	3	2	3	3	112	5
6	Q		1	1	1	1	1	2	5	6	1	3	2	3	3	3	4	4	3	1	1	3	1	3	2	5	60	3
7			3	5	3	6	13	15	21	20	12	14	6	16	23	5	5	7	5	10	14	7	3	2	1	2	218	9
8			4	3	4	10	10	8	5	3	9	7	8	6	5	4	5	5	10	11	17	19	9	8	10	9	189	8
9			5	4	4	2	47	29	8	10	3	3	1	2	3	5	3	3	4	5	9	11	13	10	20	14	218	9
10	D		14	18	22	22	23	32	14	28	31	26	25	27	46	37	11	9	5	10	8	12	16	14	30	19	499	21
11	D		131	64	18	119	73	28	10	12	77	24	39	46	40	11	26	27	10	7	12	23	27	7	10	15	856	36
12	D		18	10	29	21	8	14	37	23	29	29	42	33	35	24	21	10	17	14	14	12	10	21	15	10	496	21
13	D		5	52	57	48	58	19	19	58	28	46	73	79	65	12	22	30	11	17	22	10	21	18	19	12	801	33
14	D		13	17	15	5	5	8	19	48	35	28	29	43	39	23	21	25	5	6	8	7	10	10	12	6	437	18
15			6	3	3	2	16	8	14	29	30	10	3	6	1	5	2	3	4	5	3	10	5	5	6	5	184	8
16			7	3	1	7	3	2	2	2	2	7	17	9	21	8	3	5	4	12	10	11	24	13	27	23	223	9
17			12	38	16	21	10	25	23	36	28	48	52	15	8	6	6	3	3	3	5	5	5	8	7	7	390	16
18			4	5	8	11	8	5	30	17	24	22	6	10	10	7	8	5	6	12	19	19	14	8	4	12	274	11
19			10	28	38	17	21	27	19	24	8	19	25	20	15	3	13	7	7	5	9	8	14	5	15	16	373	16
20			12	12	15	6	17	23	8	3	4	3	3	2	1	1	1	1	2	2	3	5	5	3	1	3	136	6
21	Q		1	2	3	1	1	1	0	0	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	27	1
22			1	1	1	1	8	30	21	19	28	36	20	17	40	17	8	5	3	3	5	5	11	3	6	5	294	12
23			2	5	23	12	5	14	18	17	12	8	5	6	2	1	2	1	3	1	2	1	3	1	6	5	155	6
24	Q		4	1	2	2	3	8	3	3	1	0	0	1	1	0	1	1	1	0	1	2	1	2	1	1	40	2
25	Q		1	1	1	2	1	1	3	5	2	1	0	1	1	1	1	1	1	1	2	1	1	1	3	10	43	2
26			33	16	3	5	2	1	1	1	1	3	8	8	4	5	5	10	4	6	3	3	8	10	5	7	152	6
27			8	9	12	4	30	10	8	12	9	6	11	8	11	3	4	3	2	5	8	6	7	9	4	13	202	8
28			14	9	3	3	3	3	5	3	1	1	2	1	3	2	3	1	2	4	3	2	3	3	3	6	83	3
29			5	5	5	2	8	6	10	12	1	1	1	1	2	3	3	1	5	4	9	14	8	5	17	8	136	6
30			8	5	19	11	6	24	8	5	14	10	6	4	3	2	3	3	3	4	17	7	7	9	12	22	212	9
SUMS			391	414	372	413	488	404	354	438	441	409	439	408	422	213	205	197	149	184	240	255	280	229	298	313	7956	
MEANS			13	14	12	14	16	13	12	15	15	14	15	14	14	7	7	7	5	6	8	9	9	8	10	10		11

HOURLY RANGES

TABLE 57 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS JUNE 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1		1	5	2	11	22	17	1	1	2	5	10	3	5	3	5	5	7	9	8	8	4	9	8	12	163	7
2		12	15	23	22	21	13	11	9	5	3	3	3	4	4	9	5	1	7	10	7	8	6	17	21	239	10
3		36	14	11	8	13	10	5	5	5	2	5	5	8	4	5	3	12	7	4	5	4	5	4	6	186	8
4		6	37	20	8	11	16	1	2	6	5	5	4	3	3	4	4	4	4	3	5	3	3	9	9	175	7
5	Q	2	3	2	4	17	11	6	2	1	3	2	1	2	3	3	2	2	3	3	3	3	2	2	1	83	3
6	Q	0	1	1	1	1	1	4	2	1	1	1	2	3	3	3	3	2	2	1	2	1	3	1	2	42	2
7		1	2	3	8	8	11	12	22	11	5	7	3	8	5	3	5	11	5	11	3	2	1	1	1	149	6
8		1	3	4	7	10	4	3	3	1	3	3	3	4	3	4	10	12	5	17	13	8	5	4	3	133	6
9		3	4	5	2	33	14	8	4	1	2	1	1	3	4	3	4	3	5	5	6	5	8	27	11	162	7
10	D	8	12	19	11	18	22	17	21	26	19	21	12	36	12	8	8	8	7	7	9	8	15	15	28	367	15
11	D	42	33	15	101	37	26	15	11	38	26	17	25	20	6	31	12	10	6	6	11	19	6	6	26	545	23
12	D	11	10	11	12	10	15	22	37	35	15	25	55	71	18	12	6	10	13	10	17	10	11	12	3	451	19
13	D	3	26	46	31	30	21	12	26	32	59	104	87	37	17	14	11	12	10	18	15	15	8	12	8	654	27
14	D	11	11	8	3	3	5	15	21	33	27	30	46	64	32	12	5	5	6	8	5	3	5	14	3	375	16
15		3	3	2	3	7	8	4	18	12	5	2	3	2	5	2	3	5	4	1	5	3	1	5	3	109	5
16		3	1	1	5	4	1	1	1	2	2	4	7	5	3	3	3	4	4	5	6	10	14	12	6	107	4
17		22	15	14	10	10	10	19	35	38	41	24	9	3	3	3	1	3	2	3	3	3	3	4	4	282	12
18		5	3	7	10	5	3	11	24	17	12	5	4	4	3	3	5	3	7	11	17	8	3	2	8	180	8
19		9	24	27	9	25	14	12	28	10	8	19	12	7	5	3	5	8	4	7	3	6	5	8	11	269	11
20		26	7	21	9	10	11	6	1	3	3	2	1	1	1	2	3	3	3	2	3	3	1	1	1	124	5
21	Q	0	0	1	1	1	1	0	0	1	1	1	0	1	1	3	3	3	1	2	2	1	1	1	1	27	1
22		1	1	3	3	3	14	22	21	33	32	35	42	24	5	5	4	3	3	5	4	5	3	4	3	278	12
23		1	5	24	8	3	2	10	10	17	11	4	2	2	3	4	2	3	1	1	1	1	1	4	5	125	5
24	Q	1	1	1	1	1	3	3	1	1	2	1	1	0	1	3	3	1	1	1	2	1	1	1	1	33	1
25	Q	1	1	1	3	1	1	2	3	3	1	1	1	1	1	1	1	6	4	1	1	2	2	2	3	44	2
26		15	12	3	3	2	1	1	1	1	2	4	3	2	3	6	10	4	4	3	3	6	5	2	4	100	4
27		2	4	10	3	18	10	3	5	3	1	4	7	10	3	3	6	5	3	7	4	6	3	3	7	130	5
28		10	10	3	1	1	1	3	2	1	2	1	1	1	1	5	3	3	1	4	1	1	2	1	1	60	3
29		4	11	2	1	4	5	4	3	1	1	1	1	2	3	2	2	3	8	3	8	3	5	6	3	86	4
30		2	3	14	12	5	12	5	3	7	8	4	1	1	3	1	4	2	5	7	5	5	6	10	14	139	6
SUMS		242	277	304	311	334	283	238	322	347	307	346	345	334	161	165	141	158	144	174	177	157	143	198	209	5817	
MEANS		8	9	10	10	11	9	8	11	12	10	12	12	11	5	6	5	5	5	6	6	5	5	7	7		8

HOURLY RANGES

TABLE 58 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS JULY 1968

DAY		HOUR UT	0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1			11	26	19	37	32	15	9	21	23	8	10	6	8	5	3	3	1	3	7	3	4	3	5	5	267	11
2			11	39	14	3	9	10	8	15	8	14	18	15	7	3	3	3	3	3	5	6	1	5	4	8	215	9
3	D		3	21	30	8	26	14	28	32	42	18	21	15	3	3	4	10	7	5	4	5	10	3	4	4	320	13
4			5	2	3	12	14	7	19	65	57	25	14	11	10	11	5	7	9	5	11	7	10	5	9	3	326	14
5			10	14	17	35	18	8	3	3	13	21	19	4	5	3	7	3	4	6	4	2	3	4	3	1	210	9
6			3	5	11	2	5	28	18	5	8	10	4	15	4	2	3	3	1	3	1	3	4	5	2	1	146	6
7			2	1	1	5	4	12	30	12	18	17	21	2	1	1	3	3	1	3	2	2	3	1	4	3	152	6
8			3	1	19	11	7	25	14	5	6	12	17	2	1	1	2	3	1	3	1	3	4	6	2	1	150	6
9	Q		1	1	1	3	25	20	17	8	8	5	1	1	1	1	2	1	3	1	2	1	2	4	2	8	119	5
10	D		3	11	18	8	21	15	8	16	28	30	28	16	71	66	12	3	8	7	12	30	10	15	21	16	473	20
11			19	57	25	30	23	10	14	14	9	8	5	5	7	2	1	3	4	2	8	12	4	11	8	21	302	13
12			12	11	19	29	23	13	3	3	1	1	1	2	3	5	4	3	5	2	2	2	1	2	2	3	152	6
13	D		1	5	3	3	18	12	17	10	1	1	1	1	1	0	1	1	13	33	26	59	12	19	21	28	287	12
14	D		23	50	30	41	26	12	10	12	13	7	5	10	8	5	3	3	3	8	8	14	4	9	5	3	312	13
15			3	16	18	5	23	21	4	3	1	3	6	9	3	3	1	2	1	4	5	7	12	4	4	8	166	7
16			11	9	2	3	17	22	12	1	11	6	7	2	4	2	3	5	7	12	7	11	5	3	2	2	166	7
17			2	4	1	5	7	3	5	3	1	2	5	4	11	9	2	2	2	1	6	4	5	5	5	7	101	4
18			3	17	30	32	15	8	8	7	3	7	5	4	7	8	4	4	2	10	1	3	2	2	3	5	190	8
19			2	1	8	21	28	13	8	10	10	14	7	8	7	1	3	2	5	3	2	5	7	12	5	7	189	8
20	Q		7	9	18	8	3	4	3	1	1	1	1	2	1	1	3	3	3	2	2	1	3	3	4	1	85	4
21			2	3	1	1	4	4	2	12	17	1	1	2	1	3	1	3	3	4	3	5	4	6	4	10	97	4
22	D		10	32	18	7	11	10	15	17	28	36	23	21	10	9	8	10	3	9	8	17	11	5	7	5	330	14
23			8	3	12	17	8	9	22	50	61	7	11	6	5	5	5	4	5	5	4	1	4	5	4	5	266	11
24	Q		1	2	1	1	2	13	13	14	5	2	1	1	1	1	1	1	1	3	3	2	1	1	1	1	73	3
25			1	1	1	5	8	11	14	12	6	3	3	3	3	6	3	5	2	2	1	3	2	3	2	2	102	4
26			1	1	3	29	22	10	8	10	6	28	29	6	6	8	5	3	3	4	12	8	10	28	15	8	263	11
27			11	11	50	65	18	25	20	11	12	15	8	12	8	4	4	2	1	1	3	5	3	5	3	4	301	13
28			8	5	7	15	11	13	1	1	1	3	3	1	3	3	2	3	4	5	3	10	8	4	4	3	121	5
29	Q		5	8	8	11	11	17	22	3	4	3	1	1	1	2	4	2	1	3	3	1	3	2	3	3	122	5
30			2	2	1	3	1	2	1	1	1	1	1	2	3	2	4	3	3	3	3	8	10	4	6	3	70	3
31	Q		2	13	3	5	21	11	5	10	10	3	3	5	3	1	1	1	3	1	1	3	3	3	1	1	113	5
SUMS			186	381	392	460	461	397	361	387	413	312	280	194	207	176	107	104	112	156	160	243	165	187	165	180	6186	
MEANS			6	12	13	15	15	13	12	12	13	10	9	6	7	6	3	3	4	5	5	8	5	6	5	6		8

HOURLY RANGES

TABLE 59 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS JULY 1968

HOUR UT		0 TO	1 TO	2 TO	3 TO	4 TO	5 TO	6 TO	7 TO	8 TO	9 TO	10 TO	11 TO	12 TO	13 TO	14 TO	15 TO	16 TO	17 TO	18 TO	19 TO	20 TO	21 TO	22 TO	23 TO	SUMS	MEANS
DAY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1		7	24	19	26	18	11	5	13	19	5	2	3	3	4	4	3	3	2	3	3	2	1	2	5	187	8
2		4	29	12	3	7	2	5	12	12	13	16	11	3	4	4	3	4	3	5	2	1	3	1	7	166	7
3	D	3	19	22	8	10	11	21	36	32	3	5	4	1	4	4	8	5	4	3	3	5	2	1	2	216	9
4		3	1	3	10	7	12	15	48	25	12	3	4	4	5	3	3	5	3	4	4	5	3	3	1	186	8
5		8	8	10	31	23	4	1	1	3	8	9	3	3	3	3	3	8	5	4	4	3	3	2	1	151	6
6		1	4	8	5	2	26	10	5	4	8	6	5	2	1	3	3	2	1	1	1	4	3	1	1	107	4
7		1	1	1	3	1	14	19	12	15	13	5	3	1	1	3	5	2	4	3	3	3	1	3	1	118	5
8		1	1	21	10	3	15	15	10	11	7	7	2	2	1	1	4	1	2	1	3	2	2	1	1	124	5
9	Q	1	1	1	1	12	8	6	5	5	2	1	1	1	1	1	3	3	2	2	1	1	2	2	2	65	3
10	D	3	7	11	8	8	11	7	9	11	12	29	19	18	38	11	4	3	3	12	12	5	5	15	8	269	11
11		11	50	19	14	18	8	7	12	4	3	3	1	2	2	3	4	4	6	5	7	2	5	7	15	212	9
12		5	12	12	14	13	3	1	1	1	1	1	2	2	3	3	3	7	2	1	1	1	2	1	2	94	4
13	D	1	1	3	3	23	17	6	5	2	1	1	1	1	1	3	1	15	7	17	59	17	10	17	25	237	10
14	D	19	39	25	23	19	5	3	5	3	2	3	5	3	4	3	5	8	4	5	7	3	3	2	3	201	8
15		1	22	36	4	22	9	3	1	1	2	2	5	1	2	1	3	3	4	6	6	10	3	3	3	153	6
16		5	8	1	3	13	15	8	1	2	3	3	2	3	1	3	5	3	7	7	8	5	1	1	1	109	5
17		1	2	1	3	4	1	1	1	1	1	3	3	3	2	3	2	3	1	3	4	2	3	1	1	50	2
18		2	7	19	24	15	5	9	3	2	1	2	3	3	3	7	5	3	4	1	3	2	1	3	2	129	5
19		1	2	3	14	22	7	3	2	3	4	3	4	3	3	1	5	2	3	1	5	2	8	5	5	111	5
20	Q	5	4	10	5	3	1	1	1	1	1	1	1	1	2	4	1	3	1	1	2	4	1	3	1	58	2
21		1	3	1	1	2	2	1	4	6	3	1	3	2	3	4	1	2	3	7	5	5	3	3	1	67	3
22	D	5	26	15	4	10	13	11	5	15	28	45	12	8	7	13	6	3	4	7	15	7	3	3	2	267	11
23		3	3	11	14	14	6	14	35	21	6	3	4	3	4	4	8	3	2	2	1	3	1	2	2	169	7
24	Q	1	1	1	1	1	7	8	4	3	2	1	1	1	1	2	2	1	2	2	1	1	1	1	1	47	2
25		1	1	1	3	2	7	12	5	2	3	2	3	3	5	5	8	1	2	3	2	2	3	1	2	79	3
26		1	1	1	35	13	3	2	1	3	7	9	5	4	7	5	5	5	5	10	5	5	12	9	5	158	7
27		15	19	17	46	12	18	7	9	5	10	5	3	4	2	4	3	3	3	1	2	2	3	1	2	196	8
28		4	3	7	10	6	4	1	1	1	2	1	2	2	1	2	2	5	3	5	7	8	3	1	4	85	4
29	Q	6	4	8	9	12	8	5	1	3	2	1	1	1	3	3	1	3	2	1	1	1	2	2	1	81	3
30		1	2	3	7	1	1	1	1	1	1	2	3	2	3	1	5	1	3	4	3	3	5	3	2	59	2
31	Q	2	10	3	2	8	3	2	3	2	1	3	3	1	2	1	3	1	3	1	3	1	2	1	1	62	3
SUMS		123	315	305	344	324	257	210	252	219	167	178	122	91	123	112	117	115	100	128	183	117	100	101	110	4213	
MEANS		4	10	10	11	10	8	7	8	7	5	6	4	3	4	4	4	4	3	4	6	4	3	3	4		6

HOURLY RANGES

TABLE 60 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS AUGUST 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1	Q	1	1	1	2	8	9	8	5	16	12	10	1	3	2	1	2	1	1	1	1	3	1	3	1	94	4
2	Q	2	1	2	2	3	5	3	1	1	3	8	8	3	1	1	1	1	1	1	3	2	3	3	1	60	3
3		1	4	7	69	68	7	17	17	15	11	8	8	5	10	8	3	3	4	3	3	4	2	4	3	284	12
4		3	1	7	4	3	22	3	5	3	2	1	2	1	1	1	1	1	1	1	1	1	5	3	6	79	3
5		5	2	4	5	35	15	3	3	5	26	15	19	4	7	3	5	3	3	3	2	7	10	5	5	194	8
6		3	3	34	39	11	5	8	11	12	12	12	12	3	4	3	3	3	9	8	17	8	16	5	10	251	10
7		48	40	14	10	20	19	21	18	17	12	10	10	14	10	3	3	5	3	5	3	3	3	6	12	309	13
8		32	35	16	16	55	24	28	42	42	8	3	3	6	11	1	1	3	4	3	4	5	7	5	6	360	15
9		5	21	38	15	3	9	20	11	5	5	4	5	4	3	1	3	5	3	3	18	5	4	14	8	212	9
10		4	17	7	4	6	13	17	25	7	12	5	5	2	2	3	3	5	4	3	6	3	6	3	5	167	7
11		8	14	8	3	21	19	22	10	4	1	1	1	1	1	1	1	2	1	3	2	1	3	1	1	130	5
12		5	8	4	1	1	7	15	13	2	1	3	3	1	1	3	3	2	3	6	5	2	2	5	1	97	4
13		1	2	3	3	7	5	3	1	1	1	1	1	1	2	5	3	7	4	3	25	8	10	13	13	123	5
14	D	13	11	26	11	11	28	19	19	37	14	21	35	32	11	10	5	10	7	10	16	9	9	23	14	401	17
15	D	8	7	21	19	40	18	28	53	68	25	24	23	19	21	9	5	12	14	7	12	14	5	15	10	477	20
16	D	35	44	5	10	64	47	14	29	14	14	7	16	10	11	17	23	14	14	25	19	35	33	14	9	523	22
17	D	40	26	8	55	42	26	19	13	12	25	37	23	18	28	30	14	16	14	6	6	11	12	7	15	503	21
18		17	10	5	55	30	51	14	27	35	23	12	14	12	5	11	8	8	4	5	5	10	10	7	4	382	16
19		18	8	12	33	27	13	10	10	7	19	14	15	3	5	4	2	7	5	4	3	5	6	3	3	236	10
20		4	4	3	4	3	3	4	2	12	8	3	3	3	5	4	4	5	5	8	5	10	5	5	2	114	5
21		2	2	2	14	15	18	22	12	18	2	3	1	1	1	1	1	1	2	2	4	3	3	1	3	134	6
22		1	1	1	1	1	1	2	1	1	1	3	5	4	1	1	1	1	1	3	3	2	3	12	8	59	2
23		5	9	17	23	37	21	5	15	14	11	3	4	2	1	2	3	1	7	13	15	14	8	8	6	244	10
24	D	7	14	19	8	6	68	46	23	19	9	5	24	16	3	3	2	3	3	8	3	3	3	4	3	302	13
25		1	5	1	2	4	5	2	1	1	1	1	1	1	1	1	1	2	3	1	12	5	5	2	3	62	3
26		1	1	1	2	1	1	1	2	5	5	4	2	3	1	3	3	1	4	3	2	1	2	5	4	58	2
27		3	5	31	21	2	1	2	10	3	2	3	3	3	1	1	1	1	2	3	4	1	1	1	2	107	4
28	Q	3	1	1	5	20	17	4	1	1	1	1	1	1	1	1	1	1	2	4	3	1	3	2	1	77	3
29	Q	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	3	1	2	1	30	1
30	Q	1	5	5	3	1	1	1	3	1	1	1	1	0	1	1	1	1	3	1	1	1	2	2	2	40	2
31		3	5	3	23	17	9	3	5	3	1	8	23	8	5	6	8	14	4	8	8	12	6	4	7	193	8
SUMS		281	308	309	463	563	488	365	389	382	269	232	273	185	158	140	116	140	136	156	212	192	189	187	169	6302	
MEANS		9	10	10	15	18	16	12	13	12	9	7	9	6	5	5	4	5	4	5	7	6	6	6	5		8

HOURLY RANGES

TABLE 61 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS AUGUST 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1	Q	1	1	1	4	7	5	2	1	5	4	4	1	2	3	3	3	1	1	1	1	1	1	1	1	55	2
2	Q	1	1	1	2	4	3	1	1	1	1	3	3	1	1	3	3	1	1	1	2	2	1	2	1	41	2
3		1	3	7	49	28	2	5	14	8	6	5	3	1	1	5	3	3	10	2	2	3	1	1	1	164	7
4		1	1	1	1	1	12	3	1	1	1	1	1	1	1	2	3	1	1	1	1	3	3	1	3	46	2
5		3	3	2	1	22	5	2	1	1	6	12	8	2	5	3	9	7	3	3	1	5	7	4	3	118	5
6		2	2	22	37	15	10	8	3	3	4	4	8	3	3	4	3	3	3	5	7	5	4	3	3	164	7
7		28	26	12	5	12	22	8	4	5	3	3	5	9	5	5	2	4	1	3	2	1	2	3	3	173	7
8		17	15	25	14	22	6	11	14	14	3	1	1	2	5	3	2	1	4	3	3	3	2	3	3	177	7
9		9	9	24	9	3	7	10	7	2	2	3	1	3	3	4	4	3	7	3	12	3	3	3	4	138	6
10		5	20	6	5	2	7	12	8	2	2	3	2	1	1	3	1	6	1	1	3	3	2	1	3	100	4
11		10	12	12	4	12	14	14	1	2	3	1	1	1	2	2	2	2	3	2	1	1	1	1	1	105	4
12		3	3	2	0	1	4	6	7	1	2	3	1	1	3	3	5	1	1	4	2	1	1	1	0	56	2
13		1	1	1	1	5	5	2	1	1	1	1	1	2	1	3	3	6	5	2	15	7	4	5	14	88	4
14	D	19	12	26	10	3	21	24	15	26	14	46	17	8	8	11	3	5	9	9	8	5	10	12	10	331	14
15	D	5	3	23	15	28	21	7	36	21	10	10	14	8	8	14	5	6	6	7	8	10	7	3	10	285	12
16	D	35	17	3	10	46	33	10	14	5	4	5	4	5	9	5	19	15	21	21	11	34	24	7	7	364	15
17	D	57	15	5	25	28	21	9	7	4	10	16	12	5	19	12	14	12	14	10	8	8	12	3	5	331	14
18		12	5	3	40	28	12	13	30	23	15	4	7	3	5	8	8	6	3	6	4	5	8	3	3	254	11
19		13	4	13	13	22	10	5	4	12	20	7	6	2	3	5	2	5	3	5	3	3	3	3	3	169	7
20		2	2	2	3	6	3	1	1	5	3	2	3	3	1	3	7	4	5	4	3	7	1	3	1	75	3
21		3	1	2	9	8	12	7	5	10	1	1	1	1	1	1	3	3	1	1	3	1	2	1	1	79	3
22		1	1	1	1	1	1	1	1	1	1	2	3	1	2	3	2	2	2	2	3	2	1	6	5	46	2
23		3	12	11	18	25	8	2	12	15	7	5	2	3	3	3	5	2	6	3	8	5	4	4	4	170	7
24	D	8	13	16	1	3	45	36	11	8	9	9	6	5	4	5	5	2	2	4	1	1	2	2	1	199	8
25		2	2	3	1	6	5	1	1	1	1	1	1	1	1	2	1	2	2	1	4	2	2	1	1	45	2
26		1	1	1	3	1	1	1	1	1	5	1	1	2	3	3	2	1	1	1	1	2	1	1	1	37	2
27		1	3	23	13	1	1	1	4	1	1	3	3	1	2	3	3	2	1	1	2	1	1	1	1	74	3
28	Q	1	1	1	5	14	7	2	1	1	1	2	1	1	1	3	3	3	1	1	2	1	2	1	1	57	2
29	Q	1	1	5	2	1	1	1	1	1	1	1	1	1	3	2	3	2	1	1	1	1	1	1	1	35	1
30	Q	1	3	6	2	1	1	1	1	2	1	1	1	1	1	2	3	1	1	1	1	1	1	1	1	36	2
31		1	1	4	46	16	9	1	1	3	1	3	6	6	3	8	12	8	3	8	7	5	1	3	1	157	7
SUMS		248	194	264	349	372	314	207	209	186	143	163	125	86	111	136	143	120	123	117	130	132	115	85	97	4169	
MEANS		8	6	9	11	12	10	7	7	6	5	5	4	3	4	4	5	4	4	4	4	4	4	3	3		6

HOURLY RANGES

TABLE 62 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS SEPTEMBER 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1		2	22	23	8	31	5	10	12	6	19	19	11	8	8	1	2	3	2	2	3	1	3	4	3	208	9
2		3	3	5	2	3	2	11	4	25	14	14	15	8	7	3	2	4	5	10	7	4	1	4	5	161	7
3		7	8	36	8	6	8	17	11	21	19	25	12	7	8	7	5	8	5	3	15	8	18	10	7	279	12
4		13	10	7	47	26	12	7	7	14	8	15	18	21	3	6	12	3	5	4	6	2	8	5	3	262	11
5		1	5	6	4	65	19	21	11	12	27	21	12	14	8	4	3	4	3	5	7	8	12	12	10	294	12
6		33	8	25	35	16	27	16	30	14	3	1	2	2	2	7	8	3	5	8	7	21	11	5	12	301	13
7		17	17	6	1	4	5	3	5	5	7	3	8	8	2	3	3	3	7	8	17	16	25	6	55	234	10
8	D	10	35	20	25	17	25	12	17	57	42	10	16	29	14	9	13	13	21	12	5	2	3	3	6	416	17
9		10	23	6	10	29	23	12	4	11	4	11	4	7	2	6	3	3	3	3	7	8	8	4	3	204	9
10		3	3	9	16	17	3	7	7	3	3	3	6	3	2	3	3	3	1	3	1	1	2	1	3	106	4
11		3	25	22	9	35	26	6	3	4	2	3	1	1	1	1	1	1	1	1	1	1	1	2	1	152	6
12		1	1	7	17	17	8	8	22	8	12	15	29	14	11	13	19	8	4	8	8	9	27	20	7	293	12
13	D	36	39	21	19	13	18	23	14	11	14	28	51	34	46	23	13	17	18	17	10	7	6	10	17	505	21
14	D	26	44	51	22	17	10	39	28	21	32	23	30	21	15	12	20	15	5	5	8	19	12	7	9	491	20
15	D	17	30	61	64	39	21	14	19	19	14	10	19	17	12	12	11	7	8	12	10	4	8	8	10	446	19
16		8	11	44	46	46	11	10	5	11	9	6	12	8	13	8	5	4	5	8	5	5	3	8	4	295	12
17		17	18	43	12	12	10	15	18	8	10	4	4	1	1	1	1	2	3	1	1	1	1	1	1	186	8
18	Q	1	1	1	3	8	16	2	1	2	1	1	1	1	1	1	1	2	2	1	1	1	2	3	3	57	2
19		3	1	21	35	27	22	24	22	14	23	19	8	5	2	4	4	3	4	2	2	3	2	3	2	255	11
20		3	3	15	36	19	3	1	1	1	1	1	1	1	1	1	1	1	2	5	6	2	5	4	2	116	5
21		3	1	1	2	19	35	26	10	8	2	2	2	5	6	2	1	6	3	4	7	5	1	3	3	157	7
22		7	6	5	2	1	5	4	10	8	3	4	8	10	8	7	2	3	3	4	5	8	12	14	9	148	6
23	D	3	26	34	26	25	6	11	10	33	27	33	17	6	9	5	19	8	3	3	3	5	5	4	2	323	13
24	Q	3	1	1	1	1	1	1	1	2	1	2	5	1	1	1	1	2	2	4	3	3	1	1	1	41	2
25	Q	2	1	1	1	1	1	1	1	1	0	2	1	1	2	1	2	1	2	2	1	1	1	1	1	29	1
26	Q	1	1	2	2	2	2	4	9	11	2	2	1	1	1	3	2	1	1	1	1	1	1	1	1	54	2
27	Q	1	1	1	7	15	10	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	59	2
28		1	2	3	2	3	1	1	3	2	4	3	5	2	6	3	3	2	4	4	8	7	8	3	5	85	4
29		1	8	5	3	14	30	18	14	8	5	4	1	1	1	3	2	1	3	3	4	7	3	3	2	144	6
30		2	1	2	1	1	1	1	1	1	1	1	1	1	1	3	2	3	2	5	2	5	3	6	13	60	3
SUMS		238	355	484	466	529	366	330	301	342	310	286	302	239	195	154	165	135	133	149	162	166	194	157	203	6361	
MEANS		8	12	16	16	18	12	11	10	11	10	10	10	8	7	5	6	5	4	5	5	6	6	5	7		9

HOURLY RANGES

TABLE 63 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS SEPTEMBER 1968

HOUR UT		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
DAY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1		3	10	11	7	18	4	3	6	3	6	8	7	5	3	3	3	1	3	2	1	1	1	1	1	111	5
2		3	3	3	2	2	1	4	1	5	11	12	10	3	5	3	3	1	3	5	4	2	2	2	7	97	4
3		7	3	21	6	3	8	11	5	4	9	5	8	5	5	5	8	11	7	2	10	4	7	5	3	162	7
4		5	8	11	35	36	17	5	4	5	5	5	7	13	5	5	12	4	3	2	3	1	3	8	1	203	8
5		1	5	5	5	22	15	12	7	5	3	8	5	5	4	4	5	5	2	3	2	3	3	3	5	137	6
6		26	11	16	21	10	22	10	7	4	1	1	1	1	1	5	10	7	8	8	3	4	8	4	11	200	8
7		11	7	3	2	3	3	1	3	3	3	2	3	4	1	3	3	3	2	5	5	10	9	9	50	148	6
8	D	19	13	17	12	14	15	10	14	24	28	18	19	25	14	5	11	8	8	13	3	3	2	1	2	298	12
9		6	17	10	8	50	24	4	1	3	2	4	3	4	1	7	3	3	2	2	4	3	5	2	1	169	7
10		3	4	13	12	12	1	1	2	1	1	2	2	1	3	1	5	4	2	4	2	1	1	1	1	80	3
11		3	12	12	3	24	11	3	1	1	1	2	1	1	1	1	2	1	1	1	2	1	1	1	1	88	4
12		1	1	4	10	14	3	4	15	16	8	12	10	11	5	15	10	6	8	5	4	3	6	5	11	187	8
13	D	37	35	33	20	14	25	17	5	3	5	12	24	22	17	14	8	8	19	13	12	3	3	4	3	356	15
14	D	5	37	35	17	7	4	17	32	21	23	10	18	12	15	10	10	11	5	8	6	8	9	5	4	329	14
15	D	8	18	35	57	24	12	12	8	15	4	5	6	8	4	10	13	5	10	8	5	3	2	3	8	283	12
16		10	5	30	42	37	6	11	6	3	5	2	4	5	7	5	3	3	4	6	5	3	3	4	1	210	9
17		15	17	23	6	10	4	3	3	5	2	2	1	1	1	1	2	1	2	3	2	1	1	1	1	108	5
18	Q	1	1	3	1	7	7	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	40	2
19		3	1	3	28	24	11	17	26	5	7	8	5	4	3	3	4	3	3	1	2	1	1	1	1	165	7
20		1	3	9	44	5	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	83	3
21		1	1	1	1	14	22	25	3	3	1	1	1	5	4	4	4	4	3	4	2	1	1	1	1	108	5
22		2	4	1	1	1	8	3	7	4	2	3	3	7	7	5	2	4	3	3	2	4	10	11	7	104	4
23	D	6	17	23	27	15	5	5	3	8	35	15	8	3	7	5	14	8	3	1	2	2	2	2	1	217	9
24	Q	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	3	1	1	1	1	1	29	1
25	Q	1	1	0	0	0	1	0	0	0	1	1	3	1	1	1	3	1	3	1	1	1	1	1	1	24	1
26	Q	1	2	3	1	1	1	1	3	1	1	1	1	1	1	3	3	3	1	1	1	1	1	1	1	35	1
27	Q	1	1	1	4	11	11	2	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	50	2
28		1	2	4	3	3	1	1	1	1	2	2	3	3	3	3	4	5	3	1	3	1	2	2	1	55	2
29		2	12	5	3	5	15	6	3	1	2	3	1	1	1	2	5	1	1	1	2	3	1	2	1	79	3
30		1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	2	4	1	2	1	1	3	4	12	48	2
SUMS		185	253	338	380	388	260	192	171	149	173	149	159	156	124	133	159	119	115	112	94	73	92	88	141	4203	
MEANS		6	8	11	13	13	9	6	6	5	6	5	5	5	4	4	5	4	4	4	3	2	3	3	5		6

HOURLY RANGES

TABLE 64 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS OCTOBER 1968

	HOUR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
	UT	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	SUMS	MEANS
DAY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1		14	14	10	21	5	1	2	3	11	26	31	5	8	5	3	2	4	3	4	3	3	6	12	13	209	9
2	D	21	26	35	5	26	32	33	12	8	23	82	36	73	21	10	19	8	10	7	8	3	14	9	8	529	22
3		36	108	38	55	21	32	17	34	32	39	47	8	4	4	2	1	2	3	3	3	4	1	1	1	496	21
4		1	1	1	1	1	1	1	1	2	1	2	3	2	2	3	3	3	3	2	2	1	1	2	1	41	2
5	Q	1	1	1	1	1	8	12	8	11	18	7	2	2	1	1	1	1	2	1	1	1	1	1	1	85	4
6		1	1	1	1	1	1	3	1	15	14	4	3	3	3	3	1	2	3	3	3	5	3	3	1	79	3
7		2	8	14	15	10	17	11	8	1	1	1	1	1	1	1	1	2	5	7	8	9	6	8	4	142	6
8		10	6	3	6	8	8	5	3	5	4	2	5	3	1	1	1	2	2	2	2	3	2	4	7	95	4
9		9	26	31	10	7	3	3	3	1	1	1	1	1	3	1	3	1	2	3	2	3	2	7	6	130	5
10		24	44	6	3	4	10	14	11	4	3	5	2	1	1	2	1	1	1	1	1	1	1	1	1	143	6
11	Q	0	1	1	1	3	1	7	7	3	1	1	1	1	1	1	1	1	1	1	3	1	1	3	1	43	2
12	D	5	6	26	25	28	24	22	12	26	46	26	30	34	22	15	10	15	27	48	19	13	16	22	23	540	23
13	D	58	34	10	9	19	13	13	8	28	29	47	43	38	20	12	14	11	7	7	10	8	7	10	8	463	19
14		28	24	32	24	29	16	9	11	12	16	12	7	9	10	6	5	3	4	5	4	4	4	7	3	284	12
15		1	1	1	1	3	8	5	7	14	19	7	4	4	3	1	2	1	3	2	1	2	2	1	1	94	4
16		1	1	1	10	11	9	15	15	18	14	2	1	2	2	3	3	1	2	1	2	2	2	1	1	120	5
17		5	4	7	16	8	6	3	3	6	5	6	5	3	8	8	8	5	4	3	2	5	3	5	5	133	6
18		8	9	15	8	6	3	6	9	15	20	8	4	3	3	1	1	1	1	3	3	4	4	3	3	141	6
19		3	3	1	2	3	1	3	3	7	4	3	2	3	3	4	1	1	1	10	6	9	14	10	11	108	5
20		7	1	3	4	1	1	4	32	14	25	7	6	5	5	5	2	3	2	3	2	2	3	2	1	140	6
21	Q	1	1	1	1	1	1	1	2	3	3	4	7	3	1	2	1	1	2	3	3	2	1	1	1	47	2
22	Q	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	2	1	1	1	1	1	22	1
23	Q	1	0	1	1	0	1	1	1	1	0	1	1	1	2	1	1	1	3	1	4	3	1	1	1	29	1
24		1	1	1	1	1	4	2	2	1	1	1	1	1	1	2	3	5	2	7	6	5	4	1	1	55	2
25		1	1	1	3	16	8	10	9	21	15	10	20	12	3	1	3	1	3	4	1	1	1	1	1	147	6
26		1	1	1	1	1	1	1	8	5	3	11	4	1	2	1	1	1	1	6	5	5	3	3	22	89	4
27		18	3	1	1	2	3	3	21	26	8	3	2	3	3	1	1	1	1	2	3	3	2	1	1	113	5
28		1	1	1	1	3	4	23	25	3	1	1	1	1	1	1	1	1	2	1	1	1	4	5	34	118	5
29	D	15	12	7	3	4	17	14	3	3	23	5	5	12	10	7	19	35	36	11	10	14	10	4	4	283	12
30		3	5	4	3	5	1	1	2	7	11	18	23	17	12	19	7	4	11	8	7	3	5	8	21	205	9
31	D	24	21	42	32	12	12	23	74	89	54	127	129	129	70	14	25	39	15	19	15	18	21	9	10	1023	43
SUMS		301	366	298	266	241	247	268	339	393	429	482	363	381	225	133	143	158	163	180	141	139	146	147	197	6146	
MEANS		10	12	10	9	8	8	9	11	13	14	16	12	12	7	4	5	5	5	6	5	4	5	5	6		8

HOURLY RANGES

TABLE 65 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS OCTOBER 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
HOUR UT																											
1		19	6	8	12	3	1	1	1	1	7	7	3	4	4	5	1	1	2	1	4	1	3	8	10	113	5
2	D	23	31	15	4	10	28	12	3	3	10	33	45	53	15	12	16	7	8	4	5	1	4	6	4	352	15
3		10	73	16	35	12	15	12	17	40	64	22	3	3	3	1	1	2	2	2	2	3	1	1	1	341	14
4		1	1	1	0	1	1	1	1	1	1	1	3	1	1	3	3	3	2	1	1	1	1	1	1	32	1
5	Q	1	1	1	1	1	1	3	4	4	3	5	3	1	3	2	2	3	1	1	1	1	0	0	1	44	2
6		1	1	3	2	1	1	4	2	5	3	3	2	2	3	3	3	3	1	2	1	3	2	1	1	53	2
7		2	9	7	12	6	8	4	2	1	0	1	1	1	1	3	1	3	3	6	7	3	5	5	3	94	4
8		9	3	3	3	10	9	2	2	3	3	1	3	2	1	1	4	2	1	1	1	1	1	4	8	78	3
9		10	11	38	10	8	2	1	1	1	1	1	1	1	1	4	3	2	3	1	1	1	2	4	3	111	5
10		10	31	3	1	2	4	5	3	2	3	2	1	1	1	1	2	1	1	1	1	1	1	1	1	80	3
11	Q	0	0	1	1	1	1	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25	1
12	D	2	4	22	22	19	12	11	5	12	33	31	14	13	15	15	7	8	8	23	11	9	5	19	10	330	14
13	D	53	44	8	12	14	15	8	6	21	18	22	21	15	10	8	11	10	6	4	4	5	6	6	5	332	14
14		15	23	33	19	19	5	9	4	5	5	5	2	5	5	4	3	5	3	3	3	2	4	5	1	187	8
15		1	1	1	1	4	5	2	3	4	7	5	3	3	1	1	3	3	3	2	1	1	1	1	1	58	2
16		1	1	1	10	4	5	4	8	11	2	1	1	2	2	4	5	2	1	1	1	1	1	1	1	71	3
17		5	5	7	5	9	3	1	1	2	1	1	2	1	8	5	4	3	2	2	1	1	3	2	5	79	3
18		2	5	19	3	5	2	5	5	10	4	3	3	2	1	1	2	1	2	1	3	2	1	2	2	86	4
19		1	3	1	1	3	1	1	1	2	2	3	3	3	1	3	3	3	1	1	2	3	4	3	6	55	2
20		4	1	1	1	1	1	1	19	10	11	4	2	3	5	2	3	3	3	1	1	1	1	1	1	81	3
21	Q	1	0	0	0	0	1	1	1	1	1	2	3	2	1	1	2	1	1	1	1	1	1	1	1	25	1
22	Q	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	3	3	1	1	1	1	1	1	1	26	1
23	Q	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	2	1	1	1	1	1	1	1	1	23	1
24		1	1	1	1	1	4	2	1	1	1	1	2	1	1	2	5	3	3	3	2	1	1	1	1	41	2
25		1	1	1	3	14	9	5	1	10	17	14	8	5	2	4	1	1	1	1	1	1	1	1	1	104	4
26		1	1	1	2	1	1	1	1	3	3	3	2	1	1	3	1	1	1	4	1	1	1	1	10	46	2
27		8	1	1	1	1	1	2	6	8	3	1	1	3	1	5	1	1	1	1	1	2	1	1	1	53	2
28		1	1	0	1	2	1	7	4	1	1	1	1	1	2	4	2	1	1	1	1	1	1	3	29	68	3
29	D	8	5	3	2	3	8	11	2	1	12	4	5	14	10	8	26	36	29	10	8	10	5	3	2	225	9
30		2	2	3	3	2	1	1	1	3	5	10	12	10	11	11	4	4	19	10	4	3	3	5	22	151	6
31	D	17	7	28	26	30	20	29	40	39	12	60	151	51	47	26	29	22	25	8	9	15	12	4	5	712	30
SUMS		211	275	229	196	189	168	149	149	209	235	249	304	207	160	145	154	140	137	100	82	79	75	94	140	4076	
MEANS		7	9	7	6	6	5	5	5	7	8	8	10	7	5	5	5	5	4	3	3	3	2	3	5		5

HOURLY RANGES

TABLE 66 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS NOVEMBER 1968

DAY		HOUR UT 0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1	D	25	44	41	5	3	8	4	8	8	19	40	47	41	96	172	98	35	18	47	53	49	20	38	20	939	39
2	D	58	52	43	54	32	35	19	24	29	24	28	32	15	23	42	23	12	19	17	17	23	20	27	126	794	33
3	D	37	53	23	23	12	11	39	17	31	14	12	14	42	58	11	8	17	6	4	5	8	5	4	4	458	19
4	D	4	12	6	8	21	55	51	32	43	42	35	22	21	18	26	12	4	5	8	14	17	8	2	1	467	19
5		1	1	3	5	2	3	4	11	12	9	8	4	4	10	2	1	1	1	1	1	3	3	1	1	92	4
6		1	1	1	3	4	2	1	1	1	1	1	1	1	3	4	1	2	3	5	5	7	7	10	8	74	3
7		10	35	23	21	43	22	23	16	17	11	18	27	11	15	15	3	4	3	3	2	1	2	2	1	328	14
8		1	1	1	1	4	9	10	29	10	19	19	22	12	5	4	6	3	5	7	10	10	5	4	8	205	9
9	D	10	12	13	10	11	10	4	11	46	22	46	14	15	17	13	11	7	10	1	3	1	1	1	1	290	12
10		1	1	6	22	15	7	4	8	11	10	8	14	15	14	4	3	3	4	5	7	3	1	5	17	188	8
11		23	17	35	40	13	7	8	30	30	10	17	16	10	7	6	4	3	1	2	3	1	1	1	3	288	12
12	Q	3	3	2	1	2	2	3	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	35	1
13		1	1	1	2	4	3	1	1	1	3	4	8	3	3	1	2	2	3	3	2	3	3	3	3	61	3
14	Q	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	2	1	2	3	2	2	1	33	1
15	Q	1	1	1	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	1
16		1	2	3	3	1	1	1	1	1	3	1	3	5	13	8	9	10	6	6	7	10	14	9	4	122	5
17		4	3	10	4	5	7	14	14	8	8	3	3	5	14	5	14	6	10	7	8	9	5	17	10	193	8
18		17	23	11	33	16	18	10	14	8	6	8	12	4	2	1	2	5	3	3	3	3	3	3	8	216	9
19		5	11	5	8	12	12	6	12	7	5	10	7	7	3	3	3	2	1	1	1	1	5	3	2	132	6
20		1	3	1	1	1	1	3	2	3	60	23	12	17	18	19	23	11	4	5	4	3	5	4	5	229	10
21		3	5	3	3	3	3	1	1	1	1	1	1	1	2	2	2	3	3	3	6	5	4	5	2	64	3
22		5	1	2	1	1	1	1	1	1	4	5	2	2	3	3	2	1	3	3	2	4	1	3	4	56	2
23		3	5	13	59	12	8	7	8	3	1	1	1	3	1	2	1	1	2	1	2	1	1	1	3	140	6
24		1	3	1	3	3	7	5	2	1	1	1	1	1	1	1	1	3	1	1	3	2	1	3	3	50	2
25		12	8	4	8	2	5	3	5	5	3	5	3	4	4	7	5	5	3	1	3	3	1	1	2	102	4
26		1	3	4	2	3	2	1	1	1	3	1	4	4	3	3	1	3	8	5	4	1	5	1	4	68	3
27		12	14	10	5	8	14	3	8	3	3	5	5	3	1	3	1	3	3	3	1	6	10	5	2	131	5
28		4	3	3	5	10	5	3	1	3	8	12	15	7	4	3	1	2	4	4	5	4	8	3	1	118	5
29	Q	3	2	1	3	3	3	1	1	1	1	1	1	1	1	4	3	3	1	1	1	1	1	1	1	40	2
30	Q	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	25	1
SUMS		250	322	272	338	251	265	233	263	289	295	317	296	259	344	369	244	156	135	151	177	185	145	162	250	5968	
MEANS		8	11	9	11	8	9	8	9	10	10	11	10	9	11	12	8	5	5	5	6	6	5	5	8		8

HOURLY RANGES

TABLE 67 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS NOVEMBER 1968

DAY		0 TO 1	1 TO 2	2 TO 3	3 TO 4	4 TO 5	5 TO 6	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18	18 TO 19	19 TO 20	20 TO 21	21 TO 22	22 TO 23	23 TO 24	SUMS	MEANS
1	D	15	12	16	3	4	5	2	2	2	7	15	24	26	44	77	68	35	19	33	28	40	15	57	18	567	24
2	D	33	57	64	30	51	26	20	25	42	26	30	26	15	12	12	10	8	11	11	10	14	24	21	46	624	26
3	D	24	21	12	15	7	5	24	18	12	5	3	7	16	39	5	11	6	7	2	2	5	3	2	3	254	11
4	D	3	8	5	5	14	35	15	21	32	35	21	14	10	12	18	12	4	4	3	17	9	7	1	1	306	13
5		1	1	1	6	4	3	1	4	5	6	3	3	3	7	3	1	1	1	1	1	1	3	1	1	62	3
6		1	0	1	3	3	1	1	1	1	1	1	2	3	4	3	4	2	1	1	1	3	3	5	8	54	2
7		7	39	16	21	24	11	25	10	8	8	11	15	5	7	8	4	3	3	2	1	1	1	1	1	232	10
8		1	1	1	1	3	6	8	7	6	19	17	9	8	4	3	5	2	3	5	4	2	3	2	6	126	5
9	D	7	7	13	12	12	15	5	3	19	29	12	9	11	7	10	7	8	5	2	2	1	1	1	1	199	8
10		1	1	1	30	23	3	2	2	4	3	2	6	10	6	3	3	5	2	3	1	1	1	2	33	148	6
11		37	14	19	32	15	11	5	10	14	14	13	8	10	5	4	4	3	1	2	1	1	1	1	1	226	9
12	Q	1	4	3	2	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	32	1
13		1	1	1	4	4	2	1	1	1	1	3	2	3	3	1	2	2	1	1	1	2	1	1	1	41	2
14	Q	1	1	1	1	1	1	1	0	1	1	1	1	1	2	2	4	2	2	2	1	1	1	1	1	31	1
15	Q	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	25	1
16		1	1	2	5	1	1	1	1	1	5	1	4	4	17	12	14	10	8	12	8	10	15	4	1	139	6
17		2	5	17	5	6	14	8	11	5	3	1	2	3	7	5	7	5	4	3	3	8	7	10	10	151	6
18		5	5	22	21	29	13	19	14	10	3	3	3	4	2	4	3	5	2	1	2	2	3	3	1	179	7
19		7	10	11	9	17	5	3	11	3	2	3	4	3	3	4	2	1	1	1	1	1	2	1	1	106	4
20		1	1	1	1	1	2	1	1	2	19	11	6	6	12	10	7	10	8	7	4	3	3	2	3	122	5
21		1	5	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2	2	3	3	3	2	41	2
22		3	2	1	1	1	1	1	1	1	2	2	1	1	2	1	2	1	1	2	1	1	1	3	2	35	1
23		1	2	4	25	22	3	1	2	1	1	1	1	3	1	1	2	1	1	1	1	1	1	1	2	80	3
24		1	1	1	3	1	3	1	1	1	1	4	1	1	1	2	3	3	1	1	1	1	1	2	1	37	2
25		7	3	4	3	3	5	5	1	1	1	2	3	3	2	4	2	3	1	1	1	1	1	1	1	59	2
26		1	2	3	3	3	1	1	1	1	2	1	2	3	4	5	3	1	4	1	1	1	1	2	1	48	2
27		5	4	7	4	8	13	2	2	1	2	1	3	3	1	3	2	1	1	1	1	3	4	1	1	74	3
28		3	5	2	5	7	4	1	1	1	1	4	5	5	3	4	3	1	1	3	3	3	3	2	1	71	3
29	Q	1	2	1	1	3	1	1	1	1	1	1	1	1	1	3	4	3	1	1	1	1	1	1	1	34	1
30	Q	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	26	1
SUMS		174	217	235	254	273	194	159	156	180	202	171	166	166	213	211	193	130	100	108	103	122	113	135	154	4129	
MEANS		6	7	8	8	9	6	5	5	6	7	6	6	6	7	7	6	4	3	4	3	4	4	5	5		6

HOURLY RANGES

TABLE 68 GREAT WHALE RIVER HORIZONTAL COMPONENT IN TEN GAMMA UNITS DECEMBER 1968

HOUR		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
UT		TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	SUMS	MEANS
DAY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1		3	3	4	5	14	6	1	3	9	10	8	22	6	6	5	8	3	3	2	1	1	1	1	1	126	5
2		1	1	1	1	1	3	3	5	5	8	6	10	5	3	3	1	3	4	3	3	3	5	1	3	82	3
3	D	2	1	7	32	31	9	17	19	23	14	29	15	18	8	14	8	5	4	8	5	10	5	7	5	296	12
4	D	8	9	4	1	1	5	29	17	35	40	26	21	21	17	11	9	8	8	4	7	3	8	5	5	302	13
5	D	5	4	4	19	29	12	17	22	50	44	39	32	24	15	10	6	5	3	8	18	8	5	9	17	405	17
6		10	10	25	17	22	19	10	7	8	6	11	6	4	4	1	1	1	1	1	3	5	2	2	2	178	7
7	Q	2	1	2	1	2	2	1	1	1	2	3	3	4	2	1	1	1	3	4	3	3	3	2	3	51	2
8		3	5	10	14	37	14	12	8	8	11	7	4	4	5	4	4	2	3	1	3	8	5	5	7	184	8
9		3	8	5	3	8	5	3	3	3	2	4	3	3	3	1	1	2	1	2	4	3	3	5	3	81	3
10		5	4	6	17	30	17	10	10	11	16	8	5	9	3	1	1	1	3	2	3	3	1	4	2	172	7
11		1	2	2	3	8	7	2	1	3	1	2	1	1	1	1	3	3	5	5	5	4	1	3	3	68	3
12		11	18	34	8	5	22	8	3	1	1	1	1	1	1	1	2	1	2	3	1	2	2	1	2	132	6
13		2	1	1	1	1	1	1	1	1	1	2	1	1	2	2	1	2	2	6	4	3	3	3	3	46	2
14	Q	1	1	1	1	1	1	1	1	4	3	3	1	2	1	1	1	1	1	1	1	1	1	1	1	32	1
15		1	1	1	3	1	3	10	5	5	1	1	1	1	1	2	1	1	2	2	1	2	3	2	1	52	2
16		1	2	4	17	14	17	3	8	2	3	3	3	5	5	3	3	1	3	3	3	1	3	4	2	113	5
17	Q	8	11	3	1	1	3	3	4	4	4	4	5	1	1	1	1	1	1	1	1	1	1	1	1	63	3
18		1	3	3	5	1	1	3	2	1	1	4	4	3	3	2	3	3	7	5	4	4	2	5	3	73	3
19		5	14	5	4	2	3	5	12	7	5	10	5	11	5	3	2	1	2	6	1	2	1	3	1	115	5
20	Q	1	1	1	1	1	1	9	3	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	37	2
21		3	3	5	3	9	3	7	3	8	9	10	12	10	6	4	2	3	5	5	3	4	5	20	30	172	7
22		14	14	10	12	10	4	4	5	10	9	13	17	11	7	5	6	2	4	4	3	1	1	1	1	168	7
23	D	1	3	3	4	3	6	15	7	18	21	15	11	8	10	8	13	6	4	6	4	9	7	4	8	194	8
24		13	5	23	10	12	19	4	12	6	4	7	3	4	2	5	4	3	1	1	3	6	3	4	7	161	7
25	D	2	1	28	33	28	15	22	40	16	14	30	13	8	2	3	4	5	6	3	3	5	3	14	1	299	12
26	Q	1	1	4	1	1	3	1	1	1	1	2	1	1	1	1	1	1	1	1	4	2	1	1	1	34	1
27		1	1	3	14	8	11	28	13	29	23	47	23	11	12	11	5	3	3	3	2	3	1	1	1	257	11
28		1	1	1	3	8	1	10	7	3	2	6	5	5	2	1	4	5	3	2	2	3	2	1	1	79	3
29		2	1	1	1	3	2	1	1	2	8	5	2	3	3	2	3	3	8	4	3	5	17	7	6	93	4
30		3	5	16	12	8	8	1	3	8	21	7	4	8	8	4	3	2	3	4	5	3	2	2	3	143	6
31		3	17	8	3	3	2	2	2	2	3	3	2	1	1	3	3	3	4	4	9	5	7	10	5	105	4
SUMS		118	152	225	250	303	225	243	229	285	289	318	238	195	141	116	106	82	101	105	113	114	105	130	130	4313	
MEANS		4	5	7	8	10	7	8	7	9	9	10	8	6	5	4	3	3	3	3	4	4	3	4	4		6

HOURLY RANGES

TABLE 69 GREAT WHALE RIVER DECLINATION WEST IN TEN GAMMA UNITS DECEMBER 1968

	HOUR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
	UT	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	SUMS	MEANS
DAY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1		3	1	3	1	19	3	1	1	3	3	8	6	6	5	3	3	3	3	1	1	1	1	1	1	81	3
2		1	1	1	1	1	1	3	2	1	3	4	5	3	4	3	3	2	2	3	1	1	1	1	1	49	2
3	D	1	1	3	46	25	10	3	2	7	5	8	5	7	4	5	5	1	5	4	3	3	5	3	3	164	7
4	D	10	15	2	1	1	1	15	12	29	17	32	21	8	12	6	7	8	10	2	3	3	3	3	5	226	9
5	D	4	2	8	18	10	9	6	3	26	45	24	12	16	15	8	3	4	3	3	15	5	5	4	14	262	11
6		8	7	6	9	31	10	6	3	1	3	2	3	2	2	1	1	1	1	1	1	3	1	1	1	105	4
7	Q	1	2	1	1	1	1	1	1	1	1	1	1	2	3	3	1	1	3	3	2	2	1	1	3	38	2
8		2	3	5	11	21	5	12	7	4	3	2	3	3	5	4	3	2	2	1	1	3	1	4	8	115	5
9		6	4	7	3	8	3	1	1	1	1	3	3	2	2	2	2	1	1	1	1	1	1	1	3	59	2
10		5	2	4	5	31	8	5	8	12	6	6	14	8	3	1	1	1	1	1	1	1	1	1	1	127	5
11		1	5	5	3	4	5	1	1	1	1	1	2	1	1	3	5	3	3	1	2	3	1	1	1	55	2
12		7	20	44	5	3	25	6	1	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1	1	131	5
13		2	3	1	1	1	1	1	1	1	1	1	1	1	1	3	3	2	2	3	2	1	1	1	2	37	2
14	Q	1	1	1	1	1	1	1	1	1	1	2	1	1	3	2	1	1	1	1	1	1	1	1	1	28	1
15		1	1	3	5	2	2	5	2	2	1	1	1	1	3	3	3	1	1	1	1	1	3	1	1	46	2
16		1	1	1	10	14	11	7	3	3	1	1	2	3	4	4	1	2	1	1	1	1	1	1	1	76	3
17	Q	5	10	5	1	1	1	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	45	2
18		1	1	4	5	1	1	1	1	1	1	2	2	4	3	4	3	1	2	1	2	2	3	2	1	49	2
19		4	21	3	1	1	1	5	18	5	2	3	3	4	3	1	3	1	1	3	1	1	1	2	2	90	4
20	Q	1	1	1	1	1	1	12	3	1	1	1	3	1	1	2	1	1	1	1	1	1	1	1	1	40	2
21		1	2	3	2	11	1	1	3	2	2	3	1	3	3	2	3	4	4	3	2	2	5	15	26	104	4
22		12	5	5	10	5	3	1	3	2	2	7	10	5	5	4	4	1	3	2	2	1	1	1	1	95	4
23	D	1	1	2	3	2	5	17	3	4	4	3	3	5	9	7	9	6	3	2	2	5	4	2	5	107	4
24		20	5	28	18	10	12	3	2	3	1	3	3	4	3	5	4	3	2	1	2	3	1	7	8	151	6
25	D	3	1	15	22	33	36	15	8	7	8	7	8	3	2	3	3	4	3	1	2	3	4	9	1	201	8
26	Q	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	27	1
27		1	1	3	14	3	6	25	7	24	51	44	23	10	5	8	3	2	2	2	2	1	1	1	1	240	10
28		1	1	1	1	3	1	3	2	1	1	2	3	2	3	3	4	4	2	1	1	1	1	1	1	44	2
29		1	1	1	2	3	2	1	1	1	3	3	1	4	2	3	2	3	2	2	2	2	7	5	3	57	2
30		1	3	19	15	4	3	2	5	4	5	1	2	3	4	4	3	1	2	1	2	1	1	1	3	90	4
31		2	20	5	3	3	1	1	1	1	1	1	1	2	2	1	3	1	2	3	3	1	6	3	3	70	3
SUMS		109	144	193	220	255	171	165	110	152	177	179	146	117	115	103	92	68	71	53	63	57	66	78	105	3009	
MEANS		4	5	6	7	8	6	5	4	5	6	6	5	4	4	3	3	2	2	2	2	2	2	3	3		4