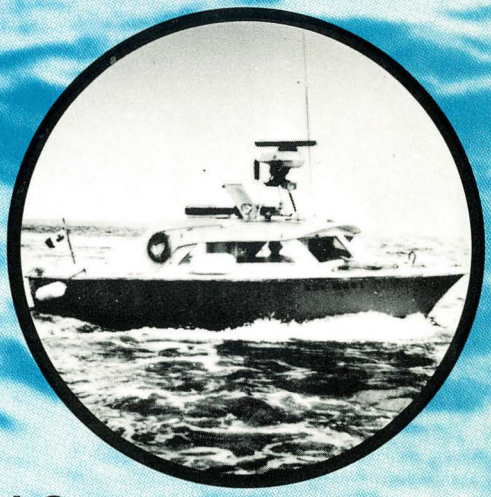
The Canadian Hydrographic Service

Technical Report

1987 TIDAL SURVEY IN COMMITTEE BAY AND PELLY BAY, NWT.

DATA REPORT



Central and Arctic Region
Department of Fisheries and Oceans
Burlington, Ontario

1987 TIDAL SURVEY IN COMMITTEE BAY AND PELLY BAY, NWT.

DATA REPORT

by

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1.0 INTRODUCTION

As part of an ongoing project to study tidal propagation in the Arctic Archipelago and to support a hydrographic survey in Pelly Bay, the Tides, Currents and Water Levels Division deployed four tides gauges in Pelly Bay and three gauges in Committee Bay. The location and the tidal station number assigned to each deployment is shown in Figure 1. Pressure data were collected from March 23 to April 29, 1987.

This report consists of a brief description of the field techniques used to collect the data and the analytical methods used during processing. The data are presented in an Appendix at the end of the report.

2.0 METHODS

2.1 Calibration

The tide gauges were calibrated at the Bayfield Institute over the full range of the pressure sensors at an ambient temperature of 0°C. Second order calibration coefficients were computed from the calibration data and were used later during processing of the collected data. Specific information on each gauge and deployment is listed in Table 1.

2.2 Data Collection

Seven Aanderaa tide gauges were installed through shore-fast ice. Briefly, the field operations consisted of:

1) gauge initialization - Each gauge was set to sample at 15 minute intervals. To average any short-term variations in pressure the frequency count was integrated, with the period centered on the 15 minute sample (28 seconds for 65996, 40 seconds for 65992 and 56 seconds for the rest). Four consecutive readings were monitored to check the gauge operation and to serve as a time reference.
2) site selection and positioning - The gauge locations were selected to provide adequate coverage and to maximize the chance of recovery. The gauge sites were positioned with the Global Navigation System and/or by reference to prominent shoreline features. VHF radio locator beacons were left at some sites.

3) gauge deployment - The tide gauges were lowered to the sea bed through a hole in the ice. Deployment and on bottom times were recorded. The mooring lines were left slack to compensate for the vertical movement of the ice and then were secured to a surface marker on the ice.
4) gauge recovery - The gauges were relocated by radio beacon and/or visual sighting of the surface markers. The recovery was accomplished by drilling a hole adjacent to the surface marker, retrieving the mooring line and raising the gauge from the seabed. Off bottom and recovery times were recorded.
5) gauge shutdown - Prior to shutdown, four consecutive readings were monitored to serve as a time reference for the end of the record.

A Twin Otter on charter with Polar Continental Shelf Project (PCSP) was used for transportation to and from the deployment sites.

2.3 Translation

The long and short pulses that were recorded on 1/4 inch magnetic tape by the tide gauge were translated to their binary equivalents with a tape translator at the National Water Research Institute, Burlington. The translated data consisted of a reference word, block count, and a frequency count from the pressure sensor.

2.4 Conversion to Hourly Pressures

The start and end time of the data were verified by cross reference with the deployment/recovery records. The data before deployment and after recovery were removed from the record. The calibration coefficients were then applied to the frequency counts to obtain the absolute pressure data. The pressure readings were expressed in millibars (mb) and a constant value of 1013.25 mb was subtracted from each reading to correct for atmospheric pressure. The 15-minute data were smoothed using a 4,4,5 moving average filter, then reduced to hourly values by simply selecting the filtered sample that occurred on the hour. A preliminary tidal analysis was used to determine the amplitude of Z0. This amount was then subtracted from every hourly value to give a data set adjusted to a common reference level equivalent to a mean pressure (Z0) of zero.

2.5 Data Analysis

The hourly data were then filtered using a 24,24,25 low pass filter. The low-frequency fluctuations shown in Figure 2, were subtracted from the hourly data to remove the non-tidal fluctuations with a period greater than 24 hours from the time series. Plots of the filtered, hourly time series are shown in Figure 3.

These time series were then analysed by harmonic analysis (Foreman, 1977) to produce a set of tidal constituents. Although there were 33 days of filtered data, only 29 days were used in the tidal analyses to get a better matrix condition in the least squares fit to the data. Attempts to infer the tidal constituents P1 and K2, using various amplitude ratios and phase differences from different reference ports, were not successful as the RMS residues error was larger after inference. The residual signal was calculated by subtracting predicted hourly levels that were computed from the analysed harmonic constituents, from the filtered hourly data. The residues plotted in Figure 4, show the amount of signal in the time series that has not been resolved by these tidal analyses.

A summary of lunitidal constants (Ku, 1971) computed from the tidal constituents are shown in Table 2. For each station, the lunitidal constants, the results from the tidal analysis, and the unfiltered, hourly time series in the standard MEDS format are listed in the Appendix.

3.0 ACKNOWLEDGEMENTS

We wish to acknowledge the assistance of Mr. G. Hobson and his staff at PCSP for aircraft support and accommodation at Resolute, Mr. D. St. Jacques, CHS, for field support, and Mr. J. Bull, NWRI, for tape translations.

4.0 REFERENCES

Foreman, M. G. 1977. Manual for Tidal Heights Analysis and Prediction Pacific Marine Science Report 77-10, IOS, Victoria, BC.

Ku, L. 1971. The Computation of Mean Tides and Large Tides. CHS Unpublished Report, Ottawa.

Table 1: Gauge and deployment information
(depth in metres, other data in millibars)

Station Number	Approximate Water Depth (lowest pressure)	Difference between Recorded Extremes	Range of Gauge	Resolution (0.001% of full scale)	Accuracy (0.01% (full scale)	R.M.S. Error of Fit of Calibration
65976	10	286	0-13789	0.14	1.38	0.23
65981	15	289	0-13789	0.14	1.38	0.40
65983	14	293	0- 6895	0.07	0.69	0.16
65987	5	297	0- 6895	0.07	0.69	0.26
65992	9	342	0-13789	0.14	1.38	1.37
65994	17	347	0-13789	0.14	1.38	0.21
65996	9	356	0-13789	0.14	1.38	0.83

Table 2: Summary of Lunitidal Constants
(pressure data, heights in decibars, times on CST +6)

Station Number	Mean Tides, Times and Heights HHW		LHW		HLW		LLW	
65976	1640	1.31	0429	0.15	0929	-0.73	2349	-0.87
65981	1641	1.32	0430	0.16	0930	-0.74	2349	-0.88
65983	1642	1.35	0432	0.18	0930	-0.76	2350	-0.88
65987	1644	1.36	0433	0.19	0932	-0.77	2350	-0.90
65992	1927	1.49	0738	0.40	1244	-0.76	0144	-1.20
65994	1950	1.52	0802	0.42	1311	-0.78	0209	-1.25
65996	1939	1.58	0749	0.47	1301	-0.85	0154	-1.32

Station Number	Large Tides HHW	Large Tides LLW	Ranges Mean	Ranges Large	Type of Tide
65976	1.86	-1.50	2.18	3.35	Mixed Mainly Semi Diurnal
65981	1.87	-1.52	2.20	3.39	Mixed Mainly Semi Diurnal
65983	1.90	-1.55	2.23	3.45	Mixed Mainly Semi Diurnal
65987	1.92	-1.57	2.26	3.49	Mixed Mainly Semi Diurnal
65992	2.26	-1.54	2.70	3.80	Mixed Mainly Semi Diurnal
65994	2.31	-1.60	2.77	3.90	Mixed Mainly Semi Diurnal
65996	2.40	-1.70	2.90	4.10	Mixed Mainly Semi Diurnal

Figure 1 - 1987 TIDAL SURVEY

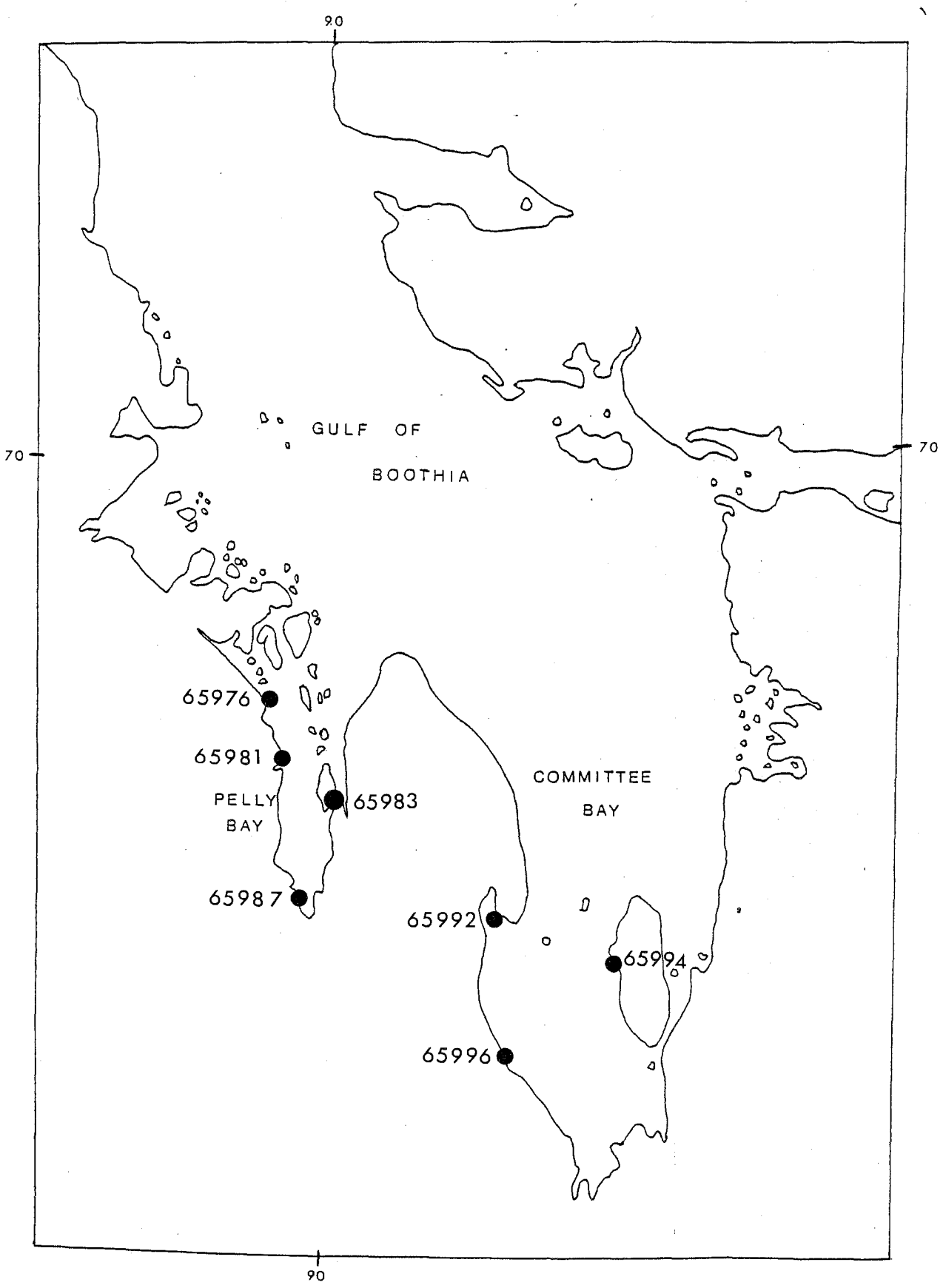


Figure 2 - Plot of Low Pass Filter

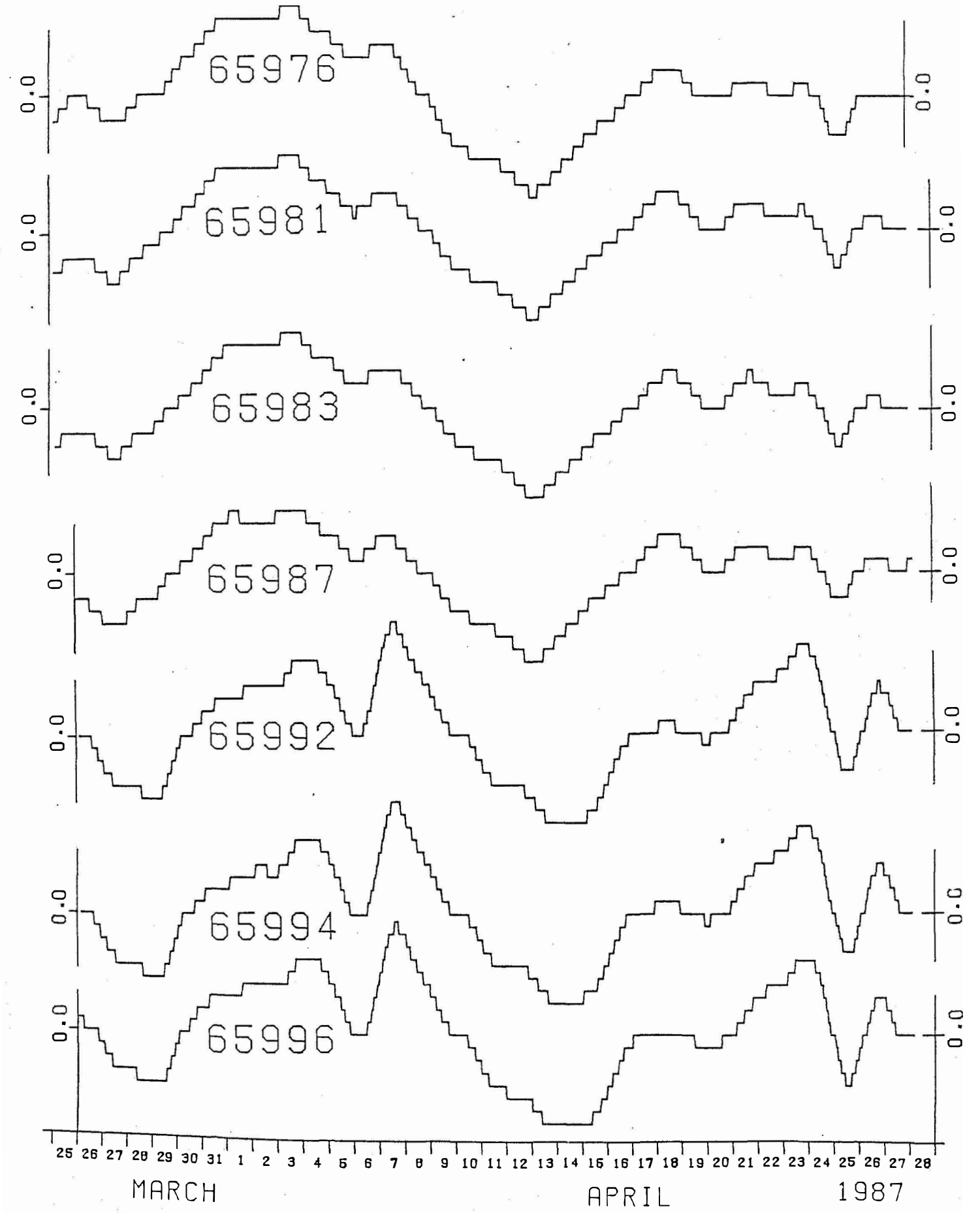


Figure 3 - Plot of Filtered Hourly Data

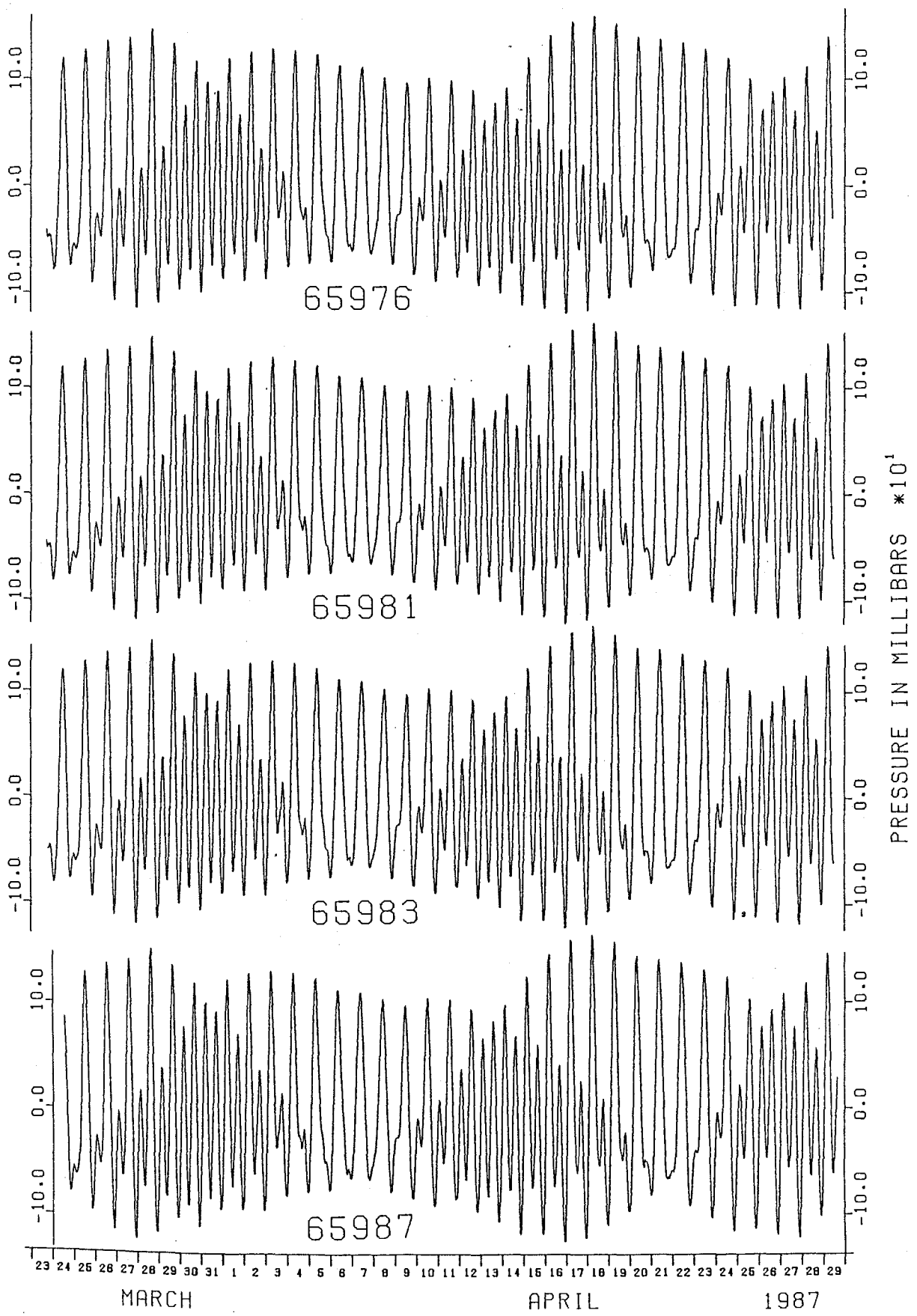


Figure 3 continued

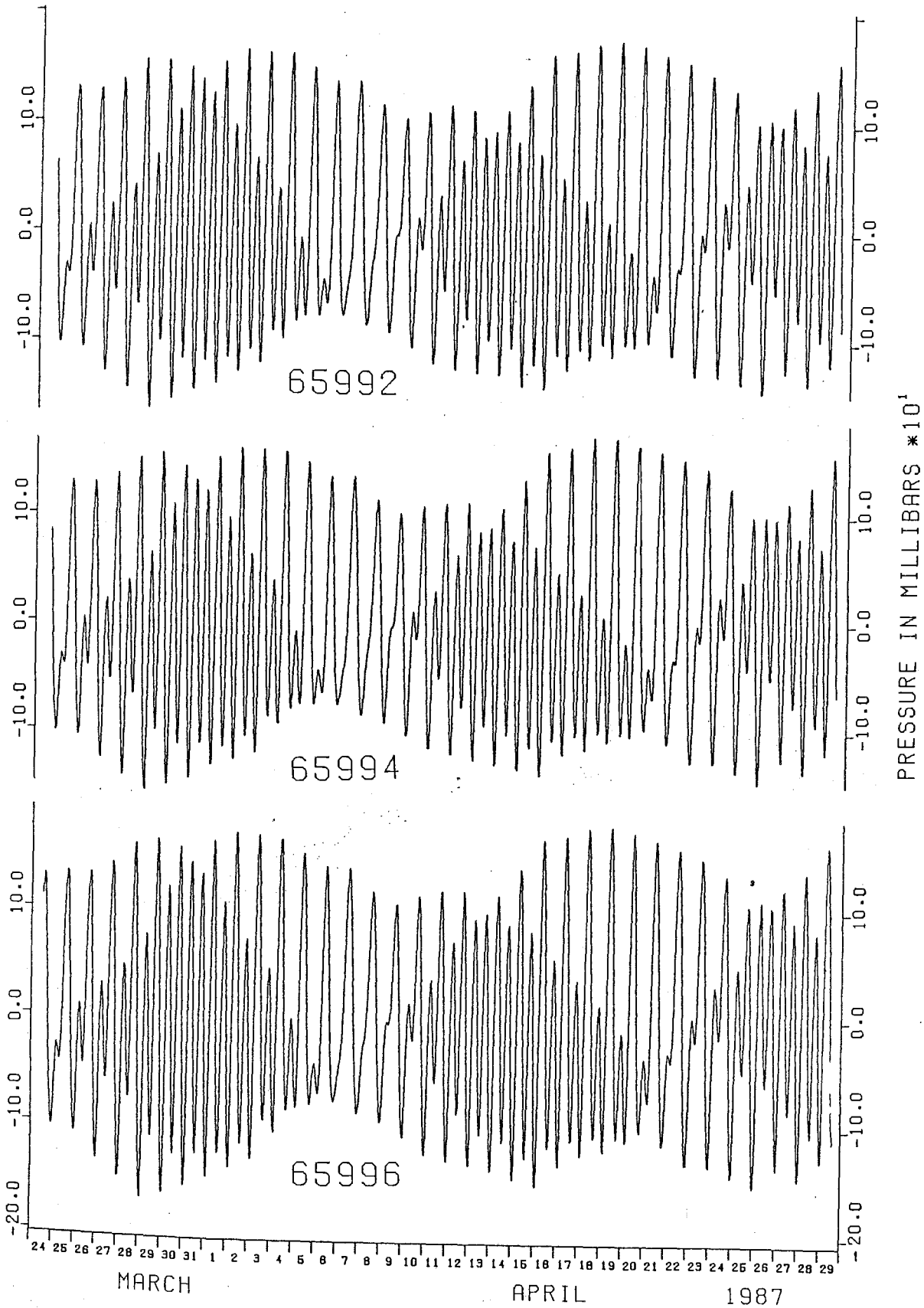


Figure 4 - Plot of Residues

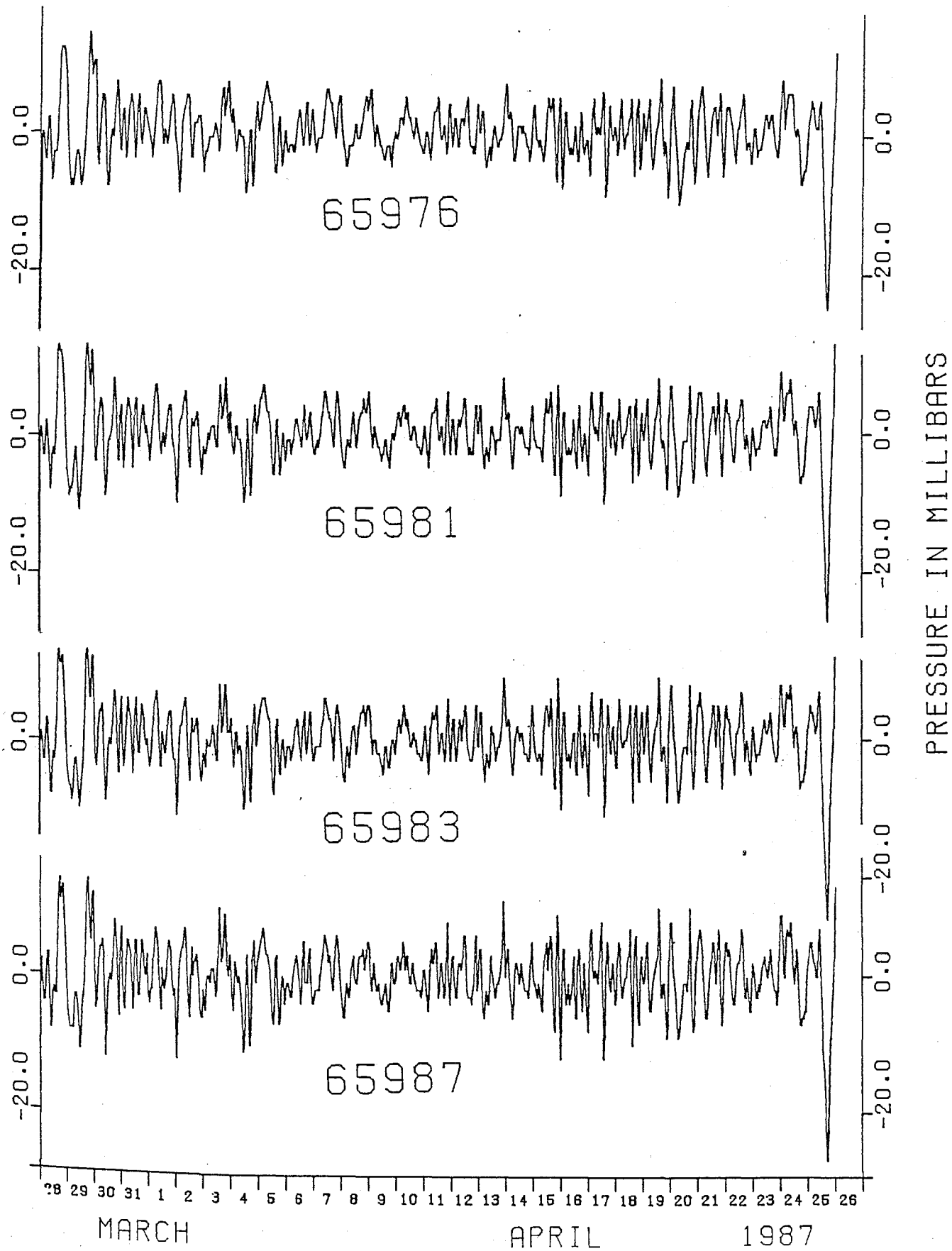
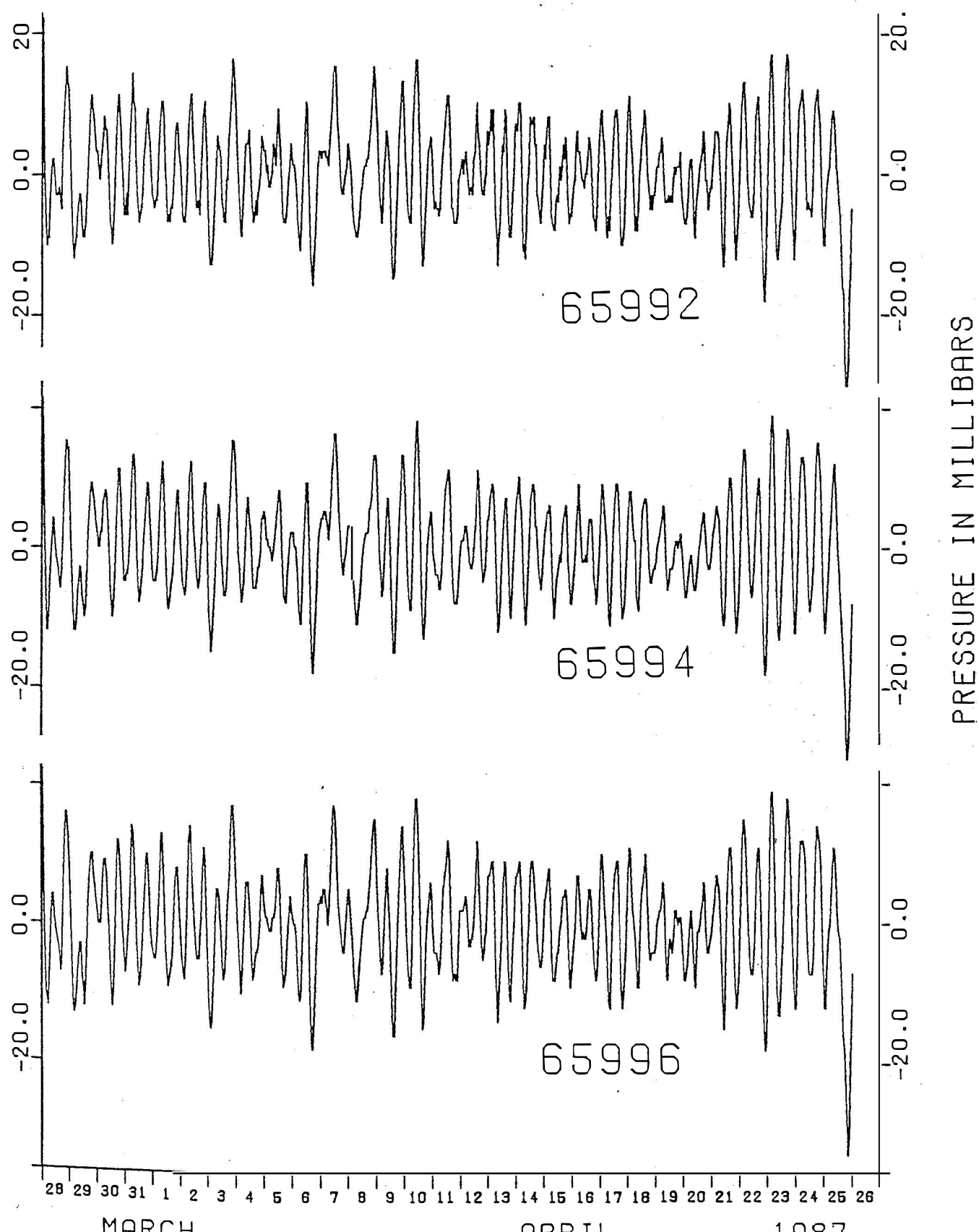


Figure 4 continued



APPENDIX

LUNITIDAL STATISTICS

TIDAL CONSTITUENTS

HOURLY DATA

CAPE BERENS

PELLY BAY

STATION NUMBER 65976

STATION NUMBER	NAME	ZONE	LAT	LONG	ANALYSIS LENGTH	C.T.
65976	CAPE BERENS, PELLY BAY	+6.0	6904 NORTH	9038 WEST	29 DAYS	487 MOYR

Z0 .006 (C.T. 487)

CONSTITUENT	AMPLITUDE	PHASE	CONSTITUENT	AMPLITUDE	PHASE
MSF	.008	139.2			
2Q1	.023	31.0	Q1	.011	105.8
O1	.325	211.2	NO1	.062	267.0
K1	.499	262.2	J1	.020	293.0
OO1	.004	336.3			
N2	.106	98.1	M2	.626	116.9
S2	.318	150.4			
MO3	.013	177.6	M3	.011	298.2
MK3	.008	299.5	SK3	.005	329.3
MN4	.003	76.8	M4	.016	272.7
MS4	.016	313.4	S4	.005	327.1
2MN6	.001	237.3	M6	.007	280.8
2MS6	.004	331.2	2SM6	.002	322.2
M8	.001	334.9			

AGE	M2/S2	AGE	K1/O1	DL-SD	DL	SD	DL/SD	DL+SD
33	1.97	51	1.54	180	.60	.71	.84	1.31

MEAN TIDES, TIMES AND HEIGHTS

HHW		LHW		HLW		LLW	
1640	1.31	429	.15	929	-.73	2349	-.87

LARGE TIDES		RANGES	
1.86	-1.50	2.18	3.35
HHW	LLW	MT	LT

AMPLITUDE VALUES ARE EXPRESSED IN DECIBARS

STATION 65976 PRELIMINARY RESULTS

	CONSTITUENT	FREQUENCY	C	ERR	S	ERR
1	Z0	0.00000000	-.006	.002	0.000	.000
2	MSF	.00282193	-.008	.002	-.001	.002
3	2Q1	.03570635	.020	.002	.013	.002
4	Q1	.03721850	-.010	.002	-.008	.002
5	O1	.03873065	.099	.002	.370	.002
6	NO1	.04026859	-.056	.002	-.027	.002
7	K1	.04178075	.417	.002	-.357	.002
8	J1	.04329290	-.004	.002	.020	.002
9	OO1	.04483084	.005	.002	.005	.002
10	UPS1	.04634299	.006	.002	.014	.002
11	N2	.07899925	-.001	.002	-.099	.002
12	M2	.08051140	.452	.002	.364	.002
13	S2	.08333333	-.155	.002	.264	.002
14	ETA2	.08507364	.007	.002	.000	.002
15	MO3	.11924206	.011	.002	-.008	.002
16	M3	.12076710	.009	.002	.000	.002
17	MK3	.12229215	.001	.002	-.008	.002
18	SK3	.12511408	.005	.002	-.000	.002
19	MN4	.15951065	-.002	.002	.000	.002
20	M4	.16102280	-.006	.002	.012	.002
21	MS4	.16384473	-.012	.002	-.006	.002
22	S4	.16666667	-.000	.002	-.004	.002
23	2MK5	.20280355	-.006	.002	.001	.002
24	2SK5	.20844741	.002	.002	.003	.002
25	2MN6	.24002205	-.000	.002	-.000	.002
26	M6	.24153420	.003	.002	.003	.002
27	2MS6	.24435613	-.002	.002	.002	.002
28	2SM6	.24717807	-.001	.002	-.000	.002
29	3MK7	.28331495	.001	.002	.001	.002
30	M8	.32204560	.000	.002	.000	.002

NUMBER OF VALID DATA = 697 AVERAGE = -.01 STANDARD DEVIATION = .67

THEORETICAL RMS = .04 MATRIX CONDITION = .88

RMS OF THE RESIDUES = .04395

THE PREVIOUS C AND S VALUES WILL BE SCALED TO COMPENSATE FOR

THE PRIOR APPLICATION OF MOVING AVERAGE FILTERS

ORIGINAL DT = .25000 HR FILTERS = 4 4 5

ANALYSIS OF HOURLY TIDAL HEIGHTS STN 65976 1H 28/ 3/87 TO 1H 26/ 4/87

NO.OBS.= 697 NO.PTS.ANAL.= 697 MIDPT=13H 11/ 4/87 SEPARATION =1.00

TIME ZONE=+6.0 LATITUDE=69D 4M LONGITUDE= 90D 38M REF. STATION=

NO.	NAME	FREQUENCY	M-Y/ M-Y	A	G	AL	GL
1	Z0	0.00000000	387- 487	.0058	180.00	.0058	180.00
2	MSF	.00282193	387- 487	.0083	139.21	.0083	187.70
3	2Q1	.03570635	387- 487	.0226	31.04	.0244	32.58
4	Q1	.03721850	387- 487	.0112	105.76	.0128	218.54
5	O1	.03873065	387- 487	.3250	211.17	.3866	75.04
6	NO1	.04026859	387- 487	.0619	266.99	.0624	206.06
7	K1	.04178075	387- 487	.4990	262.18	.5546	319.47
8	J1	.04329290	387- 487	.0197	292.98	.0206	102.64
9	OO1	.04483084	387- 487	.0040	336.29	.0066	45.51
10	UPS1	.04634299	387- 487	.0092	246.11	.0151	67.97
11	N2	.07899925	387- 487	.1059	98.14	.1026	269.52
12	M2	.08051140	387- 487	.6257	116.88	.6020	38.89
13	S2	.08333333	387- 487	.3182	150.42	.3188	120.40
14	ETA2	.08507364	387- 487	.0060	312.99	.0069	2.92
15	MO3	.11924206	387- 487	.0129	177.62	.0148	323.50
16	M3	.12076710	387- 487	.0105	298.17	.0099	1.10
17	MK3	.12229215	387- 487	.0084	299.54	.0089	278.82
18	SK3	.12511408	387- 487	.0045	329.25	.0050	356.52
19	MN4	.15951065	387- 487	.0029	76.84	.0027	170.22
20	M4	.16102280	387- 487	.0165	272.68	.0152	116.68
21	MS4	.16384473	387- 487	.0161	313.37	.0155	205.35
22	S4	.16666667	387- 487	.0046	327.10	.0046	267.06
23	2MK5	.20280355	387- 487	.0077	265.26	.0079	166.54
24	2SK5	.20844741	387- 487	.0037	63.54	.0041	60.79
25	2MN6	.24002205	387- 487	.0007	237.31	.0006	252.70
26	M6	.24153420	387- 487	.0073	280.83	.0065	46.83
27	2MS6	.24435613	387- 487	.0042	331.24	.0039	145.22
28	2SM6	.24717807	387- 487	.0018	322.22	.0017	184.19
29	3MK7	.28331495	387- 487	.0013	223.18	.0012	46.47
30	M8	.32204560	387- 487	.0010	334.91	.0009	22.92

```
 65976            CAPE BERENS, PELLY BAY       - 69 04 N  90 38 W
 65976            DATA ARE REFERRED TO CST (+6) TIME ZONE
 65976            DATA ARE PRESSURES IN MILLIBARS
 65976            REFERENCE LEVEL IS Z0 (MEAN PRESSURE)
 65976            ORIGINAL 15 MINUTE DATA SMOOTHED USING A
 65976             4,4,5 MOVING AVERAGE FILTER
1 65976      23 387999999999999999999999999999999999999999999999999
2 65976      23 387999999999999999999 -42 -49 -48 -46 -47 -53 -64
1 65976      24 387 -74 -79 -76 -66 -50 -26   4  39  72  99 115 118
2 65976      24 387 107  85  59  29  -5 -38 -63 -75 -74 -66 -58 -55
1 65976      25 387 -56 -59 -60 -58 -54 -46 -31  -6  27  63  95 118
2 65976      25 387 126 119  98  67  30 -10 -47 -77 -91 -87 -70 -49
1 65976      26 387 -33 -27 -29 -34 -40 -46 -48 -39 -15  20  60  96
2 65976      26 387 123 134 126  99  60  15 -30 -69 -97-108 -96 -69
1 65976      27 387 -37 -14  -4  -7 -20 -37 -52 -58 -48 -22  16  59
2 65976      27 387  99 127 137 126  91  41 -11 -59 -94-115-115 -93
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1 65976       1 487 -70 -36  13  64 102 117 105  72  28 -18 -54 -65
2 65976       1 487 -56 -36  -9  24  53  65  54  23 -18 -58 -83 -90
1 65976       2 487 -79 -50  -2  52  96 121 123 103  67  24 -18 -47
2 65976       2 487 -54 -44 -26  -5  17  33  32  12 -21 -56 -81 -88
1 65976       3 487 -78 -53 -13  34  79 112 126 119  95  59  20 -13
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1 65976       4 487 -75 -58 -27  15  60  96 118 124 111  84  48  14
2 65976       4 487 -11 -22 -26 -29 -33 -32 -25 -22 -30 -48 -66 -74
1 65976       5 487 -72 -57 -30   5  44  78 105 120 120 106  81  51
2 65976       5 487  21  -2 -16 -23 -31 -41 -47 -48 -49 -55 -65 -72
1 65976       6 487 -72 -62 -44 -18  12  44  74  98 110 110  98  78
2 65976       6 487  53  29   8  -8 -24 -41 -54 -58 -57 -56 -59 -62
1 65976       7 487 -61 -54 -42 -25  -4  21  48  74  95 107 108 100
2 65976       7 487  84  62  36  10 -16 -38 -54 -63 -65 -62 -59 -55
1 65976       8 487 -51 -46 -41 -34 -23  -6  13  36  59  79  94  99
2 65976       8 487  93  77  54  27  -1 -27 -49 -66 -74 -73 -62 -47
1 65976       9 487 -35 -29 -28 -28 -27 -24 -15   2  24  48  69  86
2 65976       9 487  94  91  74  46  12 -23 -53 -73 -84 -83 -73 -56
1 65976      10 487 -36 -20 -12 -14 -23 -31 -33 -26  -8  17  45  71
2 65976      10 487  91  99  92  69  34  -5 -42 -71 -87 -90 -79 -58
1 65976      11 487 -31  -8   4   2 -11 -29 -44 -49 -40 -18  13  45
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1 65976      12 487 -28   6  28  32  19  -6 -33 -55 -63 -52 -25   9
2 65976      12 487  45  74  88  83  59  19 -26 -67 -90 -94 -84 -63
1 65976      13 487 -29  12  46  60  51  25 -10 -46 -71 -77 -60 -30
2 65976      13 487   5  40  67  76  63  30 -15 -60 -92-101 -90 -66
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2 65976      14 487 -28   7  40  61  60  36  -5 -53 -92-112-106 -81
1 65976      15 487 -44   3  55  97 118 112  81  35 -14 -53 -71 -66
2 65976      15 487 -48 -21  11  41  52  37   1 -44 -81-105-115-106
```

1	65976	16	487	-72	-17	46	99	132	139	121	83	32	-19	-55	-69
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1	65976	17	487	-90	-39	24	84	128	152	150	125	81	30	-16	-45
2	65976	17	487	-58	-60	-51	-28	1	19	12	-15	-52	-86	-110	-117
1	65976	18	487	-102	-63	-6	55	107	143	157	149	119	76	29	-13
2	65976	18	487	-38	-51	-54	-46	-26	-5	2	-13	-44	-73	-95	-106
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2	65976	19	487	-9	-33	-43	-48	-47	-39	-28	-29	-44	-67	-86	-95
1	65976	20	487	-95	-82	-57	-17	29	74	110	132	138	126	100	66
2	65976	20	487	28	-7	-35	-51	-54	-52	-51	-52	-54	-59	-68	-76
1	65976	21	487	-80	-76	-60	-34	2	41	78	109	129	136	128	107
2	65976	21	487	76	40	3	-29	-53	-65	-67	-67	-66	-64	-61	-59
1	65976	22	487	-59	-59	-55	-43	-23	5	38	71	100	123	133	127
2	65976	22	487	109	79	42	2	-36	-67	-85	-91	-86	-77	-64	-52
1	65976	23	487	-43	-40	-41	-42	-37	-24	-2	28	60	91	115	127
2	65976	23	487	124	106	76	36	-7	-48	-80	-99	-102	-90	-67	-41
1	65976	24	487	-19	-7	-7	-15	-23	-27	-22	-6	19	49	79	103
2	65976	24	487	118	118	101	65	18	-32	-73	-102	-112	-105	-82	-50
1	65976	25	487	-18	6	18	14	-2	-24	-41	-44	-31	-5	28	60
2	65976	25	487	86	99	94	68	26	-23	-67	-97	-111	-106	-85	-47
1	65976	26	487	-2	41	67	71	53	22	-12	-36	-43	-33	-10	21
2	65976	26	487	52	77	88	78	47	1	-49	-89	-112	-114	-94	-55
1	65976	27	487	-4	48	86	101	91	60	18	-20	-46	-54	-47	-26
2	65976	27	487	3	36	62	70	54	17	-32	-80	-110	-115	-96	-60
1	65976	28	487	-15	33	76	105	111	94	56	10	-32	-57	-60	-45
2	65976	28	487	-20	10	37	52	47	21	-18	-58	-87	-97	-88	-62
1	65976	29	487	-20	33	86	124	140	131	102	58	11	-3099999999		
2	65976	29	487	99999999999999999999999999999999999999999999999999											

WEST SIDE OF

PELLY BAY

STATION NUMBER 65981

STATION NUMBER	NAME	ZONE	LAT	LONG	ANALYSIS LENGTH	C.T.
65981	PELLY BAY WEST SIDE	+6.0	6853 NORTH	9026 WEST	29 DAYS	487 MOYR

Z0 .006 (C.T. 487)

CONSTITUENT	AMPLITUDE	PHASE	CONSTITUENT	AMPLITUDE	PHASE
MSF	.008	141.3			
2Q1	.022	33.1	Q1	.011	107.3
O1	.327	211.3	NO1	.062	267.2
K1	.501	262.4	J1	.019	292.9
OO1	.004	334.8			
N2	.108	97.9	M2	.635	117.0
S2	.324	150.5			
MO3	.013	177.4	M3	.010	299.7
MK3	.008	301.8	SK3	.005	332.6
MN4	.003	67.1	M4	.018	272.0
MS4	.018	313.5	S4	.005	324.6
2MN6	.001	245.1	M6	.009	280.7
2MS6	.006	338.2	2SM6	.002	333.5
M8	.002	246.0			

AGE	M2/S2	AGE	K1/O1	DL-SD	DL	SD	DL/SD	DL+SD
34	1.96	51	1.53	180	.60	.72	.83	1.32

MEAN TIDES, TIMES AND HEIGHTS

1641	1.32	430	.16	930	-.74	2349	-.88
HHW		LHW		HLW		LLW	

LARGE TIDES		RANGES	
1.87	-1.52	2.20	3.39
HHW	LLW	MT	LT

AMPLITUDE VALUES ARE EXPRESSED IN DECIBARS

STATION 65981 PRELIMINARY RESULTS

	CONSTITUENT	FREQUENCY	C	ERR	S	ERR
1	Z0	0.00000000	-.006	.002	0.000	.000
2	MSF	.00282193	-.008	.002	-.001	.002
3	2Q1	.03570635	.020	.002	.014	.002
4	Q1	.03721850	-.010	.002	-.008	.002
5	O1	.03873065	.099	.002	.372	.002
6	NO1	.04026859	-.056	.002	-.027	.002
7	K1	.04178075	.421	.002	-.357	.002
8	J1	.04329290	-.004	.002	.019	.002
9	OO1	.04483084	.005	.002	.005	.002
10	UPS1	.04634299	.005	.002	.014	.002
11	N2	.07899925	-.001	.002	-.101	.002
12	M2	.08051140	.457	.002	.371	.002
13	S2	.08333333	-.159	.002	.269	.002
14	ETA2	.08507364	.007	.002	.001	.002
15	MO3	.11924206	.011	.002	-.008	.002
16	M3	.12076710	.009	.002	.000	.002
17	MK3	.12229215	.002	.002	-.008	.002
18	SK3	.12511408	.005	.002	-.000	.002
19	MN4	.15951065	-.002	.002	.001	.002
20	M4	.16102280	-.006	.002	.013	.002
21	MS4	.16384473	-.014	.002	-.006	.002
22	S4	.16666667	-.000	.002	-.005	.002
23	2MK5	.20280355	-.007	.002	.002	.002
24	2SK5	.20844741	.002	.002	.003	.002
25	2MN6	.24002205	-.000	.002	-.001	.002
26	M6	.24153420	.004	.002	.004	.002
27	2MS6	.24435613	-.003	.002	.002	.002
28	2SM6	.24717807	-.002	.002	-.000	.002
29	3MK7	.28331495	.000	.002	.001	.002
30	M8	.32204560	.000	.002	-.001	.002

NUMBER OF VALID DATA = 697 AVERAGE = -.01 STANDARD DEVIATION = .68

THEORETICAL RMS = .05 MATRIX CONDITION = .88

RMS OF THE RESIDUES = .04538

THE PREVIOUS C AND S VALUES WILL BE SCALED TO COMPENSATE FOR

THE PRIOR APPLICATION OF MOVING AVERAGE FILTERS

ORIGINAL DT = .25000 HR FILTERS = 4 4 5

ANALYSIS OF HOURLY TIDAL HEIGHTS STN 65981 1H 28/ 3/87 TO 1H 26/ 4/87

NO.OBS.= 697 NO.PTS.ANAL.= 697 MIDPT=13H 11/ 4/87 SEPARATION =1.00

TIME ZONE=+6.0 LATITUDE=68D 53M LONGITUDE= 90D 26M REF. STATION=

NO.	NAME	FREQUENCY	M-Y/ M-Y	A	G	AL	GL
1	Z0	0.00000000	387- 487	.0055	180.00	.0055	180.00
2	MSF	.00282193	387- 487	.0084	141.31	.0084	189.80
3	2Q1	.03570635	387- 487	.0222	33.13	.0239	34.68
4	Q1	.03721850	387- 487	.0111	107.35	.0126	220.13
5	O1	.03873065	387- 487	.3265	211.26	.3884	75.13
6	NO1	.04026859	387- 487	.0621	267.17	.0625	206.23
7	K1	.04178075	387- 487	.5013	262.37	.5571	319.65
8	J1	.04329290	387- 487	.0185	292.87	.0194	102.53
9	OO1	.04483084	387- 487	.0041	334.78	.0068	44.00
10	UPS1	.04634299	387- 487	.0091	249.53	.0149	71.39
11	N2	.07899925	387- 487	.1078	97.95	.1044	269.33
12	M2	.08051140	387- 487	.6348	117.04	.6107	39.04
13	S2	.08333333	387- 487	.3239	150.54	.3245	120.52
14	ETA2	.08507364	387- 487	.0062	319.04	.0072	8.97
15	MO3	.11924206	387- 487	.0130	177.42	.0149	323.29
16	M3	.12076710	387- 487	.0103	299.75	.0097	2.68
17	MK3	.12229215	387- 487	.0080	301.80	.0086	281.08
18	SK3	.12511408	387- 487	.0052	332.64	.0058	359.90
19	MN4	.15951065	387- 487	.0026	67.11	.0024	160.50
20	M4	.16102280	387- 487	.0184	272.03	.0170	116.04
21	MS4	.16384473	387- 487	.0181	313.54	.0174	205.53
22	S4	.16666667	387- 487	.0054	324.63	.0055	264.59
23	2MK5	.20280355	387- 487	.0088	263.44	.0090	164.72
24	2SK5	.20844741	387- 487	.0040	58.56	.0045	55.81
25	2MN6	.24002205	387- 487	.0014	245.08	.0013	260.47
26	M6	.24153420	387- 487	.0093	280.68	.0083	46.69
27	2MS6	.24435613	387- 487	.0060	338.21	.0055	152.20
28	2SM6	.24717807	387- 487	.0024	333.53	.0023	195.50
29	3MK7	.28331495	387- 487	.0011	230.65	.0010	53.95
30	M8	.32204560	387- 487	.0023	246.03	.0019	294.04

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   65981            PELLY BAY, WEST SIDE          - 68 53 N  90 26 W
   65981            DATA ARE REFERRED TO CST (+6) TIME ZONE
   65981            DATA ARE PRESSURES IN MILLIBARS
   65981            REFERENCE LEVEL IS Z0 (MEAN PRESSURE)
   65981            ORIGINAL 15 MINUTE DATA SMOOTHED USING A
   65981             4,4,5 MOVING AVERAGE FILTER
1 65981       23 387999999999999999999999999999999999999999999999999
2 65981       23 387999999999999999999 -45 -51 -50 -48 -48 -54 -65
1 65981       24 387 -76 -82 -78 -68 -52 -29   2  37  70  97 114 118
2 65981       24 387 106  84  58  28  -6 -39 -65 -77 -76 -67 -59 -56
1 65981       25 387 -57 -60 -62 -60 -56 -48 -33  -9  25  61  94 117
2 65981       25 387 126 119  97  65  29 -11 -49 -79 -93 -90 -72 -50
1 65981       26 387 -34 -28 -30 -36 -42 -48 -50 -42 -18  18  59  95
2 65981       26 387 122 134 126  99  59  14 -31 -71 -99-110 -98 -70
1 65981       27 387 -38 -15  -5  -8 -21 -38 -54 -61 -51 -25  14  58
2 65981       27 387  97 126 137 125  90  40 -13 -60 -96-117-118 -96
1 65981       28 387 -58 -18   8  15   6 -13 -39 -61 -69 -56 -22  23
2 65981       28 387  71 112 140 146 126  80  21 -37 -82-108-113 -99
1 65981       29 387 -68 -26  12  35  34  14 -17 -51 -74 -78 -61 -29
2 65981       29 387  16  66 109 132 129 100  50  -9 -63 -95 -99 -88
1 65981       30 387 -65 -27  21  59  73  62  30 -11 -52 -81 -83 -59
2 65981       30 387 -21  24  69 103 114 100  62   9 -45 -88-104 -91
1 65981       31 387 -65 -29  17  64  93  95  70  29 -17 -57 -79 -70
2 65981       31 387 -42  -8  28  63  86  87  63  21 -27 -68 -89 -90
1 65981        1 487 -72 -38  11  63 102 117 105  72  27 -20 -56 -68
2 65981        1 487 -58 -37 -11  23  53  66  54  22 -20 -59 -85 -92
1 65981        2 487 -82 -53  -4  51  96 121 123 103  67  23 -20 -49
2 65981        2 487 -57 -45 -27  -7  17  34  33  12 -22 -57 -83 -91
1 65981        3 487 -80 -55 -16  32  79 112 127 120  95  59  19 -14
2 65981        3 487 -33 -33 -25 -19  -9   5  12   5 -19 -48 -70 -79
1 65981        4 487 -77 -61 -29  14  59  96 118 124 111  83  47  12
2 65981        4 487 -13 -24 -26 -30 -35 -33 -25 -22 -30 -49 -67 -76
1 65981        5 487 -74 -59 -33   3  42  77 104 119 119 105  81  50
2 65981        5 487  20  -4 -18 -24 -32 -42 -49 -49 -50 -56 -67 -75
1 65981        6 487 -74 -64 -46 -20  10  43  73  97 110 109  97  77
2 65981        6 487  53  28   7  -9 -25 -43 -55 -59 -58 -57 -60 -64
1 65981        7 487 -63 -56 -44 -27  -6  20  47  73  94 106 108 100
2 65981        7 487  83  61  35   9 -17 -39 -55 -64 -66 -63 -59 -55
1 65981        8 487 -52 -48 -42 -34 -22  -6  14  36  59  81  96 101
2 65981        8 487  95  79  56  28   0 -26 -50 -67 -76 -74 -63 -49
1 65981        9 487 -36 -29 -27 -27 -27 -24 -15   2  24  49  70  87
2 65981        9 487  96  93  77  48  13 -22 -52 -73 -83 -83 -73 -55
1 65981       10 487 -35 -18 -10 -12 -21 -30 -33 -26  -8  17  46  72
2 65981       10 487  92 101  95  71  36  -4 -42 -70 -87 -90 -79 -57
1 65981       11 487 -30  -6   6   4 -10 -28 -43 -49 -40 -18  13  46
2 65981       11 487  75  94  99  86  54  10 -33 -67 -82 -85 -79 -61
1 65981       12 487 -28   7  30  34  20  -4 -32 -55 -64 -52 -25  10
2 65981       12 487  46  75  90  85  61  20 -26 -67 -91 -94 -84 -64
1 65981       13 487 -29  14  48  62  53  27  -8 -45 -72 -78 -60 -29
2 65981       13 487   6  41  69  78  66  32 -14 -60 -92-101 -89 -66
1 65981       14 487 -32  14  60  89  93  72  34 -10 -49 -72 -73 -55
2 65981       14 487 -27   7  42  64  63  38  -4 -52 -93-113-107 -81
1 65981       15 487 -44   3  56  99 120 114  83  36 -14 -53 -71 -66
2 65981       15 487 -48 -21  12  43  55  39   2 -44 -81-105-115-107
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1	65981	16	487	-73	-17	47	101	134	141	123	85	33	-19	-56	-69
2	65981	16	487	-64	-51	-26	7	34	36	12	-28	-69	-102	-121	-119
1	65981	17	487	-91	-39	25	85	130	154	153	127	82	30	-16	-45
2	65981	17	487	-57	-59	-52	-28	3	21	15	-14	-52	-86	-109	-118
1	65981	18	487	-103	-64	-6	56	109	145	160	151	121	77	29	-12
2	65981	18	487	-39	-50	-53	-47	-26	-3	4	-12	-43	-73	-94	-106
1	65981	19	487	-105	-82	-37	20	75	118	144	152	140	111	71	28
2	65981	19	487	-9	-33	-42	-47	-47	-38	-27	-27	-42	-66	-86	-95
1	65981	20	487	-94	-83	-57	-17	30	75	111	134	140	128	101	67
2	65981	20	487	29	-7	-35	-51	-54	-51	-50	-51	-53	-58	-67	-75
1	65981	21	487	-80	-76	-61	-34	2	42	79	110	131	138	130	108
2	65981	21	487	77	41	4	-29	-52	-64	-66	-66	-65	-63	-60	-58
1	65981	22	487	-58	-58	-55	-43	-23	5	38	71	101	124	134	129
2	65981	22	487	110	80	43	3	-35	-66	-85	-90	-86	-76	-63	-51
1	65981	23	487	-42	-40	-41	-42	-37	-24	-2	28	61	92	116	128
2	65981	23	487	126	108	77	38	-6	-48	-80	-99	-101	-89	-66	-40
1	65981	24	487	-18	-6	-6	-14	-23	-27	-22	-6	19	50	80	104
2	65981	24	487	119	121	103	67	19	-31	-73	-101	-113	-105	-82	-50
1	65981	25	487	-17	8	19	15	-1	-24	-41	-45	-31	-4	28	61
2	65981	25	487	87	101	96	71	27	-23	-67	-97	-111	-106	-85	-47
1	65981	26	487	-1	42	69	73	55	23	-11	-36	-44	-33	-10	21
2	65981	26	487	53	79	90	80	49	2	-49	-90	-113	-115	-95	-55
1	65981	27	487	-3	49	88	104	93	61	18	-21	-46	-54	-47	-26
2	65981	27	487	4	37	64	72	57	19	-32	-80	-111	-116	-96	-60
1	65981	28	487	-15	33	78	107	114	96	58	10	-32	-57	-60	-45
2	65981	28	487	-19	11	38	54	49	23	-17	-58	-88	-98	-88	-62
1	65981	29	487	-20	34	87	126	142	133	103	59	11	-30	-55	-59
2	65981	29	487	99999999999999999999999999999999999999999999999999											

EAST SIDE OF

PELLY BAY

STATION NUMBER 65983

STATION NUMBER	NAME	ZONE	LAT	LONG	ANALYSIS LENGTH	C.T.
65983	PELLY BAY EAST SIDE	+6.0	6841 NORTH	8952 WEST	29 DAYS	487 MOYR

Z0 .005 (C.T. 487)

CONSTITUENT	AMPLITUDE	PHASE	CONSTITUENT	AMPLITUDE	PHASE
MSF	.008	146.0			
2Q1	.022	31.6	Q1	.011	105.3
O1	.325	211.7	NO1	.062	267.2
K1	.505	262.6	J1	.019	292.2
OO1	.003	330.1			
N2	.109	98.0	M2	.647	117.5
S2	.328	150.9			
MO3	.012	187.1	M3	.010	293.1
MK3	.010	323.3	SK3	.006	2.1
MN4	.002	89.7	M4	.024	271.2
MS4	.023	307.5	S4	.007	325.0
2MN6	.001	247.2	M6	.011	284.2
2MS6	.006	341.2	2SM6	.003	331.7
M8	.003	241.2			

AGE	M2/S2	AGE	K1/O1	DL-SD	DL	SD	DL/SD	DL+SD
33	1.97	51	1.55	180	.60	.73	.82	1.33

MEAN TIDES, TIMES AND HEIGHTS

HHW		LHW		HLW		LLW	
1642	1.35	432	.18	930	-.76	2350	-.88

LARGE TIDES		RANGES	
1.90	-1.55	2.23	3.45
HHW	LLW	MT	LT

AMPLITUDE VALUES ARE EXPRESSED IN DECIBARS

STATION 65983 PRELIMINARY RESULTS

	CONSTITUENT	FREQUENCY	C	ERR	S	ERR
1	Z0	0.00000000	-.005	.002	0.000	.000
2	MSF	.00282193	-.008	.003	-.002	.002
3	2Q1	.03570635	.020	.003	.013	.002
4	Q1	.03721850	-.010	.003	-.008	.003
5	O1	.03873065	.096	.003	.372	.003
6	NO1	.04026859	-.056	.003	-.028	.003
7	K1	.04178075	.425	.003	-.358	.003
8	J1	.04329290	-.004	.003	.019	.003
9	OO1	.04483084	.004	.003	.003	.003
10	UPS1	.04634299	.005	.003	.015	.003
11	N2	.07899925	-.001	.002	-.102	.002
12	M2	.08051140	.464	.002	.382	.002
13	S2	.08333333	-.163	.003	.272	.003
14	ETA2	.08507364	.007	.003	.001	.003
15	MO3	.11924206	.011	.002	-.006	.002
16	M3	.12076710	.009	.002	-.001	.002
17	MK3	.12229215	.005	.002	-.008	.002
18	SK3	.12511408	.005	.002	.003	.002
19	MN4	.15951065	-.001	.002	-.000	.002
20	M4	.16102280	-.008	.002	.017	.002
21	MS4	.16384473	-.018	.002	-.006	.002
22	S4	.16666667	-.001	.002	-.006	.002
23	2MK5	.20280355	-.008	.002	.002	.002
24	2SK5	.20844741	.003	.002	.003	.002
25	2MN6	.24002205	-.000	.002	-.001	.002
26	M6	.24153420	.004	.002	.005	.002
27	2MS6	.24435613	-.004	.002	.002	.002
28	2SM6	.24717807	-.002	.002	-.000	.002
29	3MK7	.28331495	.001	.002	.001	.002
30	M8	.32204560	.000	.002	-.001	.002

NUMBER OF VALID DATA = 697 AVERAGE = -.01 STANDARD DEVIATION = .68

THEORETICAL RMS = .05 MATRIX CONDITION = .88

RMS OF THE RESIDUES = .04645

THE PREVIOUS C AND S VALUES WILL BE SCALED TO COMPENSATE FOR

THE PRIOR APPLICATION OF MOVING AVERAGE FILTERS

ORIGINAL DT = .25000 HR FILTERS = 4 4 5

ANALYSIS OF HOURLY TIDAL HEIGHTS STN 65983 1H 28/ 3/87 TO 1H 26/ 4/87

NO.OBS.= 697 NO.PTS.ANAL.= 697 MIDPT=13H 11/ 4/87 SEPARATION =1.00

TIME ZONE=+6.0 LATITUDE=68D 41M LONGITUDE= 89D 52M REF. STATION=

NO.	NAME	FREQUENCY	M-Y/ M-Y	A	G	AL	GL
1	Z0	0.00000000	387- 487	.0054	180.00	.0054	180.00
2	MSF	.00282193	387- 487	.0084	145.98	.0084	194.47
3	2Q1	.03570635	387- 487	.0219	31.57	.0237	33.13
4	Q1	.03721850	387- 487	.0108	105.28	.0123	218.06
5	O1	.03873065	387- 487	.3253	211.66	.3870	75.53
6	NO1	.04026859	387- 487	.0623	267.24	.0627	206.30
7	K1	.04178075	387- 487	.5046	262.64	.5609	319.93
8	J1	.04329290	387- 487	.0189	292.21	.0198	101.87
9	OO1	.04483084	387- 487	.0030	330.09	.0049	39.31
10	UPS1	.04634299	387- 487	.0097	249.59	.0158	71.45
11	N2	.07899925	387- 487	.1095	97.98	.1061	269.36
12	M2	.08051140	387- 487	.6472	117.45	.6226	39.45
13	S2	.08333333	387- 487	.3284	150.94	.3290	120.93
14	ETA2	.08507364	387- 487	.0063	320.82	.0073	10.74
15	MO3	.11924206	387- 487	.0117	187.13	.0134	333.01
16	M3	.12076710	387- 487	.0102	293.13	.0096	356.06
17	MK3	.12229215	387- 487	.0096	323.31	.0102	302.59
18	SK3	.12511408	387- 487	.0061	2.06	.0068	29.33
19	MN4	.15951065	387- 487	.0018	89.68	.0017	183.06
20	M4	.16102280	387- 487	.0236	271.17	.0219	115.17
21	MS4	.16384473	387- 487	.0234	307.53	.0226	199.52
22	S4	.16666667	387- 487	.0069	325.04	.0069	265.01
23	2MK5	.20280355	387- 487	.0099	265.97	.0101	167.26
24	2SK5	.20844741	387- 487	.0048	55.01	.0053	52.26
25	2MN6	.24002205	387- 487	.0015	247.15	.0013	262.54
26	M6	.24153420	387- 487	.0105	284.18	.0094	50.18
27	2MS6	.24435613	387- 487	.0061	341.20	.0056	155.19
28	2SM6	.24717807	387- 487	.0026	331.74	.0025	193.71
29	3MK7	.28331495	387- 487	.0017	222.92	.0017	46.21
30	M8	.32204560	387- 487	.0031	241.19	.0026	289.20

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  65983            PELLY BAY, EAST SIDE          - 68 41 N  89 52 W
  65983            DATA ARE REFERRED TO CST (+6) TIME ZONE
  65983            DATA ARE PRESSURES IN MILLIBARS
  65983            REFERENCE LEVEL IS Z0 (MEAN PRESSURE)
  65983            ORIGINAL 15 MINUTE DATA SMOOTHED USING A
  65983             4,4,5 MOVING AVERAGE FILTER
1 65983       23 387999999999999999999999999999999999999999999999999
2 65983       23 387999999999999999999999 -50 -49 -46 -47 -53 -64
1 65983       24 387 -76 -81 -78 -68 -52 -30   1  36  69  98 116 119
2 65983       24 387 108  85  59  29  -5 -39 -65 -77 -76 -67 -58 -55
1 65983       25 387 -56 -60 -61 -59 -56 -48 -34 -10  23  60  94 118
2 65983       25 387 128 121  98  66  29 -11 -50 -79 -94 -91 -72 -50
1 65983       26 387 -33 -27 -29 -35 -41 -47 -50 -43 -20  17  58  95
2 65983       26 387 123 136 129 101  59  13 -33 -72-100-111-100 -71
1 65983       27 387 -39 -14  -4  -7 -20 -37 -54 -61 -52 -26  13  57
2 65983       27 387  98 128 140 127  91  39 -15 -62 -97-117-119 -98
1 65983       28 387 -59 -18   9  17   8 -12 -38 -61 -69 -57 -25  21
2 65983       28 387  70 113 142 148 128  80  18 -41 -84-109-114-100
1 65983       29 387 -70 -27  13  37  36  15 -16 -51 -75 -79 -62 -31
2 65983       29 387  14  65 109 134 131 101  49 -12 -67 -97-100 -88
1 65983       30 387 -67 -29  20  60  76  64  31 -11 -53 -83 -85 -61
2 65983       30 387 -23  22  69 104 117 102  62   7 -48 -91-106 -92
1 65983       31 387 -66 -32  16  64  94  97  72  29 -18 -59 -81 -72
2 65983       31 387 -43  -9  26  63  88  90  65  20 -29 -70 -91 -90
1 65983        1 487 -74 -41   8  62 103 120 107  73  27 -22 -59 -70
2 65983        1 487 -57 -38 -12  22  53  68  56  23 -20 -60 -86 -92
1 65983        2 487 -83 -56  -7  49  96 123 126 105  68  22 -21 -50
2 65983        2 487 -58 -45 -26  -7  17  35  35  14 -22 -58 -83 -92
1 65983        3 487 -81 -57 -19  31  78 113 128 122  97  59  19 -15
2 65983        3 487 -34 -33 -24 -19 -10   5  14   6 -18 -48 -70 -80
1 65983        4 487 -77 -62 -32  12  58  96 119 126 113  85  48  12
2 65983        4 487 -13 -24 -25 -29 -35 -33 -25 -20 -29 -49 -68 -77
1 65983        5 487 -74 -60 -34   2  41  77 105 121 121 107  82  51
2 65983        5 487  20  -4 -18 -23 -30 -42 -48 -49 -49 -55 -66 -75
1 65983        6 487 -74 -64 -47 -21   9  42  73  98 111 111  99  78
2 65983        6 487  53  28   7  -8 -23 -42 -55 -59 -57 -56 -60 -64
1 65983        7 487 -63 -56 -44 -28  -7  19  46  73  94 107 109 101
2 65983        7 487  85  62  36   9 -16 -39 -55 -64 -66 -63 -59 -55
1 65983        8 487 -51 -48 -42 -35 -23  -6  14  35  59  81  96 102
2 65983        8 487  97  80  57  29   1 -26 -49 -67 -76 -75 -63 -49
1 65983        9 487 -36 -28 -26 -26 -26 -24 -15   1  24  48  70  88
2 65983        9 487  97  94  78  49  13 -22 -52 -73 -83 -83 -73 -56
1 65983       10 487 -35 -18  -9 -11 -21 -30 -33 -26  -9  17  45  72
2 65983       10 487  93 103  96  73  36  -4 -42 -71 -87 -90 -80 -58
1 65983       11 487 -30  -5   8   6  -9 -27 -43 -49 -41 -19  12  46
2 65983       11 487  75  95 101  88  55  10 -35 -68 -83 -84 -80 -62
1 65983       12 487 -29   7  32  36  22  -3 -32 -55 -64 -53 -27   8
2 65983       12 487  45  76  92  88  62  20 -27 -68 -92 -94 -84 -66
1 65983       13 487 -32  13  49  64  55  28  -8 -45 -73 -79 -62 -30
2 65983       13 487   4  41  70  80  68  33 -15 -61 -94-103 -89 -67
1 65983       14 487 -35  12  60  91  95  74  35 -10 -50 -74 -74 -56
2 65983       14 487 -29   6  42  65  65  40  -4 -54 -95-115-108 -82
1 65983       15 487 -47   0  54  99 122 117  85  35 -15 -54 -72 -67
2 65983       15 487 -48 -23  11  44  57  41   2 -45 -83-104-115-109
```

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1 65983    16 487 -77 -20  45 101 135 143 126  86  32 -20 -57 -70
2 65983    16 487 -64 -52 -28   7  35  38  13 -28 -70-102-122-121
1 65983    17 487 -95 -43  22  84 131 156 156 129  83  29 -17 -46
2 65983    17 487 -57 -59 -53 -29   3  23  17 -13 -52 -86-110-119
1 65983    18 487-106 -68  -9  54 108 146 162 153 123  77  28 -13
2 65983    18 487 -40 -49 -53 -48 -26  -2   6 -10 -43 -74 -94-107
1 65983    19 487-106 -85 -41  17  73 118 146 154 143 113  71  28
2 65983    19 487 -10 -34 -41 -46 -48 -38 -26 -25 -41 -66 -86 -95
1 65983    20 487 -95 -84 -59 -20  28  74 111 135 142 130 103  68
2 65983    20 487  29  -7 -35 -51 -54 -49 -50 -50 -52 -57 -66 -75
1 65983    21 487 -80 -77 -62 -36   1  41  78 110 132 140 132 110
2 65983    21 487  78  42   4 -29 -52 -64 -66 -65 -65 -63 -60 -58
1 65983    22 487 -58 -58 -55 -44 -24   4  37  71 101 125 136 131
2 65983    22 487 112  82  44   3 -36 -67 -85 -90 -86 -76 -63 -50
1 65983    23 487 -41 -39 -40 -41 -37 -25  -3  27  60  92 117 130
2 65983    23 487 128 110  79  38  -7 -48 -80 -99-102 -90 -67 -40
1 65983    24 487 -17  -5  -5 -13 -23 -27 -22  -7  18  50  80 104
2 65983    24 487 120 123 105  68  18 -33 -74-102-113-106 -83 -51
1 65983    25 487 -17   8  21  17   0 -23 -41 -45 -32  -5  28  61
2 65983    25 487  88 102  98  72  27 -24 -68 -98-111-107 -86 -50
1 65983    26 487  -2  42  71  75  57  23 -12 -36 -44 -34 -11  20
2 65983    26 487  53  80  92  82  50   1 -51 -91-114-116 -97 -58
1 65983    27 487  -6  48  89 106  96  62  18 -21 -46 -54 -47 -27
2 65983    27 487   2  37  65  75  59  19 -33 -82-113-118 -98 -62
1 65983    28 487 -18  31  77 108 116  99  59   9 -33 -58 -61 -46
2 65983    28 487 -20  10  38  56  51  24 -17 -59 -89 -99 -89 -64
1 65983    29 487 -23  31  86 127 144 136 105  59  10 -31 -56 -60
2 65983    29 48799999999999999999999999999999999999999999999999
```

SOUTH END OF

PELLY BAY

STATION NUMBER 65987

STATION NUMBER	NAME	ZONE	LAT	LONG	ANALYSIS LENGTH	C.T.
65987	PELLY BAY SOUTH END	+6.0	6818 NORTH	9017 WEST	29 DAYS	487 MOYR

Z0 .005 (C.T. 487)

CONSTITUENT	AMPLITUDE	PHASE	CONSTITUENT	AMPLITUDE	PHASE
MSF	.009	140.8			
2Q1	.023	33.5	Q1	.010	103.8
O1	.328	211.9	NO1	.062	268.0
K1	.505	263.1	J1	.019	293.0
OO1	.004	335.3			
N2	.111	98.7	M2	.660	118.0
S2	.337	151.7			
MO3	.013	182.8	M3	.011	298.6
MK3	.009	307.7	SK3	.006	347.6
MN4	.003	80.4	M4	.023	272.0
MS4	.023	312.4	S4	.006	325.4
2MN6	.002	250.5	M6	.014	286.0
2MS6	.009	343.3	2SM6	.004	333.5
M8	.004	244.1			

AGE	M2/S2	AGE	K1/O1	DL-SD	DL	SD	DL/SD	DL+SD
34	1.96	51	1.54	180	.60	.75	.80	1.35

MEAN TIDES, TIMES AND HEIGHTS

HHW		LHW		HLW		LLW	
1644	1.36	433	.19	932	-.77	2350	-.90

LARGE TIDES		RANGES	
HHW	LLW	MT	LT
1.92	-1.57	2.26	3.49

AMPLITUDE VALUES ARE EXPRESSED IN DECIBARS

STATION 65987 PRELIMINARY RESULTS

	CONSTITUENT	FREQUENCY	C	ERR	S	ERR
1	Z0	0.00000000	-.005	.002	0.000	.000
2	MSF	.00282193	-.009	.003	-.001	.003
3	2Q1	.03570635	.020	.003	.014	.003
4	Q1	.03721850	-.009	.003	-.007	.003
5	O1	.03873065	.095	.003	.375	.003
6	NO1	.04026859	-.055	.003	-.028	.003
7	K1	.04178075	.428	.003	-.355	.003
8	J1	.04329290	-.004	.003	.019	.003
9	OO1	.04483084	.005	.003	.005	.003
10	UPS1	.04634299	.005	.003	.014	.003
11	N2	.07899925	.000	.003	-.104	.003
12	M2	.08051140	.469	.003	.394	.003
13	S2	.08333333	-.171	.003	.276	.003
14	ETA2	.08507364	.007	.003	.001	.003
15	MO3	.11924206	.012	.003	-.007	.003
16	M3	.12076710	.010	.003	.000	.003
17	MK3	.12229215	.003	.003	-.009	.003
18	SK3	.12511408	.006	.003	.002	.003
19	MN4	.15951065	-.002	.003	.000	.003
20	M4	.16102280	-.008	.003	.017	.003
21	MS4	.16384473	-.017	.003	-.008	.003
22	S4	.16666667	-.000	.003	-.005	.003
23	2MK5	.20280355	-.009	.003	.002	.003
24	2SK5	.20844741	.003	.003	.004	.003
25	2MN6	.24002205	-.000	.003	-.001	.003
26	M6	.24153420	.006	.003	.007	.003
27	2MS6	.24435613	-.005	.003	.002	.003
28	2SM6	.24717807	-.002	.003	-.001	.003
29	3MK7	.28331495	.001	.003	.002	.003
30	M8	.32204560	.001	.003	-.002	.003

NUMBER OF VALID DATA = 697 AVERAGE = -.01 STANDARD DEVIATION = .69

THEORETICAL RMS = .05 MATRIX CONDITION = .88

RMS OF THE RESIDUES = .04863

THE PREVIOUS C AND S VALUES WILL BE SCALED TO COMPENSATE FOR

THE PRIOR APPLICATION OF MOVING AVERAGE FILTERS

ORIGINAL DT = .25000 HR FILTERS = 4 4 5

ANALYSIS OF HOURLY TIDAL HEIGHTS STN 65987 1H 28/ 3/87 TO 1H 26/ 4/87

NO.OBS.= 697 NO.PTS.ANAL.= 697 MIDPT=13H 11/ 4/87 SEPARATION =1.00

TIME ZONE=+6.0 LATITUDE=68D 18M LONGITUDE= 90D 17M REF. STATION=

NO.	NAME	FREQUENCY	M-Y/ M-Y	A	G	AL	GL
1	Z0	0.00000000	387- 487	.0054	180.00	.0054	180.00
2	MSF	.00282193	387- 487	.0090	140.76	.0090	189.25
3	2Q1	.03570635	387- 487	.0226	33.49	.0244	35.05
4	Q1	.03721850	387- 487	.0103	103.83	.0117	216.62
5	O1	.03873065	387- 487	.3277	211.92	.3898	75.79
6	NO1	.04026859	387- 487	.0624	268.02	.0627	207.05
7	K1	.04178075	387- 487	.5049	263.07	.5611	320.35
8	J1	.04329290	387- 487	.0191	292.96	.0199	102.60
9	OO1	.04483084	387- 487	.0043	335.27	.0071	44.49
10	UPS1	.04634299	387- 487	.0095	248.50	.0156	70.36
11	N2	.07899925	387- 487	.1109	98.69	.1074	270.07
12	M2	.08051140	387- 487	.6604	118.00	.6353	40.01
13	S2	.08333333	387- 487	.3372	151.72	.3378	121.70
14	ETA2	.08507364	387- 487	.0062	317.94	.0072	7.85
15	MO3	.11924206	387- 487	.0132	182.79	.0151	328.67
16	M3	.12076710	387- 487	.0112	298.57	.0106	1.50
17	MK3	.12229215	387- 487	.0092	307.66	.0099	286.95
18	SK3	.12511408	387- 487	.0061	347.57	.0068	14.84
19	MN4	.15951065	387- 487	.0029	80.36	.0027	173.74
20	M4	.16102280	387- 487	.0230	271.96	.0213	115.96
21	MS4	.16384473	387- 487	.0227	312.42	.0219	204.41
22	S4	.16666667	387- 487	.0064	325.37	.0064	265.33
23	2MK5	.20280355	387- 487	.0113	266.13	.0116	167.42
24	2SK5	.20844741	387- 487	.0054	55.57	.0060	52.82
25	2MN6	.24002205	387- 487	.0022	250.53	.0019	265.91
26	M6	.24153420	387- 487	.0140	285.99	.0125	51.99
27	2MS6	.24435613	387- 487	.0090	343.27	.0083	157.26
28	2SM6	.24717807	387- 487	.0037	333.48	.0036	195.45
29	3MK7	.28331495	387- 487	.0034	229.05	.0034	52.34
30	M8	.32204560	387- 487	.0043	244.12	.0037	292.13

```
   65987            PELLY BAY, SOUTH END          - 68 18 N  90 17 W
   65987            DATA ARE REFERRED TO CST (+6) TIME ZONE
   65987            DATA ARE PRESSURES IN MILLIBARS
   65987            REFERENCE LEVEL IS Z0 (MEAN PRESSURE)
   65987            ORIGINAL 15 MINUTE DATA SMOOTHED USING A
   65987             4,4,5 MOVING AVERAGE FILTER
1 65987       24 3879999999999999999999999999999999999999999999999999
2 65987       24 3879999  85  58  30  -5 -39 -67 -79 -77 -67 -58 -55
1 65987       25 387 -57 -61 -63 -61 -57 -50 -37 -12  22  59  93 118
2 65987       25 387 128 121  98  67  30 -10 -49 -80 -96 -93 -74 -50
1 65987       26 387 -33 -27 -30 -36 -42 -49 -52 -45 -22  15  57  95
2 65987       26 387 123 136 129 102  60  14 -32 -71-101-114-102 -72
1 65987       27 387 -38 -13  -3  -7 -20 -38 -56 -63 -55 -29  11  56
2 65987       27 387  97 128 140 129  92  41 -13 -61 -98-119-122-100
1 65987       28 387 -59 -18  10  17   8 -12 -38 -63 -73 -60 -27  20
2 65987       28 387  69 113 142 150 130  84  21 -39 -84-111-116-103
1 65987       29 387 -72 -28  13  38  37  15 -16 -52 -78 -82 -64 -33
2 65987       29 387  12  65 110 135 133 104  53  -9 -66-100-102 -90
1 65987       30 387 -70 -32  20  61  77  65  32 -10 -53 -85 -90 -62
2 65987       30 387 -24  21  69 105 118 104  65  10 -46 -92-110 -94
1 65987       31 387 -67 -34  15  64  96  99  73  30 -17 -60 -84 -75
2 65987       31 387 -43 -11  25  63  89  91  67  22 -28 -71 -94 -91
1 65987        1 487 -77 -43   8  62 105 121 109  74  28 -21 -60 -73
2 65987        1 487 -58 -40 -14  21  54  70  58  24 -20 -61 -89 -94
1 65987        2 487 -86 -59  -8  49  97 125 127 106  69  23 -21 -52
2 65987        2 487 -61 -47 -27 -10  17  36  36  15 -21 -59 -85 -95
1 65987        3 487 -83 -59 -21  30  78 114 129 123  97  59  18 -17
2 65987        3 487 -36 -35 -24 -21 -11   5  15   8 -17 -49 -72 -81
1 65987        4 487 -79 -65 -34  11  58  96 120 127 114  85  48  11
2 65987        4 487 -15 -26 -25 -29 -37 -35 -25 -19 -28 -49 -69 -78
1 65987        5 487 -76 -62 -36   1  41  77 105 121 122 107  82  51
2 65987        5 487  20  -5 -20 -23 -30 -43 -50 -49 -49 -55 -66 -76
1 65987        6 487 -75 -66 -48 -23   8  41  73  97 111 111  98  78
2 65987        6 487  53  27   5  -8 -23 -43 -56 -61 -57 -56 -60 -65
1 65987        7 487 -64 -57 -45 -29  -8  18  46  72  94 107 109 101
2 65987        7 487  85  62  36   9 -17 -39 -56 -65 -66 -63 -59 -55
1 65987        8 487 -52 -48 -43 -36 -24  -8  12  34  58  81  96 103
2 65987        8 487  97  81  57  29   1 -26 -50 -68 -78 -76 -64 -49
1 65987        9 487 -36 -28 -27 -27 -27 -25 -17   0  23  48  70  87
2 65987        9 487  97  95  79  50  14 -22 -52 -74 -84 -84 -74 -57
1 65987       10 487 -36 -17  -9 -11 -21 -32 -35 -28 -11  16  45  72
2 65987       10 487  93 104  98  74  37  -4 -42 -71 -88 -91 -81 -59
1 65987       11 487 -30  -5   8   6  -9 -28 -44 -51 -44 -21  11  45
2 65987       11 487  75  95 102  90  57  12 -34 -69 -85 -84 -82 -64
1 65987       12 487 -30   8  33  37  23  -3 -32 -57 -67 -55 -28   8
2 65987       12 487  45  77  93  89  64  23 -26 -68 -95 -96 -84 -69
1 65987       13 487 -33  13  50  66  56  29  -7 -45 -75 -82 -63 -30
2 65987       13 487   3  41  71  82  70  35 -13 -60 -95-106 -90 -69
1 65987       14 487 -37  12  61  93  97  76  36  -9 -50 -76 -76 -57
2 65987       14 487 -30   5  43  67  68  42  -2 -52 -95-117-111 -83
1 65987       15 487 -48   0  55 101 124 120  87  38 -14 -55 -74 -69
2 65987       15 487 -48 -25  11  45  60  44   4 -44 -83-105-117-112
1 65987       16 487 -80 -21  46 103 137 145 128  89  34 -19 -59 -73
2 65987       16 487 -64 -54 -29   8  37  41  16 -27 -69-102-124-124
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1 65987      17 487 -98 -44  23  85 132 158 157 131  85  31 -17 -48
2 65987      17 487 -57 -60 -55 -30   5  26  19 -11 -51 -86-111-121
1 65987      18 487-109 -69  -9  54 109 147 163 155 124  79  29 -13
2 65987      18 487 -42 -48 -54 -50 -27  -1   9  -8 -41 -74 -95-108
1 65987      19 487-109 -87 -42  17  74 119 146 156 144 114  72  29
2 65987      19 487 -10 -36 -41 -45 -49 -38 -25 -23 -39 -65 -87 -96
1 65987      20 487 -96 -86 -61 -21  28  74 112 136 143 131 103  68
2 65987      20 487  30  -7 -35 -52 -55 -48 -50 -50 -51 -57 -65 -75
1 65987      21 487 -81 -78 -63 -37   0  40  78 110 132 140 132 110
2 65987      21 487  79  43   5 -29 -53 -65 -66 -64 -65 -63 -60 -58
1 65987      22 487 -58 -59 -56 -45 -25   3  36  70 101 125 137 132
2 65987      22 487 112  83  46   4 -35 -67 -86 -91 -87 -76 -63 -50
1 65987      23 487 -41 -39 -40 -42 -39 -26  -4  26  60  92 117 130
2 65987      23 487 129 111  80  40  -5 -47 -80-100-103 -91 -67 -39
1 65987      24 487 -16  -4  -4 -13 -24 -28 -24  -8  17  49  79 104
2 65987      24 487 121 124 108  71  21 -31 -73-103-115-107 -84 -50
1 65987      25 487 -17   9  22  18   1 -23 -42 -47 -34  -6  27  61
2 65987      25 487  89 103 100  75  30 -22 -68 -98-113-109 -88 -51
1 65987      26 487  -2  44  73  77  58  24 -12 -38 -46 -36 -11  20
2 65987      26 487  53  81  93  85  53   4 -48 -91-115-118 -99 -59
1 65987      27 487  -5  49  91 108  98  64  19 -21 -47 -55 -48 -29
2 65987      27 487   2  37  66  77  61  23 -30 -81-114-121-100 -62
1 65987      28 487 -18  32  78 109 118 101  61  10 -33 -60 -63 -47
2 65987      28 487 -19   9  39  57  54  26 -15 -58 -90-101 -91 -66
1 65987      29 487 -24  31  87 128 146 138 107  62  11 -31 -57 -61
2 65987      29 487 -45 -23   5  29999999999999999999999999999999
```

CAPE BARCLAY

COMMITTEE BAY

STATION NUMBER 65992

STATION NUMBER	NAME	ZONE	LAT	LONG	ANALYSIS LENGTH	C.T.
65992	CAPE BARCLAY	+6.0	6814 NORTH	8808 WEST	29 DAYS	487 MOYR

Z0 .007 (C.T. 487)

CONSTITUENT	AMPLITUDE	PHASE	CONSTITUENT	AMPLITUDE	PHASE
MSF	.009	151.1			
2Q1	.024	129.1	Q1	.022	110.4
O1	.351	233.7	NO1	.052	295.0
K1	.534	290.6	J1	.030	342.7
OO1	.002	286.7			
N2	.116	174.1	M2	.842	201.7
S2	.425	241.8			
MO3	.030	318.5	M3	.010	95.8
MK3	.004	261.5	SK3	.008	66.6
MN4	.002	156.2	M4	.011	159.6
MS4	.007	268.4	S4	.001	35.2
2MN6	.001	129.4	M6	.005	320.2
2MS6	.006	355.7	2SM6	.004	21.9
M8	.002	27.0			

AGE	M2/S2	AGE	K1/O1	DL-SD	DL	SD	DL/SD	DL+SD
40	1.98	57	1.52	163	.64	.95	.67	1.59

MEAN TIDES, TIMES AND HEIGHTS

HHW		LHW		HLW		LLW	
1927	1.49	738	.40	1244	-.76	144	-1.20

LARGE TIDES		RANGES	
2.26	-1.54	2.70	3.80
HHW	LLW	MT	LT

AMPLITUDE VALUES ARE EXPRESSED IN DECIBARS

STATION 65992 PRELIMINARY RESULTS

	CONSTITUENT	FREQUENCY	C	ERR	S	ERR
1	Z0	0.00000000	-.007	.003	0.000	.000
2	MSF	.00282193	-.009	.004	-.003	.004
3	2Q1	.03570635	-.017	.004	.020	.004
4	Q1	.03721850	-.018	.004	-.017	.004
5	O1	.03873065	-.054	.004	.411	.004
6	NO1	.04026859	-.030	.004	-.042	.004
7	K1	.04178075	.575	.004	-.124	.004
8	J1	.04329290	-.028	.004	.014	.004
9	OO1	.04483084	.003	.004	-.000	.004
10	UPS1	.04634299	.009	.004	.018	.004
11	N2	.07899925	.105	.004	-.027	.004
12	M2	.08051140	-.434	.004	.650	.004
13	S2	.08333333	-.348	.004	-.216	.004
14	ETA2	.08507364	-.025	.004	.038	.004
15	MO3	.11924206	-.008	.004	.031	.004
16	M3	.12076710	-.008	.004	.003	.004
17	MK3	.12229215	-.002	.004	-.003	.004
18	SK3	.12511408	-.001	.004	.008	.004
19	MN4	.15951065	-.001	.004	-.002	.004
20	M4	.16102280	.009	.004	.001	.004
21	MS4	.16384473	-.005	.004	.002	.004
22	S4	.16666667	.001	.004	-.000	.004
23	2MK5	.20280355	.000	.004	-.001	.004
24	2SK5	.20844741	-.001	.004	.001	.004
25	2MN6	.24002205	-.001	.004	.001	.004
26	M6	.24153420	.000	.004	.003	.004
27	2MS6	.24435613	-.004	.004	.001	.004
28	2SM6	.24717807	-.001	.004	-.002	.004
29	3MK7	.28331495	-.002	.004	.001	.004
30	M8	.32204560	.000	.004	.001	.004

NUMBER OF VALID DATA = 697 AVERAGE = -.01 STANDARD DEVIATION = .81

THEORETICAL RMS = .07 MATRIX CONDITION = .88

RMS OF THE RESIDUES = .07430

THE PREVIOUS C AND S VALUES WILL BE SCALED TO COMPENSATE FOR

THE PRIOR APPLICATION OF MOVING AVERAGE FILTERS

ORIGINAL DT = .25000 HR FILTERS = 4 4 5

ANALYSIS OF HOURLY TIDAL HEIGHTS STN 65992 1H 28/ 3/87 TO 1H 26/ 4/87

NO.OBS.= 697 NO.PTS.ANAL.= 697 MIDPT=13H 11/ 4/87 SEPARATION =1.00

TIME ZONE=+6.0 LATITUDE=68D 14M LONGITUDE= 88D 8M REF. STATION=

NO.	NAME	FREQUENCY	M-Y/ M-Y	A	G	AL	GL
1	Z0	0.00000000	387- 487	.0065	180.00	.0065	180.00
2	MSF	.00282193	387- 487	.0095	151.07	.0095	199.56
3	2Q1	.03570635	387- 487	.0245	129.10	.0264	130.66
4	Q1	.03721850	387- 487	.0222	110.45	.0253	223.23
5	O1	.03873065	387- 487	.3514	233.67	.4180	97.54
6	NO1	.04026859	387- 487	.0519	294.99	.0522	234.02
7	K1	.04178075	387- 487	.5342	290.55	.5937	347.84
8	J1	.04329290	387- 487	.0301	342.74	.0315	152.39
9	OO1	.04483084	387- 487	.0021	286.66	.0034	355.88
10	UPS1	.04634299	387- 487	.0127	240.88	.0208	62.73
11	N2	.07899925	387- 487	.1160	174.08	.1124	345.46
12	M2	.08051140	387- 487	.8417	201.72	.8097	123.72
13	S2	.08333333	387- 487	.4250	241.79	.4258	211.77
14	ETA2	.08507364	387- 487	.0409	73.37	.0473	123.27
15	MO3	.11924206	387- 487	.0305	318.52	.0348	104.40
16	M3	.12076710	387- 487	.0104	95.80	.0098	158.74
17	MK3	.12229215	387- 487	.0038	261.53	.0041	240.81
18	SK3	.12511408	387- 487	.0080	66.58	.0089	93.84
19	MN4	.15951065	387- 487	.0023	156.20	.0021	249.59
20	M4	.16102280	387- 487	.0108	159.65	.0100	3.65
21	MS4	.16384473	387- 487	.0070	268.37	.0067	160.35
22	S4	.16666667	387- 487	.0007	35.25	.0007	335.21
23	2MK5	.20280355	387- 487	.0010	32.68	.0010	293.96
24	2SK5	.20844741	387- 487	.0021	143.19	.0023	140.44
25	2MN6	.24002205	387- 487	.0015	129.37	.0013	144.76
26	M6	.24153420	387- 487	.0051	320.23	.0046	86.24
27	2MS6	.24435613	387- 487	.0055	355.65	.0051	169.64
28	2SM6	.24717807	387- 487	.0039	21.91	.0038	243.88
29	3MK7	.28331495	387- 487	.0033	327.31	.0033	150.60
30	M8	.32204560	387- 487	.0023	26.95	.0019	74.96

```
  65992          CAPE BARCLAY, COMMITTEE BAY  - 68 14 N  88 08 W
  65992          DATA ARE REFERRED TO CST (+6) TIME ZONE
  65992          DATA ARE PRESSURES IN MILLIBARS
  65992          REFERENCE LEVEL IS Z0 (MEAN PRESSURE)
  65992          ORIGINAL 15 MINUTE DATA SMOOTHED USING A
  65992           4,4,5 MOVING AVERAGE FILTER
1 65992      24 387999999999999999999999999999999999999999999999999
2 65992      24 3879999999999999999  84  44  -2 -45 -75 -93-102 -97
1 65992      25 387 -84 -68 -49 -37 -31 -33 -39 -40 -35 -17  13  46
2 65992      25 387  75 100 121 129 124 100  61  13 -34 -71 -95-106
1 65992      26 387-100 -81 -55 -26  -5   3  -2 -17 -33 -41 -33  -6
2 65992      26 387  30  64  94 116 128 123  94  50  -6 -59 -98-122
1 65992      27 387-126-109 -76 -38  -2  17  20   7 -18 -41 -54 -49
2 65992      27 387 -21  24  67 100 122 136 122  83  27 -35 -89-124
1 65992      28 387-142-136-105 -60 -13  23  38  33   7 -27 -55 -68
2 65992      28 387 -59 -21  31  85 125 146 150 119  64  -3 -72-124
1 65992      29 387-153-155-125 -78 -22  29  59  64  40  -3 -49 -86
2 65992      29 387-100 -83 -36  26  86 132 155 144  99  34 -38-100
1 65992      30 387-139-150-127 -74 -12  48  93 108  93  48 -11 -68
2 65992      30 387-104-113 -86 -29  37  96 135 143 117  62  -7 -76
1 65992      31 387-124-144-134 -86 -20  46 103 130 129  91  33 -30
2 65992      31 387 -84-112-110 -76 -18  41  93 121 116  80  21 -43
1 65992       1 487 -98-131-131 -98 -38  31  93 136 151 132  81  17
2 65992       1 487 -47 -93-115-105 -67 -14  39  80  96  81  38 -18
1 65992       2 487 -73-114-126-105 -52  15  81 132 160 157 122  67
2 65992       2 487   3 -55 -93-105 -92 -51  -5  37  63  61  34 -12
1 65992       3 487 -62-102-120-108 -65  -3  62 118 150 159 141  97
2 65992       3 487  43 -14 -58 -81 -87 -66 -34   0  28  39  28   1
1 65992       4 487 -36 -71 -93 -93 -66 -15  44 101 139 157 156 127
2 65992       4 487  83  31 -18 -54 -74 -80 -67 -47 -27 -10  -8 -17
1 65992       5 487 -35 -58 -72 -75 -58 -21  25  76 114 137 148 139
2 65992       5 487 111  71  25 -18 -50 -68 -75 -71 -61 -52 -44 -44
1 65992       6 487 -48 -55 -63 -65 -58 -37  -5  35  76 109 130 135
2 65992       6 487 124  96  59  18 -17 -45 -63 -72 -75 -72 -67 -62
1 65992       7 487 -55 -49 -44 -38 -31 -17   3  30  61  90 115 130
2 65992       7 487 135 128 108  81  47  12 -20 -48 -68 -80 -85 -80
1 65992       8 487 -70 -57 -44 -34 -27 -21 -14  -4  11  32  55  78
2 65992       8 487  98 111 114 105  83  53  20 -14 -45 -69 -85 -92
1 65992       9 487 -85 -70 -50 -30 -16  -7  -4  -4  -2   2  14  33
2 65992       9 487  54  76  94 102  98  77  45   7 -32 -65 -90-103
1 65992      10 487-101 -83 -56 -27  -4   8  11   5  -6 -14 -14  -1
2 65992      10 487  24  53  80 100 108 100  71  28 -18 -63 -96-114
1 65992      11 487-114 -95 -60 -22  11  29  30  15 -11 -36 -50 -47
2 65992      11 487 -23  17  59  92 109 111  87  44  -9 -61 -97-120
1 65992      12 487-120 -97 -60 -12  31  57  64  46  12 -29 -64 -77
2 65992      12 487 -70 -34  15  60  96 112 101  67  15 -41 -89-115
1 65992      13 487-125-104 -59 -10  43  73  85  76  39  -6 -53 -85
2 65992      13 487 -94 -83 -37  13  55  83  89  71  29 -25 -78-112
1 65992      14 487-129-118 -74 -18  40  80 101 107  81  38 -15 -65
2 65992      14 487 -92-102 -81 -35  13  57  77  76  46  -7 -62-108
1 65992      15 487-132-133 -97 -39  27  81 116 133 122  83  29 -33
2 65992      15 487 -85-110-113 -82 -32  15  56  72  57  17 -36 -90
1 65992      16 487-127-139-118 -64   5  69 123 155 158 133  82  20
2 65992      16 487 -42 -86-107-102 -72 -31  10  40  48  33  -3 -48
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1 65992      17 487 -91-118-119 -86 -28  33  95 144 163 161 128  76
2 65992      17 487  15 -43 -84-103 -99 -72 -36   0  24  28  10 -25
1 65992      18 487 -65 -99-115-101 -56   4  67 126 161 173 160 120
2 65992      18 487  65   4 -48 -85-100 -93 -68 -37  -7   7   5 -18
1 65992      19 487 -51 -85-108-106 -76 -22  42  99 145 171 172 149
2 65992      19 487 104  48 -12 -59 -89-101 -91 -70 -45 -23 -17 -24
1 65992      20 487 -45 -72 -95-103 -88 -49   5  64 114 148 165 165
2 65992      20 487 141 100  48  -6 -51 -79 -95 -97 -83 -68 -50 -39
1 65992      21 487 -40 -48 -60 -68 -67 -50 -16  27  73 112 140 157
2 65992      21 487 160 143 106  59   7 -41 -78-100-109-105 -89 -70
1 65992      22 487 -51 -38 -32 -32 -35 -34 -24  -2  31  70 106 134
2 65992      22 487 150 153 140 107  62   9 -42 -84-113-126-124-106
1 65992      23 487 -78 -48 -21  -5   0  -5 -12 -15  -7  16  49  84
2 65992      23 487 113 133 145 139 113  73  24 -31 -77-109-126-124
1 65992      24 487-101 -66 -27   5  22  27  20   6  -6 -11  -3  23
2 65992      24 487  55  88 111 126 127 103  62  11 -44 -90-122-135
1 65992      25 487-126 -94 -49  -5  27  42  41  22  -4 -28 -41 -37
2 65992      25 487 -13  23  61  89 101  95  59  10 -46 -97-128-145
1 65992      26 487-133 -95 -43  17  66  95 101  84  47   6 -29 -48
2 65992      26 487 -50 -26  11  53  87  99  90  56   9 -42 -85-115
1 65992      27 487-124-103 -57   1  58  96 114 109  79  33 -15 -52
2 65992      27 487 -75 -72 -45  -4  43  74  82  65  19 -36 -88-123
1 65992      28 487-135-115 -66  -2  60 102 128 129 101  57   2 -51
2 65992      28 487 -84 -92 -78 -35  10  51  73  69  38  -9 -61-100
1 65992      29 487-118-108 -65  -3  59 110 146 156 144 103  50 -11
2 65992      29 487 -649999999999999999999999999999999999999999999
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WALES ISLAND, WEST SIDE

COMMITTEE BAY

STATION NUMBER 65994

STATION NUMBER	NAME	ZONE	LAT	LONG	ANALYSIS LENGTH	C.T.
65994	WALES IS.,COMMITTEE B.	+6.0	6802 NORTH	8654 WEST	29 DAYS	487 MOYR

Z0 .006 (C.T. 487)

CONSTITUENT	AMPLITUDE	PHASE	CONSTITUENT	AMPLITUDE	PHASE
MSF	.009	149.7			
2Q1	.025	135.6	Q1	.020	113.2
O1	.356	239.1	NO1	.052	300.1
K1	.539	296.4	J1	.029	349.0
OO1	.003	315.8			
N2	.119	185.3	M2	.865	213.6
S2	.442	253.8			
MO3	.032	341.9	M3	.011	117.9
MK3	.005	253.4	SK3	.011	90.1
MN4	.002	209.4	M4	.009	197.5
MS4	.006	324.5	S4	.004	61.5
2MN6	.001	235.4	M6	.001	267.6
2MS6	.001	218.1	2SM6	.002	156.5
M8	.004	338.8			

AGE	M2/S2	AGE	K1/O1	DL-SD	DL	SD	DL/SD	DL+SD
40	1.96	57	1.51	162	.65	.98	.66	1.62

MEAN TIDES, TIMES AND HEIGHTS

HHW		LHW		HLW		LLW	
1950	1.52	802	.42	1311	-.78	209	-1.25

LARGE TIDES		RANGES	
HHW	LLW	MT	LT
2.31	-1.60	2.77	3.90

AMPLITUDE VALUES ARE EXPRESSED IN DECIBARS

STATION 65994 PRELIMINARY RESULTS

	CONSTITUENT	FREQUENCY	C	ERR	S	ERR
1	Z0	0.00000000	-.006	.003	0.000	.000
2	MSF	.00282193	-.009	.004	-.003	.004
3	2Q1	.03570635	-.019	.004	.018	.004
4	Q1	.03721850	-.016	.004	-.017	.004
5	O1	.03873065	-.094	.004	.409	.004
6	NO1	.04026859	-.027	.004	-.045	.004
7	K1	.04178075	.590	.004	-.065	.004
8	J1	.04329290	-.028	.004	.011	.004
9	OO1	.04483084	.004	.004	.002	.004
10	UPS1	.04634299	.007	.004	.021	.004
11	N2	.07899925	.111	.004	-.006	.004
12	M2	.08051140	-.574	.004	.562	.004
13	S2	.08333333	-.308	.004	-.295	.004
14	ETA2	.08507364	-.035	.004	.030	.004
15	MO3	.11924206	-.021	.004	.027	.004
16	M3	.12076710	-.009	.004	-.000	.004
17	MK3	.12229215	-.003	.004	-.004	.004
18	SK3	.12511408	-.005	.004	.010	.004
19	MN4	.15951065	.001	.004	-.001	.004
20	M4	.16102280	.005	.004	.005	.004
21	MS4	.16384473	-.004	.004	-.003	.004
22	S4	.16666667	.003	.004	.000	.004
23	2MK5	.20280355	.001	.004	-.000	.004
24	2SK5	.20844741	-.001	.004	-.002	.004
25	2MN6	.24002205	-.000	.004	-.001	.004
26	M6	.24153420	.001	.004	.000	.004
27	2MS6	.24435613	.001	.004	.000	.004
28	2SM6	.24717807	.001	.004	.000	.004
29	3MK7	.28331495	-.000	.004	.000	.004
30	M8	.32204560	.002	.004	.001	.004

NUMBER OF VALID DATA = 697 AVERAGE = -.01 STANDARD DEVIATION = .83

THEORETICAL RMS = .08 MATRIX CONDITION = .88

RMS OF THE RESIDUES = .07732

THE PREVIOUS C AND S VALUES WILL BE SCALED TO COMPENSATE FOR

THE PRIOR APPLICATION OF MOVING AVERAGE FILTERS

ORIGINAL DT = .25000 HR FILTERS = 4 4 5

ANALYSIS OF HOURLY TIDAL HEIGHTS STN 65994 1H 28/ 3/87 TO 1H 26/ 4/87

NO.OBS.= 697 NO.PTS.ANAL.= 697 MIDPT=13H 11/ 4/87 SEPARATION =1.00

TIME ZONE=+6.0 LATITUDE=68D 2M LONGITUDE= 86D 54M REF. STATION=

NO.	NAME	FREQUENCY	M-Y/ M-Y	A	G	AL	GL
1	Z0	0.00000000	387- 487	.0065	180.00	.0065	180.00
2	MSF	.00282193	387- 487	.0093	149.71	.0093	198.20
3	2Q1	.03570635	387- 487	.0246	135.64	.0266	137.21
4	Q1	.03721850	387- 487	.0204	113.23	.0232	226.02
5	O1	.03873065	387- 487	.3558	239.12	.4232	102.99
6	NO1	.04026859	387- 487	.0523	300.09	.0525	239.11
7	K1	.04178075	387- 487	.5390	296.39	.5991	353.68
8	J1	.04329290	387- 487	.0289	349.03	.0303	158.68
9	OO1	.04483084	387- 487	.0028	315.84	.0047	25.05
10	UPS1	.04634299	387- 487	.0135	250.17	.0221	72.02
11	N2	.07899925	387- 487	.1186	185.30	.1149	356.68
12	M2	.08051140	387- 487	.8651	213.61	.8323	135.62
13	S2	.08333333	387- 487	.4421	253.81	.4429	223.80
14	ETA2	.08507364	387- 487	.0416	89.39	.0482	139.29
15	MO3	.11924206	387- 487	.0318	341.94	.0364	127.82
16	M3	.12076710	387- 487	.0109	117.91	.0103	180.84
17	MK3	.12229215	387- 487	.0048	253.41	.0051	232.70
18	SK3	.12511408	387- 487	.0107	90.08	.0119	117.35
19	MN4	.15951065	387- 487	.0019	209.43	.0018	302.81
20	M4	.16102280	387- 487	.0086	197.53	.0079	41.53
21	MS4	.16384473	387- 487	.0063	324.53	.0061	216.51
22	S4	.16666667	387- 487	.0040	61.46	.0040	1.43
23	2MK5	.20280355	387- 487	.0013	74.82	.0013	336.11
24	2SK5	.20844741	387- 487	.0027	232.69	.0030	229.94
25	2MN6	.24002205	387- 487	.0012	235.40	.0010	250.78
26	M6	.24153420	387- 487	.0011	267.63	.0010	33.63
27	2MS6	.24435613	387- 487	.0011	218.09	.0010	32.07
28	2SM6	.24717807	387- 487	.0020	156.53	.0019	18.49
29	3MK7	.28331495	387- 487	.0006	339.47	.0006	162.76
30	M8	.32204560	387- 487	.0041	338.75	.0035	26.76

```
   65994          WALES ISLAND, COMMITTEE BAY  - 68 02 N  86 54 W
   65994          DATA ARE REFERRED TO CST (+6) TIME ZONE
   65994          DATA ARE PRESSURES IN MILLIBARS
   65994          REFERENCE LEVEL IS Z0 (MEAN PRESSURE)
   65994          ORIGINAL 15 MINUTE DATA SMOOTHED USING A
   65994           4,4,5 MOVING AVERAGE FILTER
1 65994       24 387999999999999999999999999999999999999999999999999
2 65994       24 387999999999999999999  63  16 -30 -67 -92-103-102
1 65994       25 387 -92 -75 -56 -41 -32 -31 -35 -40 -39 -27  -3  30
2 65994       25 387  65  95 118 130 129 113  79  33 -16 -60 -91-107
1 65994       26 387-106 -91 -67 -37 -12   3   4  -9 -26 -39 -39 -20
2 65994       26 387  12  51  87 113 128 128 110  72  18 -38 -86-118
1 65994       27 387-129-120 -93 -55 -16  13  24  17  -5 -31 -51 -55
2 65994       27 387 -36  -1  44  90 122 137 132 104  54  -8 -68-116
1 65994       28 387-142-144-122 -82 -33  11  38  41  22 -11 -45 -68
2 65994       28 387 -68 -40   6  61 112 146 155 136  91  26 -46-107
1 65994       29 387-149-162-144-102 -45  12  52  69  55  18 -31 -76
2 65994       29 387-101 -97 -61  -2  66 122 154 153 121  62 -11 -80
1 65994       30 387-131-154-143-100 -39  29  82 110 106  71  15 -47
2 65994       30 387 -95-117-104 -57   8  76 127 148 133  88  21 -51
1 65994       31 387-110-144-145-111 -51  22  87 128 137 111  59  -6
2 65994       31 387 -67-108-119 -96 -45  17  77 117 125  99  47 -19
1 65994        1 487 -82-125-139-119 -67   2  73 127 153 145 105  43
2 65994        1 487 -25 -81-114-116 -88 -39  19  69  96  93  59   5
1 65994        2 487 -54-104-128-121 -80 -15  58 120 157 165 141  92
2 65994        2 487  29 -35 -83-108-103 -71 -26  22  57  67  49   9
1 65994        3 487 -43 -90-120-120 -89 -32  36  99 144 163 153 118
2 65994        3 487  67   7 -44 -79 -91 -78 -49 -13  21  39  37  15
1 65994        4 487 -20 -59 -88 -98 -82 -40  18  79 129 159 162 142
2 65994        4 487 104  53   0 -43 -71 -82 -74 -57 -35 -14  -6 -10
1 65994        5 487 -26 -49 -68 -77 -68 -40   3  53  99 133 149 146
2 65994        5 487 126  90  43  -3 -41 -66 -77 -75 -67 -56 -47 -44
1 65994        6 487 -46 -53 -61 -66 -63 -48 -20  18  61  99 125 137
2 65994        6 487 131 109  74  33  -7 -39 -60 -72 -76 -75 -70 -65
1 65994        7 487 -58 -51 -45 -39 -33 -22  -5  20  50  81 108 128
2 65994        7 487 137 133 118  93  61  26  -8 -39 -62 -78 -85 -83
1 65994        8 487 -76 -63 -49 -38 -29 -23 -17  -9   4  22  44  69
2 65994        8 487  92 108 116 112  95  68  35  -1 -34 -62 -82 -92
1 65994        9 487 -91 -79 -61 -39 -21  -9  -3  -2  -3  -1   7  23
2 65994        9 487  43  67  88 102 104  90  62  25 -16 -53 -83-101
1 65994       10 487-105 -94 -71 -42 -14   5  13  10   0 -11 -16  -9
2 65994       10 487  10  37  68  95 110 108  87  50   2 -46 -86-112
1 65994       11 487-119-107 -78 -39  -1  25  34  24   1 -26 -47 -53
2 65994       11 487 -37  -3  40  81 109 116 101  65  14 -41 -87-117
1 65994       12 487-125-111 -79 -32  15  51  67  58  29 -12 -52 -77
2 65994       12 487 -79 -53  -7  44  88 112 111  85  39 -19 -72-110
1 65994       13 487-128-116 -82 -32  23  66  88  85  58  15 -35 -76
2 65994       13 487 -98 -92 -59 -12  38  79  93  83  51   0 -56-102
1 65994       14 487-129-127 -96 -47  13  68 102 112  97  60   8 -46
2 65994       14 487 -86-105 -94 -58 -11  41  76  84  63  18 -38 -92
1 65994       15 487-129-139-117 -68  -2  63 111 135 131 103  54  -9
2 65994       15 487 -68-107-120 -99 -56  -3  46  73  69  38 -14 -71
1 65994       16 487-118-141-133 -91 -25  50 110 151 163 147 106  46
2 65994       16 487 -20 -74-106-111 -88 -49  -4  34  51  44  14 -31
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1 65994      17 487 -77-112-124-105 -55  14  79 130 161 166 145 100
2 65994      17 487  40 -23 -73-102-106 -87 -52 -13  19  31  21  -9
1 65994      18 487 -50 -89-114-112 -79 -20  51 108 153 173 169 139
2 65994      18 487  90  28 -31 -76-100-101 -82 -50 -17   6  10  -6
1 65994      19 487 -37 -73-102-112 -94 -48  18  83 134 167 176 162
2 65994      19 487 126  72  11 -43 -82-101 -99 -81 -55 -30 -16 -17
1 65994      20 487 -34 -61 -87-103 -98 -70 -22  36  92 138 166 172
2 65994      20 487 156 121  71  16 -34 -72 -94 -99 -91 -75 -56 -42
1 65994      21 487 -37 -42 -54 -66 -70 -60 -34   5  50  95 133 157
2 65994      21 487 164 154 125  80  28 -23 -66 -96-110-110 -97 -78
1 65994      22 487 -58 -41 -32 -30 -33 -34 -29 -12  16  52  91 125
2 65994      22 487 149 157 149 123  82  30 -23 -70-106-125-128-116
1 65994      23 487 -91 -59 -30  -8   1   0  -8 -14 -12   3  31  67
2 65994      23 487 103 131 146 146 128  92  44 -10 -60-100-124-129
1 65994      24 487-114 -83 -44  -7  19  30  27  14  -1 -11  -8   8
2 65994      24 487  36  72 105 126 132 118  84  35 -20 -72-113-135
1 65994      25 487-135-112 -73 -26  15  41  47  35  10 -17 -39 -42
2 65994      25 487 -27   4  43  80 102 102  79  34 -23 -78-121-144
1 65994      26 487-142-115 -68  -9  47  88 106  98  68  26 -15 -45
2 65994      26 487 -53 -39  -9  32  73  99 101  78  35 -18 -69-107
1 65994      27 487-125-117 -83 -30  31  82 114 119  98  57   6 -40
2 65994      27 487 -71 -78 -61 -25  22  63  85  78  43 -11 -68-114
1 65994      28 487-136-128 -91 -32  35  92 127 135 118  79  25 -32
2 65994      28 487 -75 -96 -89 -56 -10  38  70  77  56  12 -41 -88
1 65994      29 487-117-119 -88 -32  36  97 140 158 153 124  75  13
2 65994      29 487 -46 -869999999999999999999999999999999999999999
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CAPE WEYNTON

COMMITTEE BAY

STATION NUMBER 65996

STATION NUMBER	NAME	ZONE	LAT	LONG	ANALYSIS LENGTH	C.T.
65996	CAPE WEYNTON	+6.0	6745 NORTH	8805 WEST	29 DAYS	487 MOYR

Z0 .007 (C.T. 487)

CONSTITUENT	AMPLITUDE	PHASE	CONSTITUENT	AMPLITUDE	PHASE
MSF	.009	150.6			
2Q1	.025	130.8	Q1	.022	110.8
O1	.358	236.7	NO1	.053	298.8
K1	.546	293.6	J1	.031	346.0
OO1	.002	314.9			
N2	.127	180.1	M2	.922	207.7
S2	.472	248.0			
MO3	.036	328.5	M3	.013	112.1
MK3	.006	258.6	SK3	.012	74.1
MN4	.003	208.7	M4	.015	192.6
MS4	.012	300.6	S4	.004	39.5
2MN6	.001	174.9	M6	.004	41.8
2MS6	.007	76.7	2SM6	.005	115.7
M8	.001	104.2			

AGE	M2/S2	AGE	K1/O1	DL-SD	DL	SD	DL/SD	DL+SD
40	1.95	57	1.53	163	.65	1.04	.63	1.70

MEAN TIDES, TIMES AND HEIGHTS

HHW		LHW		HLW		LLW	
1939	1.58	749	.47	1301	-.85	154	-1.32

LARGE TIDES		RANGES	
HHW	LLW	MT	LT
2.40	-1.70	2.90	4.10

AMPLITUDE VALUES ARE EXPRESSED IN DECIBARS

STATION 65996 PRELIMINARY RESULTS

	CONSTITUENT	FREQUENCY	C	ERR	S	ERR
1	Z0	0.00000000	-.007	.003	0.000	.000
2	MSF	.00282193	-.009	.004	-.003	.004
3	2Q1	.03570635	-.018	.004	.019	.004
4	Q1	.03721850	-.018	.004	-.017	.004
5	O1	.03873065	-.077	.004	.415	.004
6	NO1	.04026859	-.028	.004	-.045	.004
7	K1	.04178075	.594	.004	-.095	.004
8	J1	.04329290	-.029	.004	.013	.004
9	OO1	.04483084	.004	.004	.002	.004
10	UPS1	.04634299	.008	.004	.019	.004
11	N2	.07899925	.117	.004	-.018	.004
12	M2	.08051140	-.547	.004	.658	.004
13	S2	.08333333	-.359	.004	-.280	.004
14	ETA2	.08507364	-.033	.004	.038	.004
15	MO3	.11924206	-.016	.004	.035	.004
16	M3	.12076710	-.012	.004	.001	.004
17	MK3	.12229215	-.003	.004	-.005	.004
18	SK3	.12511408	-.002	.004	.012	.004
19	MN4	.15951065	.001	.004	-.002	.004
20	M4	.16102280	.009	.004	.007	.004
21	MS4	.16384473	-.010	.004	-.002	.004
22	S4	.16666667	.003	.004	-.001	.004
23	2MK5	.20280355	.003	.004	.001	.004
24	2SK5	.20844741	-.002	.004	-.002	.004
25	2MN6	.24002205	-.001	.004	-.000	.004
26	M6	.24153420	-.002	.004	.000	.004
27	2MS6	.24435613	-.002	.004	-.005	.004
28	2SM6	.24717807	.003	.004	-.001	.004
29	3MK7	.28331495	-.001	.004	-.001	.004
30	M8	.32204560	-.000	.004	.000	.004

NUMBER OF VALID DATA = 697 AVERAGE = -.01 STANDARD DEVIATION = .87

THEORETICAL RMS = .08 MATRIX CONDITION = .88

RMS OF THE RESIDUES = .08132

THE PREVIOUS C AND S VALUES WILL BE SCALED TO COMPENSATE FOR

THE PRIOR APPLICATION OF MOVING AVERAGE FILTERS

ORIGINAL DT = .25000 HR FILTERS = 4 4 5

ANALYSIS OF HOURLY TIDAL HEIGHTS STN 65996 1H 28/ 3/87 TO 1H 26/ 4/87

NO.OBS.= 697 NO.PTS.ANAL.= 697 MIDPT=13H 11/ 4/87 SEPARATION =1.00

TIME ZONE=+6.0 LATITUDE=67D 45M LONGITUDE= 88D 5M REF. STATION=

NO.	NAME	FREQUENCY	M-Y/ M-Y	A	G	AL	GL
1	Z0	0.00000000	387- 487	.0070	180.00	.0070	180.00
2	MSF	.00282193	387- 487	.0091	150.60	.0091	199.08
3	2Q1	.03570635	387- 487	.0246	130.85	.0265	132.42
4	Q1	.03721850	387- 487	.0217	110.77	.0247	223.56
5	O1	.03873065	387- 487	.3579	236.67	.4258	100.54
6	NO1	.04026859	387- 487	.0530	298.76	.0532	237.76
7	K1	.04178075	387- 487	.5463	293.59	.6072	350.88
8	J1	.04329290	387- 487	.0307	345.97	.0321	155.61
9	OO1	.04483084	387- 487	.0025	314.95	.0041	24.16
10	UPS1	.04634299	387- 487	.0130	245.41	.0213	67.26
11	N2	.07899925	387- 487	.1269	180.13	.1229	351.52
12	M2	.08051140	387- 487	.9224	207.70	.8874	129.70
13	S2	.08333333	387- 487	.4724	248.00	.4733	217.98
14	ETA2	.08507364	387- 487	.0455	80.92	.0527	130.82
15	MO3	.11924206	387- 487	.0364	328.52	.0417	114.39
16	M3	.12076710	387- 487	.0134	112.10	.0127	175.04
17	MK3	.12229215	387- 487	.0057	258.57	.0061	237.85
18	SK3	.12511408	387- 487	.0121	74.09	.0135	101.36
19	MN4	.15951065	387- 487	.0031	208.73	.0029	302.12
20	M4	.16102280	387- 487	.0146	192.57	.0135	36.57
21	MS4	.16384473	387- 487	.0124	300.61	.0120	192.59
22	S4	.16666667	387- 487	.0041	39.49	.0041	339.46
23	2MK5	.20280355	387- 487	.0037	111.44	.0038	12.72
24	2SK5	.20844741	387- 487	.0029	220.29	.0032	217.54
25	2MN6	.24002205	387- 487	.0013	174.93	.0012	190.32
26	M6	.24153420	387- 487	.0036	41.83	.0032	167.84
27	2MS6	.24435613	387- 487	.0073	76.73	.0067	250.72
28	2SM6	.24717807	387- 487	.0047	115.65	.0046	337.62
29	3MK7	.28331495	387- 487	.0015	38.75	.0015	222.04
30	M8	.32204560	387- 487	.0008	104.24	.0007	152.24

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 65996          CAPE WEYNTON, COMMITTEE BAY  - 67 45 N  88 05 W
 65996          DATA ARE REFERRED TO CST (+6) TIME ZONE
 65996          DATA ARE PRESSURES IN MILLIBARS
 65996          REFERENCE LEVEL IS Z0 (MEAN PRESSURE)
 65996          ORIGINAL 15 MINUTE DATA SMOOTHED USING A
 65996           4,4,5 MOVING AVERAGE FILTER
1 65996      24 3879999999999999999999999999999999999999999999999999
2 65996      24 387 111 125 130 122  96  56   7 -40 -76 -96-104-101
1 65996      25 387 -88 -70 -50 -35 -28 -30 -37 -43 -41 -26   3  38
2 65996      25 387  73 101 122 133 132 113  75  24 -27 -70 -97-109
1 65996      26 387-107 -88 -60 -28  -3   9   5 -11 -32 -46 -43 -19
2 65996      26 387  21  62  95 118 132 132 111  66   7 -51 -97-124
1 65996      27 387-133-120 -86 -43  -4  22  29  16 -10 -39 -59 -59
2 65996      27 387 -35  10  58 100 128 142 136 103  46 -21 -82-126
1 65996      28 387-149-147-119 -72 -18  24  47  45  20 -19 -56 -76
2 65996      28 387 -71 -37  17  77 125 154 160 138  86  14 -61-123
1 65996      29 387-160-168-143 -93 -30  27  65  76  56  12 -42 -89
2 65996      29 387-111-101 -56  12  83 137 164 159 120  53 -25 -96
1 65996      30 387-145-163-145 -94 -24  46  97 120 110  67   4 -62
2 65996      30 387-110-127-106 -49  25  94 142 157 136  83  10 -66
1 65996      31 387-126-156-150-108 -38  40 105 140 143 111  52 -19
2 65996      31 387 -83-121-126 -95 -35  34  94 129 132  99  38 -33
1 65996       1 487 -96-138-147-119 -58  18  90 142 163 149 101  32
2 65996       1 487 -40 -96-125-121 -85 -27  35  83 106  97  56  -5
1 65996       2 487 -68-117-138-125 -74   0  76 136 169 171 140  85
2 65996       2 487  16 -49 -97-116-105 -66 -14  36  68  73  49   2
1 65996       3 487 -55-104-130-125 -86 -21  53 116 155 169 154 114
2 65996       3 487  56  -6 -58 -89 -95 -78 -43  -2  31  46  39  12
1 65996       4 487 -28 -69 -98-105 -83 -33  32  95 142 165 165 141
2 65996       4 487  97  42 -13 -55 -79 -85 -74 -52 -28  -8  -1  -9
1 65996       5 487 -30 -55 -75 -82 -70 -36  13  67 111 140 153 148
2 65996       5 487 123  83  33 -14 -52 -72 -79 -75 -64 -52 -43 -42
1 65996       6 487 -46 -55 -64 -69 -65 -47 -15  26  70 108 133 141
2 65996       6 487 132 106  68  24 -16 -46 -65 -74 -76 -74 -69 -63
1 65996       7 487 -56 -50 -44 -39 -33 -22  -4  23  55  87 115 132
2 65996       7 487 139 133 115  88  54  18 -16 -45 -68 -82 -87 -83
1 65996       8 487 -73 -60 -46 -35 -27 -22 -17  -9   5  25  49  74
2 65996       8 487  96 112 118 112  92  62  27  -8 -41 -68 -87 -95
1 65996       9 487 -92 -77 -55 -33 -17  -6  -2  -3  -5  -2   7  25
2 65996       9 487  48  72  93 106 106  88  56  16 -25 -62 -90-107
1 65996      10 487-108 -92 -64 -32  -6  10  15   9  -4 -16 -20 -10
2 65996      10 487  14  45  75 101 114 110  85  41 -10 -58 -95-119
1 65996      11 487-124-107 -71 -28   9  32  37  23  -4 -35 -56 -58
2 65996      11 487 -37   4  52  92 115 119 101  60   3 -56 -99-124
1 65996      12 487-130-112 -72 -21  28  61  72  58  23 -23 -65 -87
2 65996      12 487 -83 -51   2  58  99 119 113  82  30 -31 -88-122
1 65996      13 487-133-119 -78 -20  38  78  93  86  54   6 -48 -90
2 65996      13 487-106 -95 -55   1  53  87  98  84  46 -11 -72-117
1 65996      14 487-138-132 -95 -35  30  81 109 115  97  54  -3 -61
2 65996      14 487 -99-112 -96 -53   4  55  85  88  62  11 -52-108
1 65996      15 487-140-146-118 -60  14  80 122 140 134 101  44 -23
2 65996      15 487 -84-120-126 -99 -47  11  59  82  73  33 -25 -85
1 65996      16 487-132-152-138 -88 -12  66 126 160 167 148 100  34
2 65996      16 487 -35 -89-117-115 -86 -40   8  44  57  45   9 -41
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1 65996      17 487 -89-124-133-108 -49  26  95 143 168 170 145  93
2 65996      17 487  27 -38 -87-111-110 -85 -44  -2  28  37  21 -15
1 65996      18 487 -60-101-124-119 -78 -11  63 125 163 178 171 137
2 65996      18 487  80  14 -46 -88-108-104 -79 -42  -7  13  14  -8
1 65996      19 487 -44 -83-113-120 -96 -42  30  98 146 174 179 162
2 65996      19 487 120  61  -3 -58 -93-108-101 -78 -48 -23 -11 -16
1 65996      20 487 -38 -68 -96-111-103 -68 -12  50 106 147 170 174
2 65996      20 487 155 114  60   3 -48 -82 -99-102 -91 -71 -51 -37
1 65996      21 487 -35 -44 -59 -71 -74 -62 -31  13  61 105 139 161
2 65996      21 487 167 153 120  71  16 -36 -77-104-114-111 -95 -74
1 65996      22 487 -52 -37 -30 -31 -36 -38 -32 -12  20  60 100 132
2 65996      22 487 153 159 149 119  74  19 -36 -82-114-131-131-115
1 65996      23 487 -86 -52 -22  -3   3  -2 -12 -19 -15   4  37  75
2 65996      23 487 110 136 150 147 125  85  33 -22 -72-110-132-133
1 65996      24 487-113 -77 -34   3  26  32  25   9  -7 -16 -11  10
2 65996      24 487  44  80 111 130 135 117  78  24 -33 -85-123-143
1 65996      25 487-139-109 -62 -13  26  47  49  32   3 -27 -46 -47
2 65996      25 487 -26  12  54  89 107 105  77  26 -36 -93-132-152
1 65996      26 487-147-114 -58   6  62  98 111  98  61  14 -28 -54
2 65996      26 487 -59 -40  -2  44  84 106 104  74  24 -32 -81-118
1 65996      27 487-135-122 -78 -15  47  94 121 122  95  47  -8 -53
2 65996      27 487 -80 -84 -62 -17  35  75  92  80  38 -24 -84-127
1 65996      28 487-145-133 -88 -19  52 105 134 138 117  72  13 -46
2 65996      28 487 -89-105 -92 -51   2  50  80  82  54   3 -54-102
1 65996      29 487-128-125 -87 -22  52 111 148 162 155 121  65   0
2 65996      29 487 -61-101-11199999999999999999999999999999999999
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