Unique No.: 198390 Date of Entry: 05/28/91

DATA ENTRY INFORMATION SYSTEM
(DATASET INVENTORY - DINDB)

Accession No.: 9100061 Reference No.: 313506
Former Accession No.: Former Reference No.: (Resub ONLY)

Media-In (DINDB): 09 - Digital Magnetic Tape

Exchange Format: E003 - Ocean Station Data (SD2-112 Byte)

Processing Format: C100 - Ocean Station Data (SD2 Format)

* Note * If data is F022, create an additional record for C022.

Country/Institute Code: 31R2 Country/Platform Code: 31TT

Platform Type (DINDB): 09 - Ship Orig. Cruise ID: 189

Cruise Start Date: 06/18/85 Project Code: 0176

Cruise End Date: 07/15/85 Data Use Code (DUC): 3

Number of Stations: 126 Number of Records: 3,128

If stations/records not appropriate then:

Number: Units:

Ocean Area:

Code 1: 57G Meaning: TOGA Area - Pacific (30 N TO 30 S)
Code 2: Meaning:
Code 3: Meaning:

DINDB Transaction Date:

Unique No.: 198392 Date of Entry: 05/28/91

DATA ENTRY INFORMATION SYSTEM
(DATASET INVENTORY - DINDB)

Accession No.: 9100061 Reference No.: 323105
Former Accession No.: Former Reference No.: (Resub ONLY)

Media-In (DINDB): 09 - Digital Magnetic Tape

Exchange Format: E003 - Ocean Station Data (SD2-112 Byte)

Processing Format: C100 - Ocean Station Data (SD2 Format)

* Note * If data is F022, create an additional record for C022.

Country/Institute Code: 31R2 Country/Platform Code: 32MW

Platform Type (DINDB): 09 - Ship Orig. Cruise ID: 88

Cruise Start Date: 06/21/88 Project Code: 0176

Cruise End Date: 07/28/88 Data Use Code (DUC): 3

Number of Stations: 117 Number of Records: 2,758

If stations/records not appropriate then:

Number: Units:

Ocean Area:

Code 1: 57G Meaning: TOGA Area - Pacific (30 N TO 30 S)
Code 2: Meaning:
Code 3: Meaning:

DINDB Transaction Date:

9100061 / 9100061

FILE: C100 TRACK: 313506; 323105 PROJ IDENT: W[redacted]OCS-0176

	DATE	INIT.	TAPE OR DISK DSN	NO. FILES	BLK SIZE		NO. RECORDS
	03/25/91	CMH	AD1400	363	see below		449,93
TAPE	04/03/91	CMH	W18761 1st 3 files	3	80	4000	8634
TAPE	04/03/91	CMH	W18762 files 4-363	360	35	3500	441,30 ~~[illegible]~~
DISK	5-14-91	R.P.S.	** [redacted] WD7694	1	112	11200	~~[illegible]~~ 5,886

~~C/O TO PRINCIPAL INVESTIGATOR:~~ Tapes W18761 and W18762 are 9TRK, NL, 1600 bpi.

** [redacted] LABEL= DNODC * WECOMASTAOUT.

ERRORS/CORRECTIONS (NOT REPORTED TO P.I.)

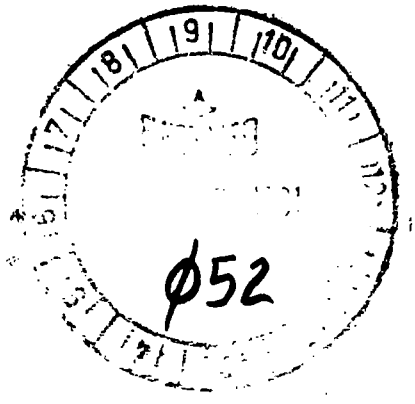
DO NOT PROCESS 323104; IT IS A DUP OF 323079

(TRACKS DELETED, FIELDS DELETED, ETC.)

University of Hawaii at Manoa

Joint Institute for Marine and Atmospheric Research (JIMAR)
1000 Pope Road • Honolulu, Hawaii 96822
Cable Address: UNIHAW

March 1, 1991



9100061
A 01406

Mr. Anthony Picciolo
E/OC13
NOAA / NESDIS / NODC
1825 Connecticut Avenue, N. W.
Washington, D.C. 20235

Dear Mr. Picciolo:

As requested by Dr. Roger Lukas, enclosed is a tape containing CTD and nutrient data from the three WEPOCS cruises. WEPOCS I occurred in June and July 1985 on R/V Thomas Thompson. This was followed by the second cruise in January and Feburary 1986 on the R/V Moana Wave. During June and July of 1988 the third cruise was made on the R/V Moana Wave.

The tape was written in ASCII with a density of 1600 bpi and is unlabelled. The first three files contain nutrient data. These files have 4000 characters per block and 80 characters per record (blocking factor = 50). Missing data were marked with a -99.0. Negative salinities specify that the bottle salinity was bad. The corresponding CTD salinity was inserted as a negative number. Potential temperatures at these salinities were also negatively designated.

File 1:	WEPOCS I bottle data
2:	WEPOCS II bottle data
3:	WEPOCS III bottle data

The rest of the files on the tape contain CTD data. They have 35 characters per block and 3500 characters per block. Each CTD station was written on a separate file. Please refer to the station listing for the order of the files within a partcular cruise. The U. S. WEPOCS II data does not contain oxygen, so conductivity was stored in its place. These files were written in Woods Hole NODC format. Enclosed is a description of the data format.

Files 4-130:	WEPOCS I CTD data
131-246:	WEPOCS II CTD data
247-363:	WEPOCS III CTD data

I have also enclosed the replacement tape of HOT-1 through HOT-12 data. Originally, the tape was assigned NODC Identification Number 9100012. I hope that all the problems have been solved and that the data is readable.

Please feel free to contact me at (808) 956-7000 if you have any questions or problems.

Sincerely,

Sharon H. DeCarlo

Sharon H. DeCarlo
Computer Specialist

Enclosures

SHD91-002.doc

9100061

Joint Institute for Marine and Atmospheric Research (JIMAR)
University of Hawaii at Manoa
1000 Pope Road, MSB 400
Honolulu, Hawaii 96822
(808) 956-7000

WEPOCS Hydrographic Bottle Data Format Document

February 1991

WEPOCS hydrographic data are distributed as ASCII flat files. An entire cruise's data is contained in one file. The first record contains a header for the station. The subsequent records contain bottle data for that station. This pattern is then repeated for each station.

Missing data are marked with a -99.0 (or -9.0 for tritium). A negative salinity signifies a bad salinity bottle was obtained. In this situation the CTD's corresponding salinity was inserted as a negative number in its place. Potential temperature was then calculated using that salinity.

Header Record Format:

Column	Format	Item
1-4	i4	Station number
5-8	i4	Number of bottle records to follow
9-16	f8.3	Latitude (Negative = South)
17-24	f8.3	Longitude (Negative = North)
25-27	i3	Month
28-30	i3	Day
31-33	i3	Year
34-39	i6	Time (GMT) (HHMM where HH is Hour & MM is Minutes)
40-47	i8	Maximum Depth

A composite FORTRAN format to read this record is: '(2i4, 2f8.3, 3i3, i6, i8)'

Data Record Format:

Column	Format	Item	
1-2	i2	Bottle number	
3-11	f9.3	Pressure (dbar)	
12-18	f7.3	Temperature (degrees C)	
19-25	f7.3	Salinity (o/oo)	
26-32	f7.3	Potential Temperature (degrees C)	
33-38	f6.2	Oxygen (ml/l)	(-99.0 if missing)
39-44	f6.2	PO4 (u mol/l)	(-99.0 if missing)
45-50	f6.2	NO3 (u mol/l)	(-99.0 if missing)
51-56	f6.2	NO2 (u mol/l)	(-99.0 if missing)
57-62	f6.2	SiO2 (u mol/l)	(-99.0 if missing)
63-68	f6.2	Freon 11 (pmol/kg)	(-99.0 if missing)
69-74	f6.2	Freon 12 (pmol/kg)	(-99.0 if missing)
75-80	f6.3	Tritium (TU)	(-9.0 if missing)

A composite FORTRAN format to read a data record is: '(i2, f9.3, 3f7.3, 7f6.2, f6.3)'

Sample data file: (first two stations)

```
 1 24   7.007 142.978  6 21 88  1830    2987
 1      2.009   29.532   33.629   29.532  4.49   0.14    0.00  0.00   1.70   1.44   0.81  -9.000
 2     58.351   29.266   34.093   29.252  4.54   0.10    0.00  0.01   1.90   1.48   0.81   1.409
 3     72.443   27.894   34.307   27.877  4.43   0.16    0.20  0.02   2.30   1.57 -99.00  -9.000
 4     99.615   25.464   34.541   25.442  4.05   0.28    1.40  0.31   3.40   1.47   0.80  -9.000
 5    107.666   23.842   34.645   23.819  3.89   0.38    3.00  0.10   4.40   1.44   0.76  -9.000
 6    125.790   22.938   34.690   22.912  3.80 -99.00    4.00  0.07   5.50   1.42   0.79   1.910
 7    138.871   21.078   34.750   21.051  3.58   0.60    6.40  0.04   7.10   1.41 -99.00  -9.000
 8    141.891   20.831   34.761   20.804  3.55   0.62    6.70  0.04   7.30   1.46 -99.00  -9.000
 9    162.025   19.024   34.752   18.995  3.30   0.81    9.80  0.03   9.70   1.32   0.71  -9.000
10    176.117   18.123   34.730   18.093  3.17   0.90   11.60  0.02  11.40   1.28   0.67   1.983
11    217.409   12.967   34.579   12.937  2.31   1.59   23.10  0.01  24.50   0.75   0.40   1.406
12    258.700   11.496   34.561   11.463  1.91   1.87   27.60  0.01  30.70   0.52   0.25  -9.000
13    271.794   10.713   34.570   10.680  1.60   2.04   30.60  0.00  34.30   0.34   0.20  -9.000
14    309.054    9.584   34.593    9.549  1.24   2.27   34.50  0.00  39.40   0.21   0.11   0.379
15    347.352    9.165   34.598    9.127  1.31   2.32   35.20  0.00  41.20   0.12   0.09  -9.000
16    407.806    8.602   34.597    8.559  1.34   2.38   36.70  0.00  43.80   0.06   0.05  -9.000
17    504.590    7.580   34.561    7.530  1.54   2.45   37.60  0.00  51.90   0.05   0.05   0.221
18    625.620    6.906   34.543    6.846  1.62   2.55   38.20  0.00  59.00   0.03   0.03-  9.000
19    749.737    5.879   34.532    5.813  1.76   2.63   39.50  0.00  72.60   0.02   0.02  -9.000
20    827.480    5.302   34.538    5.232  1.87   2.68   40.00  0.00  81.90   0.01 -99.00  -9.000
21    994.143    4.546   34.551    4.467  1.96   2.71   40.20  0.00  95.70   0.02   0.01  -9.000
22   1156.896    3.887   34.569    3.799  2.09   2.82   40.50  0.00 106.70   0.06 -99.00  -9.000
23   1355.183    3.370   34.585    3.270  2.18   2.85   40.10  0.00 119.60   0.00  -0.01  -9.000
24   1529.345    2.952   34.603    2.842  2.30   2.82   40.20  0.00 127.80   0.00   0.00  -9.000
---------------------------------------------------------------------------------------------------
 2 24   6.007 143.000  6 22 88   306       0
 1      1.011   29.672   33.836   29.672  4.50   0.13    0.00  0.00   1.70   1.47   0.80  -9.000
 2     75.463   29.497   34.139   29.479  4.58   0.11    0.00  0.00   1.90   1.55   0.84  -9.000
 3     98.617   28.290   34.327   28.267  4.55   0.11    0.00  0.00   1.90   1.65 -99.00  -9.000
 4    108.677   27.747   34.438   27.722  4.35   0.16    0.10  0.13   2.30   1.55   0.86  -9.000
 5    117.739   25.823   34.514   25.797  4.10   0.26    1.10  0.34   2.80   1.54   0.79  -9.000
 6    123.781   24.331   34.659   24.305  3.97   0.39    2.50  0.13   3.60   1.52   0.85  -9.000
 7    137.873   22.561   34.759   22.533  3.78   0.49    4.60  0.09   5.20   1.56   0.81  -9.000
 8    142.903   20.697   34.773   20.670  3.56   0.62    6.80  0.04   6.80   1.54   0.82  -9.000
 9    156.995   17.291   34.709   17.265  3.12   0.97   12.50  0.01  12.20   1.29   0.72  -9.000
10    170.076   14.975   34.630   14.949  2.96   1.21   16.30  0.01  17.60   1.13   0.64  -9.000
11    201.294   12.299   34.549   12.272  2.51   1.63   22.70  0.00  26.30   0.85   0.52  -9.000
12    217.409   11.725   34.554   11.697  2.05   1.87   25.70  0.00  28.70   0.60 -99.00  -9.000
13    242.586   10.624   34.562   10.595  1.69   2.09   29.40  0.00  33.30   0.38 -99.00  -9.000
14    269.772    9.861   34.586    9.830  1.48   2.28   31.80  0.00  37.00   0.22 -99.00  -9.000
15    298.981    9.318   34.593    9.285  1.51   2.31   32.80  0.00  39.00   0.17 -99.00  -9.000
16    342.309    8.812   34.608    8.775  1.46   2.42   34.40  0.00  40.60   0.11 -99.00  -9.000
17    446.118    7.999   34.592    7.953  1.53   2.51   35.70  0.00  44.70   0.05 -99.00  -9.000
18    579.203    6.850   34.548    6.795  1.61   2.65   37.30  0.00  58.30 -99.00 -99.00  -9.000
19    738.626    5.871   34.540    5.806  1.80   2.73   38.60  0.00  68.00 -99.00 -99.00  -9.000
20    824.432    5.431   34.540    5.361  1.79   2.78   39.20  0.00  76.90 -99.00 -99.00  -9.000
21    998.162    4.619   34.549    4.539  1.97   2.81   39.40  0.00  91.50 -99.00 -99.00  -9.000
22   1161.940    4.070   34.563    3.980  2.06   2.84   39.80  0.00 102.70 -99.00 -99.00  -9.000
23   1346.054    3.371   34.584    3.272  2.20   2.83   39.70  0.00 118.10   0.02   0.08  -9.000
24   1546.538    2.897   34.604    2.786  2.31   2.84   39.80  0.00 129.00   0.01   0.08  -9.000
```

910006'

Joint Institute for Marine and Atmospheric Research (JIMAR)
University of Hawaii at Manoa
1000 Pope Road
Marine Science Building 400
Honolulu, Hawaii 96822
(808) 956-7000

CTD Data Format Document

February 1991

CTD data are distributed in Woods Hole Oceanographic Institution NODC format. This document describes that format.

Each station/cast is stored in a separate file. A file's name can be determined by concatenating a 4-digit station number, a letter D, a 3-digit cast number, and a file extension. For example, station 2/cast 1 would be found in 0002D001.CTD. The file HEADER.LIS contains header information for an entire cruise.

The first seven records of a CTD file contain header information:

Record 1:

Column	Format	Item
7-8	a2	Ship Id. (TT = T.Thompson, FR = Franklin, MW = Moana Wave)
16-18	i3	Cruise number(WHOI) or Year of cruise
25-28	i4	Station number
33-35	i3	Cast number

Record 2:

Column	Format	Item
7-8	i2	Year
10-11	i2	Month
13-14	i2	Day
22-26	i5	Time (in GMT; 2 digit hour, 2 digit minute)

Record 3:

Column	Format	Item
5-8	i4	Latitude degrees (Negative = South)
10-14	f5.2	Latitude minutes
19-22	i4	Longitude degrees (Negative = West)
24-28	f5.2	Longitude minutes

Record 4:

Column	Format	Item
11-16	f6.0	Maximum cast pressure (dbar)
28-33	f6.0	Water Depth (-99. = missing)

Record 5:

Column	Format	Item
8-11	f4.1	Pressure interval
17-21	i5	Instrument number
27-33	f7.2	Sampling rate (Hz)

Record 6:

Column	Format	Item
6-11	i6	# of observations
13-35	a	Data format specification

Record 7: headers for data columns (variable labels).

The remaining records contain CTD data. The usual order of variables in a record are as follows: pressure, temperature, salt, oxygen, and quality. The American WEPOCS II data did not include oxygen so conductivity was stored in its place. Potential temperature was stored in place of in situ temperature for WEPOCS III. Missing data are marked with -9.0.

Data Record Format:

Column	Format	Item
1-7	f7.1	Pressure (Decibars)
8-15	f8.4	Temperature (Degrees Celsius)
16-23	f8.4	Salinity (1978 International Practical Salinity Scale)
24-29	f6.2	Oxygen (micro moles per liter) or Conductivity
30-35	i6	Quality **

** The quality word for cruises processed by WHOI (i.e. WEPOCS I) are defined as follows: If positive, the quality word contains the number of observations from the timeseries data that went into the pressure bin. It can be used to infer time and lowering rate:

Lowering rate = Sample rate * pressure interval / quality #
time = start time + sample rate * summed quality (ies)

For data processed by SIO (WEPOCS II & III) a ten signifies data exists for all fields. CSIRO (Australian WEPOCS I & II) data contain a CSIRO quality indicator.

For all data sets negative quality words denote data that has been interpolated. The value of the negative number reflects which variable or variables have been modified, based on the variable location in the CTD data file: -1 for T, -2 for S, -4 for O2, -3 for T & s, -5 for T & O2, -6 for S & O2, -7 for T, S & O2.

Sample File: (First and last few records)

```
SHIP TT CRUIS 189 STAT:   1 C#:  0
DATE 85- 6-18  TIME:  837 Z
LAT   4 59.85 LG  143  0.35
MAX. PRS= 2035. DB  DEPTH= 2987. M
AVER   2.0 INST    8 RATE  31.00HZ
OBS=  1018 FMT(F7.1,2F8.4,F6.2,I6)
 PRES    TEMP    SALT   OXYG  QUAL
   1.0 29.3882 34.0332  5.29    45
   3.0 29.4036 34.0272  5.37  1361
   5.0 29.4028 34.0276  5.36   196
   7.0 29.3982 34.0279  5.19   208
   9.0 29.4033 34.0278  5.35   112
  11.0 29.4062 34.0277  5.40   180
  13.0 29.4066 34.0280  5.46   247
  15.0 29.4030 34.0277  5.52  1245
  17.0 29.3986 34.0278  5.47   607
  19.0 29.3955 34.0280  5.31    53

2017.0  2.1877 34.6411  2.72    77
2019.0  2.1839 34.6413  2.73    68
2021.0  2.1821 34.6412  2.73    35
2023.0  2.1807 34.6410  2.73    32
2025.0  2.1798 34.6415  2.73   120
2027.0  2.1783 34.6415  2.73    33
2029.0  2.1772 34.6415  2.73    36
2031.0  2.1759 34.6419  2.73    47
2033.0  2.1753 34.6418  2.74   127
2035.0  2.1708 34.6416  2.74    33
```

4100061

CTDLIST84 MAY 16,1984
Run on 29-MAR-89\000\000\000 at 11:21:10
Using SUBINDEX.CTD of date:

Enter SHIP Name & Cruise#
STATION SUMMARY

<CTD.TT189D033>

SH	CRU	STAT	DV	CST	CTD	DA	MO	YR	ST GMT	END GMT	LATITUDE	LONGITUDE	P MAX
TT	189	1	D	000	8	18	6	85	837	943	4 59.85	143 0.35	2035.0
TT	189	2	D	000	9	18	6	85	1126	1226	5 0.00	143 0.26	3015.0
TT	189	3	D	000	9	18	6	85	2348	109	4 59.92	145 0.34	1869.0
TT	189	4	D	000	9	19	6	85	815	849	4 59.17	146 0.18	1013.0
TT	189	5	D	000	9	19	6	85	1047	1147	4 59.82	145 58.93	4445.0
TT	189	6	D	000	9	19	6	85	1901	2024	4 59.85	147 0.10	4299.0
TT	189	7	D	000	9	20	6	85	843	952	5 0.24	149 0.62	4323.0
TT	189	8	D	000	9	20	6	85	1645	1720	5 0.18	149 59.80	1003.0
TT	189	9	D	000	9	20	6	85	1839	1952	5 0.03	150 0.05	5399.0
TT	189	10	D	000	9	21	6	85	236	346	5 0.05	150 59.90	4707.0
TT	189	11	D	000	9	21	6	85	1554	1659	5 0.01	152 59.93	4181.0
TT	189	12	D	000	9	22	6	85	424	516	5 0.33	155 0.96	3425.0
TT	189	13	D	000	8	22	6	85	640	721	5 1.04	155 2.40	1007.0
TT	189	14	D	000	9	22	6	85	1101	1134	4 29.74	155 0.03	1003.0
TT	189	15	D	000	9	22	6	85	1518	1608	4 0.01	154 59.84	2995.0
TT	189	16	D	000	9	22	6	85	1956	2025	3 30.90	154 59.97	997.0
TT	189	17	D	000	9	22	6	85	2352	37	2 59.86	154 59.92	2835.0
TT	189	18	D	000	9	23	6	85	507	532	2 29.64	154 59.84	1009.0
TT	189	19	D	000	9	23	6	85	931	1015	2 0.08	154 59.97	2757.0
TT	189	20	D	000	9	23	6	85	1358	1430	1 29.98	154 59.85	1007.0
TT	189	21	D	000	9	23	6	85	1754	1836	1 0.01	154 59.97	2763.0
TT	189	22	D	000	9	24	6	85	436	505	0 29.91	154 59.87	1007.0
TT	189	23	D	000	9	24	6	85	822	919	0 0.04	155 0.16	2541.0
TT	189	24	D	000	8	24	6	85	1032	1114	0 0.84	154 59.83	1009.0
TT	189	25	D	000	9	24	6	85	1502	1527	0-29.95	154 59.83	1005.0
TT	189	26	D	000	9	24	6	85	1844	1922	0-59.91	155 0.02	2421.0
TT	189	27	D	000	9	24	6	85	2258	2320	-1 30.13	155 0.13	1007.0
TT	189	28	D	000	9	25	6	85	236	319	-1 59.81	154 59.74	2327.0
TT	189	29	D	000	9	25	6	85	743	801	-2 30.00	154 59.95	1001.0
TT	189	30	D	000	9	25	6	85	1211	1246	-2 59.99	154 59.92	2469.0
TT	189	31	D	000	9	25	6	85	1651	1724	-3 30.00	155 0.08	999.0
TT	189	32	D	000	9	25	6	85	2125	2200	-3 59.80	154 59.96	2451.0
TT	189	33	D	000	9	26	6	85	158	227	-4 30.14	155 0.10	1001.0
TT	189	34	D	000	9	26	6	85	704	718	-4 54.00	154 37.97	481.0
TT	189	35	D	000	9	27	6	85	1815	1830	-4 51.85	152 20.30	561.0
TT	189	36	D	000	9	27	6	85	2218	2304	-4 51.60	152 35.00	3439.0
TT	189	37	D	000	9	28	6	85	715	733	-4 54.70	152 54.17	537.0
TT	189	38	D	000	9	28	6	85	946	1019	-5 6.94	153 14.47	1501.0
TT	189	39	D	000	9	28	6	85	1100	1359	-5 20.13	153 35.05	4153.0
TT	189	40	D	000	9	28	6	85	1543	1614	-5 19.95	153 34.96	995.0
TT	189	41	D	000	9	28	6	85	1905	1934	-5 34.08	153 54.10	1261.0
TT	189	42	D	000	9	28	6	85	2221	2244	-5 48.06	154 15.03	985.0
TT	189	43	D	000	9	29	6	85	154	216	-6 4.50	154 32.50	615.0
TT	189	44	D	000	9	29	6	85	459	526	-6 16.90	154 11.90	1005.0
TT	189	45	D	000	9	29	6	85	819	939	-6 32.98	153 48.96	6453.0
TT	189	46	D	000	9	29	6	85	1633	1710	-6 33.10	153 48.85	2005.0
TT	189	47	D	000	9	29	6	85	2020	2039	-6 47.88	153 26.97	1005.0
TT	189	48	D	000	9	30	6	85	8	111	-7 3.73	153 3.71	4877.0

TT	189	49	D	000	9	30	6	85	513	604	-7	20.71	152 39.37	1043.0
TT	189	50	D	000	9	30	6	85	915	1025	-7	35.17	152 16.73	4471.0
TT	189	51	D	000	9	30	6	85	1411	1436	-7	52.16	151 53.02	1003.0
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TT	189	56	D	000	9	1	7	85	901	1005	-7	27.62	150 16.26	4893.0
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TT	189	59	D	000	9	1	7	85	2030	2123	-6	51.64	149 42.36	3117.0
TT	189	60	D	000	9	2	7	85	152	217	-6	31.10	149 24.96	1005.0
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TT	189	63	D	000	9	3	7	85	741	822	-6	21.04	148 37.49	3265.0
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TT	189	65	D	000	9	3	7	85	1408	1434	-6	30.10	148 15.26	1005.0
TT	189	66	D	000	9	3	7	85	1706	1725	-6	38.38	147 53.91	493.0
TT	189	67	D	000	9	4	7	85	1100	1119	-5	51.83	147 2.20	553.0
TT	189	68	D	000	9	4	7	85	1352	1425	-5	40.00	147 10.50	1361.0
TT	189	69	D	000	9	4	7	85	1654	1716	-5	25.95	147 13.78	575.0
TT	189	70	D	000	9	5	7	85	505	537	-4	57.10	147 21.00	1563.0
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TT	189	72	D	000	9	5	7	85	1242	1311	-3	57.64	147 28.45	1663.0
TT	189	73	D	000	9	5	7	85	1636	1703	-3	27.66	147 33.10	1455.0
TT	189	73	D	001	9	5	7	85	1703	1734	-3	27.69	147 33.07	1452.0
TT	189	74	D	000	9	5	7	85	2031	2051	-2	58.00	147 36.48	1301.0
TT	189	75	D	000	9	6	7	85	57	110	-2	24.50	147 39.10	585.0
TT	189	76	D	000	9	6	7	85	304	326	-2	31.57	147 27.03	915.0
TT	189	77	D	000	9	6	7	85	628	640	-2	47.45	147 1.07	1051.0
TT	189	78	D	000	9	6	7	85	940	1008	-3	3.08	146 35.43	1839.0
TT	189	79	D	000	9	6	7	85	1310	1343	-3	18.80	146 10.25	2135.0
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TT	189	81	D	000	9	6	7	85	2054	2138	-3	50.49	145 19.37	2035.0
TT	189	82	D	000	9	7	7	85	152	205	-4	5.00	144 51.52	243.0
TT	189	83	D	000	9	7	7	85	318	330	-4	3.03	144 51.80	519.0
TT	189	84	D	000	9	7	7	85	507	534	-3	49.98	144 52.12	1505.0
TT	189	85	D	000	9	7	7	85	720	749	-3	39.88	144 51.94	1647.0
TT	189	86	D	000	9	7	7	85	941	1008	-3	29.96	144 51.97	1645.0
TT	189	87	D	000	9	7	7	85	1312	1339	-2	59.83	144 51.96	1977.0
TT	189	88	D	000	9	7	7	85	1650	1708	-2	29.84	144 51.93	1141.0
TT	189	89	D	000	9	7	7	85	2015	2033	-2	0.11	144 51.56	989.0
TT	189	90	D	000	9	7	7	85	2346	5	-1	30.50	144 51.80	1049.0
TT	189	91	D	000	9	8	7	85	311	344	-1	0.13	144 51.80	1973.0
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TT	189	93	D	000	9	8	7	85	1146	1240	0	-0.08	144 52.01	3719.0
TT	189	94	D	000	9	8	7	85	1628	1716	0	29.86	144 51.70	3535.0
TT	189	95	D	000	9	8	7	85	2108	2157	1	0.11	144 52.01	4235.0
TT	189	96	D	000	9	9	7	85	141	237	1	25.75	144 53.08	4525.0
TT	189	97	D	000	9	9	7	85	705	759	2	0.66	144 51.98	4389.0
TT	189	98	D	000	9	9	7	85	2156	2249	0	-30.05	144 34.98	4279.0
TT	189	99	D	000	9	10	7	85	254	328	-1	0.00	144 18.00	1935.0
TT	189	100	D	000	9	10	7	85	752	817	-1	-29.91	143 48.54	1931.0
TT	189	101	D	000	9	10	7	85	1129	1151	-2	0.02	143 43.96	1477.0
TT	189	102	D	000	9	10	7	85	1540	1616	-2	29.90	143 27.13	2067.0
TT	189	103	D	000	9	10	7	85	1949	2021	-3	0.06	143 9.86	2723.0
TT	189	104	D	000	9	11	7	85	48	111	-3	18.47	142 52.82	615.0
TT	189	105	D	000	9	11	7	85	1215	1249	-2	58.95	142 59.94	2767.0
TT	189	106	D	000	9	11	7	85	1638	1722	-2	29.89	142 59.94	2863.0
TT	189	107	D	000	9	11	7	85	2129	2206	-2	0.00	142 59.92	3133.0
TT	189	108	D	000	9	11	7	85	2344	2356	-2	0.00	142 59.62	1029.0
TT	189	109	D	000	9	12	7	85	337	410	-1	30.43	142 59.64	1611.0
TT	189	110	D	000	9	12	7	85	840	926	0	-59.66	142 59.92	4247.0
TT	189	111	D	000	9	12	7	85	1401	1447	0	-29.96	142 59.86	3065.0

TT	189	112	D	000	9	12	7	85	1910	1947	0	-0.06	143	0.02	3125.0
TT	189	113	D	000	9	12	7	85	2114	2129	0	-0.09	143	0.56	983.0
TT	189	114	D	000	9	13	7	85	119	155	0	30.04	143	0.05	2973.0
TT	189	115	D	000	9	13	7	85	611	649	1	0.19	142	59.83	3379.0
TT	189	116	D	000	9	13	7	85	1050	1136	1	30.03	143	0.01	3625.0
TT	189	117	D	000	9	13	7	85	1613	1713	2	0.07	142	59.67	3881.0
TT	189	118	D	000	9	13	7	85	1901	1915	1	59.97	142	59.15	1003.0
TT	189	119	D	000	9	13	7	85	2311	9	2	30.67	143	0.93	3631.0
TT	189	120	D	000	9	14	7	85	615	709	2	59.97	143	0.03	4089.0
TT	189	121	D	000	9	14	7	85	1151	1236	3	29.83	143	0.03	3283.0
TT	189	122	D	000	9	14	7	85	1445	1509	3	30.05	143	0.09	1143.0
TT	189	123	D	000	9	14	7	85	1906	1939	3	59.87	143	0.18	2805.0
TT	189	124	D	000	9	15	7	85	38	117	4	31.30	142	59.97	3089.0
TT	189	125	D	000	9	15	7	85	526	608	4	59.92	143	0.17	2999.0
TT	189	126	D	000	9	15	7	85	744	804	4	59.85	143	0.23	999.0

41 00061

CTDLIST84 MAY 16,1984
Run on 17-MAY-89\000\000\000 at 14:22:00
Using SUBINDEX.CTD of date:

WEDDC I

Enter SHIP Name & Cruise#
STATION SUMMARY

<CTD.MW088D006>

SH	CRU	STAT	DV	CST	CTD	DA	MO	YR	ST GMT	END GMT	LATITUDE	LONGITUDE	P MAX
MW	88	1	H	001	4	21	6	88	1830	0	7 0.40	142 58.70	1528.0
MW	88	2	H	001	4	22	6	88	309	0	6 0.40	143 0.00	1546.0
MW	88	3	H	001	4	22	6	88	1051	0	5 0.50	143 0.30	1512.0
MW	88	4	H	001	4	22	6	88	1832	0	3 59.70	142 59.90	1554.0
MW	88	5	H	001	4	23	6	88	255	0	3 0.60	143 0.60	1512.0
MW	88	6	H	001	4	23	6	88	816	0	2 30.10	143 0.30	1512.0
MW	88	7	H	001	4	23	6	88	1316	0	2 0.00	143 0.30	1510.0
MW	88	8	H	001	4	23	6	88	1838	0	1 29.90	142 59.90	1510.0
MW	88	9	H	002	4	24	6	88	152	0	1 0.10	142 59.60	1510.0
MW	88	10	H	001	4	24	6	88	701	0	0 30.90	142 59.50	1518.0
MW	88	11	H	001	4	24	6	88	1229	0	0 0.50	143 0.30	1502.0
MW	88	12	H	001	4	24	6	88	1747	0	0-29.90	142 59.90	1506.0
MW	88	13	H	001	4	24	6	88	2241	0	-1 -0.10	142 59.80	1512.0
MW	88	14	H	001	4	25	6	88	604	0	-1-28.30	142 57.00	1500.0
MW	88	15	H	001	4	25	6	88	1130	0	-2 -0.20	142 59.50	1520.0
MW	88	16	H	001	4	25	6	88	1625	0	-2-30.00	142 59.20	1500.0
MW	88	17	H	001	4	25	6	88	2125	0	-3 -0.30	142 59.60	1506.0
MW	88	18	H	001	4	26	6	88	111	0	-3-14.10	142 59.40	1004.0
MW	88	19	H	001	4	29	6	88	1018	0	7 0.40	143 0.00	1508.0
MW	88	20	H	001	4	29	6	88	2256	0	7 0.20	140 59.70	1494.0
MW	88	21	H	001	4	30	6	88	1118	0	7 0.60	139 0.00	1506.0
MW	88	22	H	001	4	30	6	88	2335	0	7 0.30	136 59.70	1504.0
MW	88	23	H	001	4	1	7	88	1151	0	6 59.30	135 0.20	1506.0
MW	88	24	H	001	4	5	7	88	2240	0	6 59.90	133 59.10	2826.0
MW	88	25	H	001	4	6	7	88	438	0	6 29.40	133 38.59	2610.0
MW	88	26	H	001	4	6	7	88	1009	0	5 59.20	133 20.60	2340.0
MW	88	27	H	001	4	6	7	88	1616	0	5 24.40	133 4.69	4396.0
MW	88	28	H	001	4	6	7	88	2237	0	4 58.60	132 42.50	3998.0
MW	88	29	H	001	4	7	7	88	500	0	4 30.70	132 24.10	3560.0
MW	88	30	H	001	4	7	7	88	1136	0	3 59.80	132 2.20	4154.0
MW	88	31	H	001	4	7	7	88	1809	0	3 30.10	131 42.30	2832.0
MW	88	32	H	001	4	8	7	88	26	0	2 59.50	131 23.30	4182.0
MW	88	33	H	001	4	8	7	88	641	0	2 31.10	131 3.00	3176.0
MW	88	34	H	001	4	10	7	88	217	0	5 8.80	125 34.20	1408.0
MW	88	35	H	001	4	10	7	88	836	0	5 9.80	125 0.30	4538.0
MW	88	36	H	001	4	10	7	88	1456	0	5 9.60	124 30.30	4552.0
MW	88	37	H	001	4	10	7	88	2301	0	5 34.40	123 46.60	2008.0
MW	88	38	H	001	4	11	7	88	645	0	6 30.70	123 29.60	2010.0
MW	88	39	H	001	4	11	7	88	1257	0	6 59.10	123 29.70	4704.0
MW	88	40	H	001	4	11	7	88	1743	0	6 54.50	123 43.20	2010.0
MW	88	41	H	001	4	11	7	88	2042	0	6 50.20	123 52.40	1450.0
MW	88	42	H	001	4	11	7	88	2338	0	6 51.40	123 54.30	516.0
MW	88	43	H	001	4	12	7	88	212	0	6 42.10	123 44.20	1012.0
MW	88	44	H	001	4	12	7	88	615	0	6 29.40	123 45.40	1052.0
MW	88	45	H	001	4	12	7	88	906	0	6 30.10	123 54.60	1124.0
MW	88	46	H	001	4	12	7	88	1148	0	6 20.10	123 50.00	1002.0
MW	88	47	H	001	4	12	7	88	1405	0	6 9.89	123 40.59	1010.0
MW	88	48	H	001	4	12	7	88	1700	0	6 0.00	123 30.50	2008.0
MW	88	49	H	001	4	12	7	88	1957	0	6 2.40	123 45.30	1026.0

MW	88	50	H	001	4	12	7	88	2206	0	6	5.30	123	59.50	1028.0
MW	88	51	H	001	4	13	7	88	50	0	6	7.20	124	12.30	1172.0
MW	88	52	H	001	4	13	7	88	412	0	5	50.30	124	11.80	2046.0
MW	88	53	H	001	4	13	7	88	710	0	5	37.20	124	10.20	2006.0
MW	88	54	H	001	4	13	7	88	1006	0	5	22.90	124	7.80	2010.0
MW	88	55	H	001	4	13	7	88	1339	0	5	31.80	124	18.40	1004.0
MW	88	56	H	001	4	13	7	88	1618	0	5	41.70	124	30.10	1010.0
MW	88	57	H	001	4	13	7	88	1842	0	5	51.40	124	40.09	1028.0
MW	88	58	H	001	4	13	7	88	2240	0	5	39.30	124	51.60	2036.0
MW	88	59	H	001	4	14	7	88	156	0	5	23.70	124	55.40	2034.0
MW	88	60	H	001	4	14	7	88	513	0	5	9.39	124	59.10	2026.0
MW	88	61	H	001	4	14	7	88	1247	0	5	25.50	125	44.10	2510.0
MW	88	62	H	001	4	14	7	88	1815	0	6	1.10	125	44.00	1394.0
MW	88	63	H	001	4	15	7	88	13	0	5	40.80	126	9.39	2728.0
MW	88	64	H	001	4	15	7	88	700	0	6	17.79	126	14.80	608.0
MW	88	65	H	001	10	15	7	88	1020	0	6	15.60	126	27.10	1438.0
MW	88	66	H	001	10	15	7	88	1411	0	6	13.70	126	42.40	3612.0
MW	88	67	H	001	10	15	7	88	1825	0	6	13.30	126	56.70	2646.0
MW	88	68	H	002	10	15	7	88	2311	0	6	13.60	127	12.00	4548.0
MW	88	69	H	001	10	16	7	88	750	0	7	0.80	126	29.10	616.0
MW	88	70	H	001	10	16	7	88	1206	0	6	56.80	126	42.70	3194.0
MW	88	71	H	001	10	16	7	88	1707	0	6	58.50	126	57.50	4472.0
MW	88	72	H	001	10	16	7	88	2151	0	6	59.40	127	13.00	2560.0
MW	88	73	H	001	10	17	7	88	225	0	6	59.20	127	28.70	4552.0
MW	88	74	H	001	10	17	7	88	753	0	7	1.30	127	58.80	2534.0
MW	88	75	H	001	10	17	7	88	1321	0	6	59.70	128	31.30	4526.0
MW	88	76	H	001	10	17	7	88	1834	0	6	59.70	129	0.80	2542.0
MW	88	77	H	001	10	17	7	88	2349	0	7	0.10	129	31.20	4528.0
MW	88	78	H	001	10	18	7	88	429	0	7	0.20	130	0.90	2552.0
MW	88	79	H	001	10	18	7	88	1146	0	6	58.40	131	0.10	4526.0
MW	88	80	H	001	10	18	7	88	2021	0	7	0.20	131	59.70	4534.0
MW	88	81	H	001	10	19	7	88	514	0	7	0.20	133	0.50	4456.0
MW	88	82	H	001	10	19	7	88	1419	0	7	0.60	134	0.00	2782.0
MW	88	83	H	001	10	20	7	88	938	0	8	0.30	130	59.90	2512.0
MW	88	84	H	001	10	20	7	88	1756	0	8	0.20	129	59.50	4532.0
MW	88	85	H	001	10	20	7	88	2332	0	7	59.80	129	29.80	2516.0
MW	88	86	H	001	10	21	7	88	501	0	8	0.50	129	0.40	4574.0
MW	88	87	H	001	10	21	7	88	1034	0	7	59.50	128	28.90	2514.0
MW	88	88	H	001	10	21	7	88	1858	0	7	0.10	127	57.60	1502.0
MW	88	89	H	001	10	21	7	88	2327	0	7	29.40	127	58.00	1502.0
MW	88	90	H	001	10	22	7	88	502	0	7	59.70	127	57.90	4556.0
MW	88	91	H	001	10	22	7	88	1025	0	7	59.40	127	26.90	2516.0
MW	88	92	H	001	10	22	7	88	1423	0	7	59.10	127	12.20	4514.0
MW	88	93	H	001	10	22	7	88	1917	0	7	58.80	126	57.50	4522.0
MW	88	94	H	001	10	22	7	88	2339	0	7	58.50	126	44.30	2208.0
MW	88	95	H	001	10	23	7	88	315	0	7	58.40	126	37.09	764.0
MW	88	96	H	001	10	23	7	88	2335	0	10	0.60	126	7.80	1106.0
MW	88	97	H	001	10	24	7	88	326	0	9	59.10	126	20.90	3964.0
MW	88	98	H	001	10	24	7	88	753	0	10	0.30	126	35.70	4526.0
MW	88	99	H	001	10	24	7	88	1403	0	9	59.90	126	51.40	3794.0
MW	88	100	H	001	10	24	7	88	1841	0	10	0.20	127	5.90	3770.0
MW	88	101	H	001	10	24	7	88	2351	0	10	0.80	127	33.70	2512.0
MW	88	102	H	001	10	25	7	88	500	0	10	0.20	128	0.60	3770.0
MW	88	103	H	001	10	25	7	88	1013	0	9	59.80	128	29.70	2512.0
MW	88	104	H	001	10	25	7	88	1546	0	9	59.80	128	59.40	3732.0
MW	88	105	H	001	10	26	7	88	446	0	9	59.50	130	0.20	1710.0
MW	88	106	H	001	10	26	7	88	1229	0	10	59.90	129	59.40	1804.0
MW	88	107	H	001	10	26	7	88	1957	0	11	59.80	129	59.90	1808.0
MW	88	108	H	001	10	27	7	88	428	0	12	0.10	129	0.20	1810.0
MW	88	109	H	001	10	27	7	88	910	0	12	0.20	128	29.80	1804.0
MW	88	110	H	002	10	27	7	88	1525	0	12	0.00	127	59.90	1806.0
MW	88	111	H	001	10	27	7	88	2008	0	12	0.30	127	30.00	1804.0
MW	88	112	H	001	10	28	7	88	52	0	11	59.30	126	59.70	1782.0
MW	88	113	H	001	10	28	7	88	459	0	11	59.30	126	36.00	1760.0

MW	88	114	H	001	10	28	7	88	820	0	11	59.20	126 20.60	1796.0
MW	88	115	H	001	10	28	7	88	1137	0	11	59.20	126 5.60	1750.0
MW	88	116	H	001	10	28	7	88	1534	0	11	59.80	125 51.20	1800.0
MW	88	117	H	001	10	28	7	88	1941	0	11	59.00	125 39.09	1210.0

4100061

CTDLIST84 MAY 16,1984
Run on 24-MAR-89\000\000\000 at 14:45:12
Using SUBINDEX.CTD of date:

Enter SHIP Name & Cruise#
STATION SUMMARY

<CTD.MW086D001>

SH	CRU	STAT	DV	CST	CTD	DA	MO	YR	ST GMT	END GMT	LATITUDE	LONGITUDE	P MAX
MW	86	1	D	001	10	14	1	86	35	0	5 0.30	154 59.60	3468.0
MW	86	2	D	001	10	14	1	86	659	0	4 30.20	155 0.70	3476.0
MW	86	3	D	001	10	14	1	86	1318	0	4 0.00	154 59.10	3152.0
MW	86	4	D	001	10	14	1	86	1915	0	3 29.40	154 59.40	2136.0
MW	86	5	D	001	10	15	1	86	41	0	3 0.10	155 0.20	2820.0
MW	86	6	D	001	10	15	1	86	652	0	2 30.20	154 59.50	2948.0
MW	86	7	D	001	10	15	1	86	1240	0	2 0.30	154 59.80	2772.0
MW	86	7	D	002	10	15	1	86	1604	0	1 59.50	154 59.80	1104.0
MW	86	8	D	001	10	15	1	86	2050	0	1 30.00	154 59.90	2848.0
MW	86	9	D	001	10	16	1	86	228	0	1 0.10	155 0.00	2760.0
MW	86	10	D	001	10	16	1	86	832	0	0 30.30	155 0.20	2932.0
MW	86	11	D	001	10	16	1	86	1420	0	0 -0.50	154 59.90	2512.0
MW	86	12	D	001	10	16	1	86	1943	0	0-30.00	155 0.00	2516.0
MW	86	13	D	001	10	17	1	86	203	0	-1 -0.40	155 0.10	2434.0
MW	86	14	D	001	10	17	1	86	739	0	-1-30.10	154 59.60	2370.0
MW	86	15	D	001	10	17	1	86	1248	0	-1-59.80	154 59.50	2348.0
MW	86	15	D	002	10	17	1	86	1547	0	-2 -0.20	155 0.00	1004.0
MW	86	16	D	001	10	17	1	86	2026	0	-2-30.00	154 59.60	2648.0
MW	86	17	D	001	10	18	1	86	207	0	-2-59.90	154 59.80	2478.0
MW	86	18	D	001	10	18	1	86	725	0	-3-30.40	155 0.10	2250.0
MW	86	19	D	001	10	18	1	86	1241	0	-4 -0.70	155 0.00	2402.0
MW	86	20	D	001	10	18	1	86	1804	0	-4-30.00	154 59.80	3096.0
MW	86	21	D	001	10	18	1	86	2340	0	-4-56.50	154 37.00	500.0
MW	86	22	D	001	10	20	1	86	448	0	-4-51.00	152 20.20	458.0
MW	86	23	D	001	10	20	1	86	756	0	-4-53.20	152 35.20	3498.0
MW	86	24	D	001	10	20	1	86	1153	0	-4-55.60	152 53.30	624.0
MW	86	25	D	001	10	20	1	86	1621	0	-5-12.10	153 18.29	3112.0
MW	86	26	D	001	10	20	1	86	2146	0	-5-29.60	153 43.40	2520.0
MW	86	27	D	001	10	21	1	86	247	0	-5-47.30	154 7.70	1230.0
MW	86	28	D	001	10	21	1	86	721	0	-6 -4.00	154 32.50	546.0
MW	86	29	D	001	10	21	1	86	1214	0	-6-20.10	154 7.60	4590.0
MW	86	30	D	001	10	21	1	86	1938	0	-6-38.59	153 39.70	5822.0
MW	86	31	D	001	10	22	1	86	306	0	-6-55.80	153 13.70	4782.0
MW	86	32	D	001	10	22	1	86	956	0	-7-14.40	152 48.60	4326.0
MW	86	33	D	001	10	22	1	86	1625	0	-7-30.60	152 22.70	4078.0
MW	86	33	D	002	10	22	1	86	1943	0	-7-31.70	152 23.00	998.0
MW	86	34	D	001	10	23	1	86	135	0	-7-47.60	151 57.90	5240.0
MW	86	34	D	002	10	23	1	86	535	0	-7-47.80	151 58.50	998.0
MW	86	35	D	001	10	23	1	86	1137	0	-8 -5.70	151 31.90	3974.0
MW	86	35	D	002	10	23	1	86	1507	0	-8 -5.90	151 32.20	1060.0
MW	86	36	D	001	10	23	1	86	1943	0	-8-22.00	151 5.80	514.0
MW	86	37	D	001	10	24	1	86	1508	0	-8 -4.30	148 33.40	498.0
MW	86	38	D	001	10	24	1	86	2104	0	-7-33.80	148 42.80	4594.0
MW	86	38	D	002	10	25	1	86	58	0	-7-33.00	148 43.30	1106.0
MW	86	39	D	001	10	25	1	86	731	0	-7 -7.30	148 49.20	4852.0
MW	86	39	D	002	10	25	1	86	1127	0	-7 -5.90	148 51.90	1046.0
MW	86	40	D	001	10	25	1	86	1728	0	-6-40.00	148 57.20	4614.0
MW	86	40	D	002	10	25	1	86	2107	0	-6-40.30	148 59.20	1032.0

MW	86	41	D	001	10	26	1	86	147	0	-6-11.00	149	6.50	598.0
MW	86	42	D	001	10	26	1	86	1253	0	-6-22.30	148	38.59	3754.0
MW	86	43	D	001	10	26	1	86	1909	0	-6-29.70	148	15.10	4520.0
MW	86	44	D	001	10	27	1	86	16	0	-6-36.40	147	54.10	548.0
MW	86	45	D	001	10	27	1	86	1056	0	-6-19.00	148	4.00	2312.0
MW	86	46	D	001	10	27	1	86	1641	0	-6 -2.40	147	55.80	1492.0
MW	86	47	D	001	10	27	1	86	2147	0	-5-48.90	147	39.90	1140.0
MW	86	48	D	001	10	28	1	86	127	0	-5-42.80	147	25.10	1436.0
MW	86	49	D	001	10	28	1	86	609	0	-5-53.90	147	1.70	506.0
MW	86	50	D	001	10	28	1	86	857	0	-5-40.50	147	10.40	1372.0
MW	86	51	D	001	10	28	1	86	1243	0	-5-26.70	147	13.50	502.0
MW	86	52	D	001	10	28	1	86	1735	0	-4-56.40	147	20.80	1564.0
MW	86	53	D	001	10	28	1	86	2256	0	-4-26.70	147	23.60	1962.0
MW	86	54	D	001	10	29	1	86	430	0	-3-58.10	147	28.40	1432.0
MW	86	55	D	001	10	29	1	86	944	0	-3-28.00	147	32.50	1458.0
MW	86	56	D	001	10	29	1	86	1508	0	-2-58.00	147	36.20	1288.0
MW	86	57	D	001	10	29	1	86	2039	0	-2-20.90	147	40.90	600.0
MW	86	58	D	001	10	30	1	86	2	0	-2-32.00	147	27.30	996.0
MW	86	59	D	001	10	30	1	86	531	0	-2-48.70	147	1.20	1068.0
MW	86	60	D	001	10	30	1	86	1108	0	-3 -2.90	146	35.50	1836.0
MW	86	61	D	001	10	30	1	86	1722	0	-3-19.90	146	10.00	2158.0
MW	86	62	D	001	10	31	1	86	58	0	-3-35.59	145	46.80	2152.0
MW	86	63	D	001	10	31	1	86	712	0	-3-50.90	145	19.60	2030.0
MW	86	64	D	001	10	31	1	86	1226	0	-4 -3.40	144	51.80	538.0
MW	86	65	D	001	10	31	1	86	1525	0	-3-50.10	144	52.40	1424.0
MW	86	66	D	001	10	31	1	86	1944	0	-3-29.50	144	51.90	1664.0
MW	86	67	D	001	10	1	2	86	107	0	-3 -0.30	144	52.10	1990.0
MW	86	68	D	001	10	1	2	86	612	0	-2-30.00	144	52.70	1146.0
MW	86	69	D	001	10	1	2	86	1050	0	-2 0.00	144	51.90	996.0
MW	86	70	D	001	10	1	2	86	1523	0	-1-29.30	144	51.50	1146.0
MW	86	71	D	001	10	1	2	86	1959	0	-1 -0.30	144	51.30	2182.0
MW	86	72	D	001	10	2	2	86	252	0	0-30.60	144	52.70	3266.0
MW	86	73	D	001	10	2	2	86	859	0	0 0.70	144	51.70	3892.0
MW	86	74	D	001	10	2	2	86	1625	0	0-28.90	144	36.09	4268.0
MW	86	75	D	001	10	2	2	86	2313	0	0-59.30	144	18.60	1880.0
MW	86	76	D	001	10	3	2	86	511	0	-1-30.80	144	1.00	704.0
MW	86	77	D	001	10	3	2	86	1020	0	-1-59.60	143	44.80	1422.0
MW	86	78	D	001	10	3	2	86	1556	0	-2-30.00	143	27.50	2032.0
MW	86	79	D	001	10	3	2	86	2200	0	-3 -0.20	143	10.10	2802.0
MW	86	80	D	001	10	4	2	86	304	0	-3-19.20	142	59.70	530.0
MW	86	81	D	001	10	4	2	86	631	0	-3 -0.50	143	0.70	2622.0
MW	86	82	D	001	10	4	2	86	1154	0	-2-30.80	142	59.80	2844.0
MW	86	83	D	001	10	4	2	86	1738	0	-2 -0.20	143	0.60	3136.0
MW	86	84	D	001	10	4	2	86	2352	0	-1-30.70	143	1.00	1768.0
MW	86	85	D	001	10	5	2	86	543	0	0-59.60	142	59.80	4252.0
MW	86	86	D	001	10	5	2	86	1139	0	0-30.10	143	0.50	3060.0
MW	86	87	D	001	10	5	2	86	1720	0	0 0.40	142	59.10	3136.0
MW	86	88	D	001	10	5	2	86	2251	0	0 29.60	142	58.90	2992.0
MW	86	89	D	001	10	6	2	86	440	0	1 0.20	143	0.30	3378.0
MW	86	90	D	001	10	6	2	86	1031	0	1 29.50	142	59.40	3562.0
MW	86	91	D	001	10	6	2	86	1642	0	1 59.70	143	0.00	3888.0
MW	86	92	D	001	10	6	2	86	2317	0	2 29.70	142	59.30	3686.0
MW	86	93	D	001	10	7	2	86	550	0	3 0.20	142	58.90	4080.0
MW	86	94	D	001	10	7	2	86	1156	0	3 30.60	142	59.30	3394.0
MW	86	95	D	001	10	7	2	86	1746	0	4 0.70	142	59.30	3570.0
MW	86	96	D	001	10	7	2	86	2319	0	4 30.60	143	0.30	3080.0
MW	86	97	D	001	10	8	2	86	445	0	5 0.90	143	0.60	3052.0
MW	86	98	D	001	10	8	2	86	1606	0	5 0.40	144	30.20	3898.0
MW	86	98	D	002	10	8	2	86	1921	0	5 0.10	144	29.60	1006.0
MW	86	99	D	001	10	9	2	86	650	0	5 0.30	146	0.00	4420.0
MW	86	100	D	001	10	9	2	86	2310	0	5 0.40	147	59.50	4184.0
MW	86	100	D	002	10	10	2	86	241	0	4 59.70	147	59.50	1002.0
MW	86	101	D	001	10	10	2	86	1840	0	5 1.30	149	59.10	5416.0
MW	86	102	D	001	10	11	2	86	834	0	4 59.80	151	31.50	4688.0

MW	86	102	D	002	10	11	2	86	1228	0	5	0.70	151	29.60	1006.0
MW	86	103	D	001	10	12	2	86	19	0	5	1.60	153	0.90	4160.0
MW	86	103	D	002	10	12	2	86	356	0	5	0.20	153	0.20	1014.0
MW	86	104	D	001	10	12	2	86	1754	0	5	0.90	155	0.10	3470.0

VAXSEL REF # 329633

9100061

MILDATA TRACK # TV5876

MONITOR CONTACT Mhuss

LOCATION OF F622 SOUR archives

RECORD ALL ERRORS FOUND

CONSEC(S)	ERRORS FOUND
	None

WISE REF #
329634

WILDARS TRACK #
TV5877

MONITOR: CONTACT
M Lewis

LOCATION OF FA22 SOURCE
archives

RECORD ALL ERRORS FOUND

CONSEC(S)	ERRORS FOUND
	None

Unique No.: 198394 Date of Entry: 05/29/91

DATA ENTRY INFORMATION SYSTEM
(DATASET INVENTORY - DINDB)

Accession No.: 9100061 Reference No.: 329633
Former Accession No.: Former Reference No.: (Resub ONLY)

Media-In (DINDB): 09 - Digital Magnetic Tape

Exchange Format: E001 - Low Resolution STD

Processing Format: C022 - Low Resolution STD (SD2 Format)

* Note * If data is F022, create an additional record for C022.

Country/Institute Code: 31R2 Country/Platform Code: 32MW

Platform Type (DINDB): 09 - Ship Orig. Cruise ID: TV5876

Cruise Start Date: 01/14/86 Project Code: 0176

Cruise End Date: 02/12/86 Data Use Code (DUC): 3

Number of Stations: 116 Number of Records: 28,332

If stations/records not appropriate then:

Number: Units:

Ocean Area:

Code 1: 57G Meaning: TOGA Area - Pacific (30 N TO 30 S)
Code 2: Meaning:
Code 3: Meaning:

DINDB Transaction Date:

Unique No.: 198396 Date of Entry: 05/29/91

DATA ENTRY INFORMATION SYSTEM
(DATASET INVENTORY - DINDB)

Accession No.: 9100061 Reference No.: 329634
Former Accession No.: Former Reference No.: (Resub ONLY)

Media-In (DINDB): 09 - Digital Magnetic Tape

Exchange Format: E001 - Low Resolution STD

Processing Format: C022 - Low Resolution STD (SD2 Format)

* Note * If data is F022, create an additional record for C022.

Country/Institute Code: 31R2 Country/Platform Code: 32MW

Platform Type (DINDB): 09 - Ship Orig. Cruise ID: TV5877

Cruise Start Date: 06/21/88 Project Code: 0176

Cruise End Date: 07/28/88 Data Use Code (DUC): 3

Number of Stations: 117 Number of Records: 27,801

If stations/records not appropriate then:

Number: Units:

Ocean Area:

Code 1: 57G Meaning: TOGA Area - Pacific (30 N TO 30 S)
Code 2: Meaning:
Code 3: Meaning:

DINDB Transaction Date:

9100061
9100061

FILE T C022

TRACK I

PROJE IDEN 329633-4

	DATE		TAPE OR DISK DSN		NO. FIL	BLK SIZE		NO. RECORDS
	03/25/91	CMH	AQ1400		363	see below		449,93
PE	04/03/91	CMH	W18761	1st 3 files	3	80	4000	8634
TAPE	04/03/91	CMH	W18762	files 4-363	360	35	3500	441,302 ~~[illegible]~~
DISK	5-16-91	R.P.S.	** W15339		1	120	12000	~~84,114~~ 56,133
IZED								

~~C.O TO PRINCIPAL INVESTIGATOR:~~ Tapes W18761 and W18762 are 9TRK, NL, 1600 bpi.

** LABEL = DNODC *[redacted] WECOMACTDOUT.

RORS/CORRECTIONS (NOT REPORTED TO P.I.)

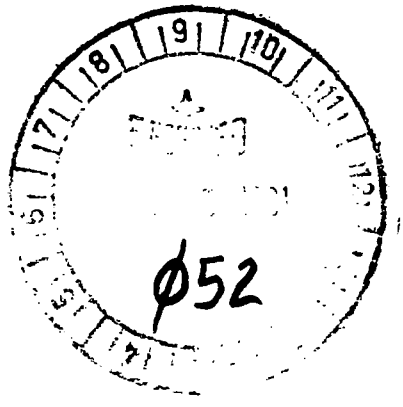
TRACKS DELETED, FIELDS DELETED, ETC.)

NOTE: C100 DATA IN SEPARATE FOLDER

University of Hawaii at Manoa

Joint Institute for Marine and Atmospheric Research (JIMAR)
1000 Pope Road • Honolulu, Hawaii 96822
Cable Address: UNIHAW

March 1, 1991



9100061
A 01406

Mr. Anthony Picciolo
E/OC13
NOAA / NESDIS / NODC
1825 Connecticut Avenue, N. W.
Washington, D.C. 20235

Dear Mr. Picciolo:

As requested by Dr. Roger Lukas, enclosed is a tape containing CTD and nutrient data from the three WEPOCS cruises. WEPOCS I occurred in June and July 1985 on R/V Thomas Thompson. This was followed by the second cruise in January and Feburary 1986 on the R/V Moana Wave. During June and July of 1988 the third cruise was made on the R/V Moana Wave.

The tape was written in ASCII with a density of 1600 bpi and is unlabelled. The first three files contain nutrient data. These files have 4000 characters per block and 80 characters per record (blocking factor = 50). Missing data were marked with a -99.0. Negative salinities specify that the bottle salinity was bad. The corresponding CTD salinity was inserted as a negative number. Potential temperatures at these salinities were also negatively designated.

File 1:	WEPOCS I bottle data
2:	WEPOCS II bottle data
3:	WEPOCS III bottle data

The rest of the files on the tape contain CTD data. They have 35 characters per block and 3500 characters per block. Each CTD station was written on a separate file. Please refer to the station listing for the order of the files within a partcular cruise. The U. S. WEPOCS II data does not contain oxygen, so conductivity was stored in its place. These files were written in Woods Hole NODC format. Enclosed is a description of the data format.

Files 4-130:	WEPOCS I CTD data
131-246:	WEPOCS II CTD data
247-363:	WEPOCS III CTD data

I have also enclosed the replacement tape of HOT-1 through HOT-12 data. Originally, the tape was assigned NODC Identification Number 9100012. I hope that all the problems have been solved and that the data is readable.

Please feel free to contact me at (808) 956-7000 if you have any questions or problems.

Sincerely,

Sharon H. DeCarlo

Sharon H. DeCarlo
Computer Specialist

Enclosures

SHD91-002.doc

9100061

Joint Institute for Marine and Atmospheric Research (JIMAR)
University of Hawaii at Manoa
1000 Pope Road, MSB 400
Honolulu, Hawaii 96822
(808) 956-7000

WEPOCS Hydrographic Bottle Data Format Document

February 1991

WEPOCS hydrographic data are distributed as ASCII flat files. An entire cruise's data is contained in one file. The first record contains a header for the station. The subsequent records contain bottle data for that station. This pattern is then repeated for each station.

Missing data are marked with a -99.0 (or -9.0 for tritium). A negative salinity signifies a bad salinity bottle was obtained. In this situation the CTD's corresponding salinity was inserted as a negative number in its place. Potential temperature was then calculated using that salinity.

Header Record Format:

Column	Format	Item
1-4	i4	Station number
5-8	i4	Number of bottle records to follow
9-16	f8.3	Latitude (Negative = South)
17-24	f8.3	Longitude (Negative = North)
25-27	i3	Month
28-30	i3	Day
31-33	i3	Year
34-39	i6	Time (GMT) (HHMM where HH is Hour & MM is Minutes)
40-47	i8	Maximum Depth

A composite FORTRAN format to read this record is: '(2i4, 2f8.3, 3i3, i6, i8)'

Data Record Format:

Column	Format	Item	
1-2	i2	Bottle number	
3-11	f9.3	Pressure (dbar)	
12-18	f7.3	Temperature (degrees C)	
19-25	f7.3	Salinity (o/oo)	
26-32	f7.3	Potential Temperature (degrees C)	
33-38	f6.2	Oxygen (ml/l)	(-99.0 if missing)
39-44	f6.2	PO4 (u mol/l)	(-99.0 if missing)
45-50	f6.2	NO3 (u mol/l)	(-99.0 if missing)
51-56	f6.2	NO2 (u mol/l)	(-99.0 if missing)
57-62	f6.2	SiO2 (u mol/l)	(-99.0 if missing)
63-68	f6.2	Freon 11 (pmol/kg)	(-99.0 if missing)
69-74	f6.2	Freon 12 (pmol/kg)	(-99.0 if missing)
75-80	f6.3	Tritium (TU)	(-9.0 if missing)

A composite FORTRAN format to read a data record is: '(i2, f9.3, 3f7.3, 7f6.2, f6.3)'

Sample data file: (first two stations)

```
 1 24   7.007 142.978  6 21 88 1830    2987
 1      2.009  29.532  33.629  29.532  4.49  0.14  0.00  0.00  1.70  1.44  0.81 -9.000
 2     58.351  29.266  34.093  29.252  4.54  0.10  0.00  0.01  1.90  1.48  0.81  1.409
 3     72.443  27.894  34.307  27.877  4.43  0.16  0.20  0.02  2.30  1.57 -99.00 -9.000
 4     99.615  25.464  34.541  25.442  4.05  0.28  1.40  0.31  3.40  1.47  0.80 -9.000
 5    107.666  23.842  34.645  23.819  3.89  0.38  3.00  0.10  4.40  1.44  0.76 -9.000
 6    125.790  22.938  34.690  22.912  3.80 -99.00  4.00  0.07  5.50  1.42  0.79  1.910
 7    138.871  21.078  34.750  21.051  3.58  0.60  6.40  0.04  7.10  1.41 -99.00 -9.000
 8    141.891  20.831  34.761  20.804  3.55  0.62  6.70  0.04  7.30  1.46 -99.00 -9.000
 9    162.025  19.024  34.752  18.995  3.30  0.81  9.80  0.03  9.70  1.32  0.71 -9.000
10    176.117  18.123  34.730  18.093  3.17  0.90 11.60  0.02 11.40  1.28  0.67  1.983
11    217.409  12.967  34.579  12.937  2.31  1.59 23.10  0.01 24.50  0.75  0.40  1.406
12    258.700  11.496  34.561  11.463  1.91  1.87 27.60  0.01 30.70  0.52  0.25 -9.000
13    271.794  10.713  34.570  10.680  1.60  2.04 30.60  0.00 34.30  0.34  0.20 -9.000
14    309.054   9.584  34.593   9.549  1.24  2.27 34.50  0.00 39.40  0.21  0.11  0.379
15    347.352   9.165  34.598   9.127  1.31  2.32 35.20  0.00 41.20  0.12  0.09 -9.000
16    407.806   8.602  34.597   8.559  1.34  2.38 36.70  0.00 43.80  0.06  0.05 -9.000
17    504.590   7.580  34.561   7.530  1.54  2.45 37.60  0.00 51.90  0.05  0.05  0.221
18    625.620   6.906  34.543   6.846  1.62  2.55 38.20  0.00 59.00  0.03  0.03- 9.000
19    749.737   5.879  34.532   5.813  1.76  2.63 39.50  0.00 72.60  0.02  0.02 -9.000
20    827.480   5.302  34.538   5.232  1.87  2.68 40.00  0.00 81.90  0.01 -99.00 -9.000
21    994.143   4.546  34.551   4.467  1.96  2.71 40.20  0.00 95.70  0.02  0.01 -9.000
22   1156.896   3.887  34.569   3.799  2.09  2.82 40.50  0.00 106.70  0.06 -99.00 -9.000
23   1355.183   3.370  34.585   3.270  2.18  2.85 40.10  0.00 119.60  0.00 -0.01 -9.000
24   1529.345   2.952  34.603   2.842  2.30  2.82 40.20  0.00 127.80  0.00  0.00 -9.000
-------------------------------------------------------------------------------------------
 2 24   6.007 143.000  6 22 88  306       0
 1      1.011  29.672  33.836  29.672  4.50  0.13  0.00  0.00  1.70  1.47  0.80 -9.000
 2     75.463  29.497  34.139  29.479  4.58  0.11  0.00  0.00  1.90  1.55  0.84 -9.000
 3     98.617  28.290  34.327  28.267  4.55  0.11  0.00  0.00  1.90  1.65 -99.00 -9.000
 4    108.677  27.747  34.438  27.722  4.35  0.16  0.10  0.13  2.30  1.55  0.86 -9.000
 5    117.739  25.823  34.514  25.797  4.10  0.26  1.10  0.34  2.80  1.54  0.79 -9.000
 6    123.781  24.331  34.659  24.305  3.97  0.39  2.50  0.13  3.60  1.52  0.85 -9.000
 7    137.873  22.561  34.759  22.533  3.78  0.49  4.60  0.09  5.20  1.56  0.81 -9.000
 8    142.903  20.697  34.773  20.670  3.56  0.62  6.80  0.04  6.80  1.54  0.82 -9.000
 9    156.995  17.291  34.709  17.265  3.12  0.97 12.50  0.01 12.20  1.29  0.72 -9.000
10    170.076  14.975  34.630  14.949  2.96  1.21 16.30  0.01 17.60  1.13  0.64 -9.000
11    201.294  12.299  34.549  12.272  2.51  1.63 22.70  0.00 26.30  0.85  0.52 -9.000
12    217.409  11.725  34.554  11.697  2.05  1.87 25.70  0.00 28.70  0.60 -99.00 -9.000
13    242.586  10.624  34.562  10.595  1.69  2.09 29.40  0.00 33.30  0.38 -99.00 -9.000
14    269.772   9.861  34.586   9.830  1.48  2.28 31.80  0.00 37.00  0.22 -99.00 -9.000
15    298.981   9.318  34.593   9.285  1.51  2.31 32.80  0.00 39.00  0.17 -99.00 -9.000
16    342.309   8.812  34.608   8.775  1.46  2.42 34.40  0.00 40.60  0.11 -99.00 -9.000
17    446.118   7.999  34.592   7.953  1.53  2.51 35.70  0.00 44.70  0.05 -99.00 -9.000
18    579.203   6.850  34.548   6.795  1.61  2.65 37.30  0.00 58.30 -99.00 -99.00 -9.000
19    738.626   5.871  34.540   5.806  1.80  2.73 38.60  0.00 68.00 -99.00 -99.00 -9.000
20    824.432   5.431  34.540   5.361  1.79  2.78 39.20  0.00 76.90 -99.00 -99.00 -9.000
21    998.162   4.619  34.549   4.539  1.97  2.81 39.40  0.00 91.50 -99.00 -99.00 -9.000
22   1161.940   4.070  34.563   3.980  2.06  2.84 39.80  0.00 102.70 -99.00 -99.00 -9.000
23   1346.054   3.371  34.584   3.272  2.20  2.83 39.70  0.00 118.10  0.02  0.08 -9.000
24   1546.538   2.897  34.604   2.786  2.31  2.84 39.80  0.00 129.00  0.01  0.08 -9.000
```

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CTD Data Format Document

February 1991

CTD data are distributed in Woods Hole Oceanographic Institution NODC format. This document describes that format.

Each station/cast is stored in a separate file. A file's name can be determined by concatenating a 4-digit station number, a letter D, a 3-digit cast number, and a file extension. For example, station 2/cast 1 would be found in 0002D001.CTD. The file HEADER.LIS contains header information for an entire cruise.

The first seven records of a CTD file contain header information:

Record 1:

Column	Format	Item
7-8	a2	Ship Id. (TT = T.Thompson, FR = Franklin, MW = Moana Wave)
16-18	i3	Cruise number(WHOI) or Year of cruise
25-28	i4	Station number
33-35	i3	Cast number

Record 2:

Column	Format	Item
7-8	i2	Year
10-11	i2	Month
13-14	i2	Day
22-26	i5	Time (in GMT; 2 digit hour, 2 digit minute)

Record 3:

Column	Format	Item
5-8	i4	Latitude degrees (Negative = South)
10-14	f5.2	Latitude minutes
19-22	i4	Longitude degrees (Negative = West)
24-28	f5.2	Longitude minutes

Record 4:

Column	Format	Item
11-16	f6.0	Maximum cast pressure (dbar)
28-33	f6.0	Water Depth (-99. = missing)

Record 5:

Column	Format	Item
8-11	f4.1	Pressure interval
17-21	i5	Instrument number
27-33	f7.2	Sampling rate (Hz)

Record 6:

Column	Format	Item
6-11	i6	# of observations
13-35	a	Data format specification

Record 7: headers for data columns (variable labels).

The remaining records contain CTD data. The usual order of variables in a record are as follows: pressure, temperature, salt, oxygen, and quality. The American WEPOCS II data did not include oxygen so conductivity was stored in its place. Potential temperature was stored in place of in situ temperature for WEPOCS III. Missing data are marked with -9.0.

Data Record Format:

Column	Format	Item
1-7	f7.1	Pressure (Decibars)
8-15	f8.4	Temperature (Degrees Celsius)
16-23	f8.4	Salinity (1978 International Practical Salinity Scale)
24-29	f6.2	Oxygen (micro moles per liter) or Conductivity
30-35	i6	Quality **

** The quality word for cruises processed by WHOI (i.e. WEPOCS I) are defined as follows: If positive, the quality word contains the number of observations from the timeseries data that went into the pressure bin. It can be used to infer time and lowering rate:

Lowering rate = Sample rate * pressure interval / quality #
time = start time + sample rate * summed quality (ies)

For data processed by SIO (WEPOCS II & III) a ten signifies data exists for all fields. CSIRO (Australian WEPOCS I & II) data contain a CSIRO quality indicator.

For all data sets negative quality words denote data that has been interpolated. The value of the negative number reflects which variable or variables have been modified, based on the variable location in the CTD data file: -1 for T, -2 for S, -4 for O2, -3 for T & s, -5 for T & O2, -6 for S & O2, -7 for T, S & O2.

Sample File: (First and last few records)

```
SHIP TT CRUIS 189 STAT:   1 C#:  0
DATE 85- 6-18  TIME:  837 Z
LAT   4 59.85 LG  143  0.35
MAX. PRS= 2035. DB  DEPTH= 2987. M
AVER   2.0 INST    8 RATE  31.00HZ
OBS=  1018 FMT(F7.1,2F8.4,F6.2,I6)
 PRES    TEMP    SALT   OXYG  QUAL
   1.0 29.3882 34.0332  5.29    45
   3.0 29.4036 34.0272  5.37  1361
   5.0 29.4028 34.0276  5.36   196
   7.0 29.3982 34.0279  5.19   208
   9.0 29.4033 34.0278  5.35   112
  11.0 29.4062 34.0277  5.40   180
  13.0 29.4066 34.0280  5.46   247
  15.0 29.4030 34.0277  5.52  1245
  17.0 29.3986 34.0278  5.47   607
  19.0 29.3955 34.0280  5.31    53

2017.0  2.1877 34.6411  2.72    77
2019.0  2.1839 34.6413  2.73    68
2021.0  2.1821 34.6412  2.73    35
2023.0  2.1807 34.6410  2.73    32
2025.0  2.1798 34.6415  2.73   120
2027.0  2.1783 34.6415  2.73    33
2029.0  2.1772 34.6415  2.73    36
2031.0  2.1759 34.6419  2.73    47
2033.0  2.1753 34.6418  2.74   127
2035.0  2.1708 34.6416  2.74    33
```

4108061

CTDLIST84 MAY 16,1984
Run on 29-MAR-89\000\000\000 at 11:21:10
Using SUBINDEX.CTD of date:

Enter SHIP Name & Cruise#
STATION SUMMARY

<CTD.TT189D033>

SH	CRU	STAT	DV	CST	CTD	DA	MO	YR	ST GMT	END GMT	LATITUDE	LONGITUDE	P MAX
TT	189	1	D	000	8	18	6	85	837	943	4 59.85	143 0.35	2035.0
TT	189	2	D	000	9	18	6	85	1126	1226	5 0.00	143 0.26	3015.0
TT	189	3	D	000	9	18	6	85	2348	109	4 59.92	145 0.34	1869.0
TT	189	4	D	000	9	19	6	85	815	849	4 59.17	146 0.18	1013.0
TT	189	5	D	000	9	19	6	85	1047	1147	4 59.82	145 58.93	4445.0
TT	189	6	D	000	9	19	6	85	1901	2024	4 59.85	147 0.10	4299.0
TT	189	7	D	000	9	20	6	85	843	952	5 0.24	149 0.62	4323.0
TT	189	8	D	000	9	20	6	85	1645	1720	5 0.18	149 59.80	1003.0
TT	189	9	D	000	9	20	6	85	1839	1952	5 0.03	150 0.05	5399.0
TT	189	10	D	000	9	21	6	85	236	346	5 0.05	150 59.90	4707.0
TT	189	11	D	000	9	21	6	85	1554	1659	5 0.01	152 59.93	4181.0
TT	189	12	D	000	9	22	6	85	424	516	5 0.33	155 0.96	3425.0
TT	189	13	D	000	8	22	6	85	640	721	5 1.04	155 2.40	1007.0
TT	189	14	D	000	9	22	6	85	1101	1134	4 29.74	155 0.03	1003.0
TT	189	15	D	000	9	22	6	85	1518	1608	4 0.01	154 59.84	2995.0
TT	189	16	D	000	9	22	6	85	1956	2025	3 30.90	154 59.97	997.0
TT	189	17	D	000	9	22	6	85	2352	37	2 59.86	154 59.92	2835.0
TT	189	18	D	000	9	23	6	85	507	532	2 29.64	154 59.84	1009.0
TT	189	19	D	000	9	23	6	85	931	1015	2 0.08	154 59.97	2757.0
TT	189	20	D	000	9	23	6	85	1358	1430	1 29.98	154 59.85	1007.0
TT	189	21	D	000	9	23	6	85	1754	1836	1 0.01	154 59.97	2763.0
TT	189	22	D	000	9	24	6	85	436	505	0 29.91	154 59.87	1007.0
TT	189	23	D	000	9	24	6	85	822	919	0 0.04	155 0.16	2541.0
TT	189	24	D	000	8	24	6	85	1032	1114	0 0.84	154 59.83	1009.0
TT	189	25	D	000	9	24	6	85	1502	1527	0-29.95	154 59.83	1005.0
TT	189	26	D	000	9	24	6	85	1844	1922	0-59.91	155 0.02	2421.0
TT	189	27	D	000	9	24	6	85	2258	2320	-1 30.13	155 0.13	1007.0
TT	189	28	D	000	9	25	6	85	236	319	-1 59.81	154 59.74	2327.0
TT	189	29	D	000	9	25	6	85	743	801	-2 30.00	154 59.95	1001.0
TT	189	30	D	000	9	25	6	85	1211	1246	-2 59.99	154 59.92	2469.0
TT	189	31	D	000	9	25	6	85	1651	1724	-3 30.00	155 0.08	999.0
TT	189	32	D	000	9	25	6	85	2125	2200	-3 59.80	154 59.96	2451.0
TT	189	33	D	000	9	26	6	85	158	227	-4 30.14	155 0.10	1001.0
TT	189	34	D	000	9	26	6	85	704	718	-4 54.00	154 37.97	481.0
TT	189	35	D	000	9	27	6	85	1815	1830	-4 51.85	152 20.30	561.0
TT	189	36	D	000	9	27	6	85	2218	2304	-4 51.60	152 35.00	3439.0
TT	189	37	D	000	9	28	6	85	715	733	-4 54.70	152 54.17	537.0
TT	189	38	D	000	9	28	6	85	946	1019	-5 6.94	153 14.47	1501.0
TT	189	39	D	000	9	28	6	85	1100	1359	-5 20.13	153 35.05	4153.0
TT	189	40	D	000	9	28	6	85	1543	1614	-5 19.95	153 34.96	995.0
TT	189	41	D	000	9	28	6	85	1905	1934	-5 34.08	153 54.10	1261.0
TT	189	42	D	000	9	28	6	85	2221	2244	-5 48.06	154 15.03	985.0
TT	189	43	D	000	9	29	6	85	154	216	-6 4.50	154 32.50	615.0
TT	189	44	D	000	9	29	6	85	459	526	-6 16.90	154 11.90	1005.0
TT	189	45	D	000	9	29	6	85	819	939	-6 32.98	153 48.96	6453.0
TT	189	46	D	000	9	29	6	85	1633	1710	-6 33.10	153 48.85	2005.0
TT	189	47	D	000	9	29	6	85	2020	2039	-6 47.88	153 26.97	1005.0
TT	189	48	D	000	9	30	6	85	8	111	-7 3.73	153 3.71	4877.0

TT	189	49	D	000	9	30	6	85	513	604	-7	20.71	152 39.37	1043.0
TT	189	50	D	000	9	30	6	85	915	1025	-7	35.17	152 16.73	4471.0
TT	189	51	D	000	9	30	6	85	1411	1436	-7	52.16	151 53.02	1003.0
TT	189	52	D	000	9	30	6	85	1737	1843	-8	8.10	151 30.08	3545.0
TT	189	53	D	000	9	30	6	85	2235	2300	-8	22.41	151 4.51	619.0
TT	189	54	D	000	9	1	7	85	121	212	-8	4.57	150 51.13	2291.0
TT	189	55	D	000	9	1	7	85	537	557	-7	46.01	150 32.80	1001.0
TT	189	56	D	000	9	1	7	85	901	1005	-7	27.62	150 16.26	4893.0
TT	189	57	D	000	9	1	7	85	1400	1426	-7	8.05	149 59.10	1005.0
TT	189	58	D	000	9	1	7	85	1709	1826	-6	50.28	149 42.53	5881.0
TT	189	59	D	000	9	1	7	85	2030	2123	-6	51.64	149 42.36	3117.0
TT	189	60	D	000	9	2	7	85	152	217	-6	31.10	149 24.96	1005.0
TT	189	61	D	000	9	3	7	85	227	250	-6	12.72	149 7.11	929.0
TT	189	62	D	000	9	3	7	85	435	457	-6	11.50	148 59.20	741.0
TT	189	63	D	000	9	3	7	85	741	822	-6	21.04	148 37.49	3265.0
TT	189	64	D	000	9	3	7	85	1125	1220	-6	29.81	148 15.45	4503.0
TT	189	65	D	000	9	3	7	85	1408	1434	-6	30.10	148 15.26	1005.0
TT	189	66	D	000	9	3	7	85	1706	1725	-6	38.38	147 53.91	493.0
TT	189	67	D	000	9	4	7	85	1100	1119	-5	51.83	147 2.20	553.0
TT	189	68	D	000	9	4	7	85	1352	1425	-5	40.00	147 10.50	1361.0
TT	189	69	D	000	9	4	7	85	1654	1716	-5	25.95	147 13.78	575.0
TT	189	70	D	000	9	5	7	85	505	537	-4	57.10	147 21.00	1563.0
TT	189	71	D	000	9	5	7	85	900	928	-4	26.99	147 24.41	1961.0
TT	189	72	D	000	9	5	7	85	1242	1311	-3	57.64	147 28.45	1663.0
TT	189	73	D	000	9	5	7	85	1636	1703	-3	27.66	147 33.10	1455.0
TT	189	73	D	001	9	5	7	85	1703	1734	-3	27.69	147 33.07	1452.0
TT	189	74	D	000	9	5	7	85	2031	2051	-2	58.00	147 36.48	1301.0
TT	189	75	D	000	9	6	7	85	57	110	-2	24.50	147 39.10	585.0
TT	189	76	D	000	9	6	7	85	304	326	-2	31.57	147 27.03	915.0
TT	189	77	D	000	9	6	7	85	628	640	-2	47.45	147 1.07	1051.0
TT	189	78	D	000	9	6	7	85	940	1008	-3	3.08	146 35.43	1839.0
TT	189	79	D	000	9	6	7	85	1310	1343	-3	18.80	146 10.25	2135.0
TT	189	80	D	000	9	6	7	85	1704	1736	-3	35.12	145 45.05	2143.0
TT	189	81	D	000	9	6	7	85	2054	2138	-3	50.49	145 19.37	2035.0
TT	189	82	D	000	9	7	7	85	152	205	-4	5.00	144 51.52	243.0
TT	189	83	D	000	9	7	7	85	318	330	-4	3.03	144 51.80	519.0
TT	189	84	D	000	9	7	7	85	507	534	-3	49.98	144 52.12	1505.0
TT	189	85	D	000	9	7	7	85	720	749	-3	39.88	144 51.94	1647.0
TT	189	86	D	000	9	7	7	85	941	1008	-3	29.96	144 51.97	1645.0
TT	189	87	D	000	9	7	7	85	1312	1339	-2	59.83	144 51.96	1977.0
TT	189	88	D	000	9	7	7	85	1650	1708	-2	29.84	144 51.93	1141.0
TT	189	89	D	000	9	7	7	85	2015	2033	-2	0.11	144 51.56	989.0
TT	189	90	D	000	9	7	7	85	2346	5	-1	30.50	144 51.80	1049.0
TT	189	91	D	000	9	8	7	85	311	344	-1	0.13	144 51.80	1973.0
TT	189	92	D	000	9	8	7	85	651	744	0	-29.97	144 51.99	4485.0
TT	189	93	D	000	9	8	7	85	1146	1240	0	-0.08	144 52.01	3719.0
TT	189	94	D	000	9	8	7	85	1628	1716	0	29.86	144 51.70	3535.0
TT	189	95	D	000	9	8	7	85	2108	2157	1	0.11	144 52.01	4235.0
TT	189	96	D	000	9	9	7	85	141	237	1	25.75	144 53.08	4525.0
TT	189	97	D	000	9	9	7	85	705	759	2	0.66	144 51.98	4389.0
TT	189	98	D	000	9	9	7	85	2156	2249	0	-30.05	144 34.98	4279.0
TT	189	99	D	000	9	10	7	85	254	328	-1	0.00	144 18.00	1935.0
TT	189	100	D	000	9	10	7	85	752	817	-1	-29.91	143 48.54	1931.0
TT	189	101	D	000	9	10	7	85	1129	1151	-2	0.02	143 43.96	1477.0
TT	189	102	D	000	9	10	7	85	1540	1616	-2	29.90	143 27.13	2067.0
TT	189	103	D	000	9	10	7	85	1949	2021	-3	0.06	143 9.86	2723.0
TT	189	104	D	000	9	11	7	85	48	111	-3	18.47	142 52.82	615.0
TT	189	105	D	000	9	11	7	85	1215	1249	-2	58.95	142 59.94	2767.0
TT	189	106	D	000	9	11	7	85	1638	1722	-2	29.89	142 59.94	2863.0
TT	189	107	D	000	9	11	7	85	2129	2206	-2	0.00	142 59.92	3133.0
TT	189	108	D	000	9	11	7	85	2344	2356	-2	0.00	142 59.62	1029.0
TT	189	109	D	000	9	12	7	85	337	410	-1	30.43	142 59.64	1611.0
TT	189	110	D	000	9	12	7	85	840	926	0	-59.66	142 59.92	4247.0
TT	189	111	D	000	9	12	7	85	1401	1447	0	-29.96	142 59.86	3065.0

TT	189	112	D	000	9	12	7	85	1910	1947	0	-0.06	143	0.02	3125.0
TT	189	113	D	000	9	12	7	85	2114	2129	0	-0.09	143	0.56	983.0
TT	189	114	D	000	9	13	7	85	119	155	0	30.04	143	0.05	2973.0
TT	189	115	D	000	9	13	7	85	611	649	1	0.19	142	59.83	3379.0
TT	189	116	D	000	9	13	7	85	1050	1136	1	30.03	143	0.01	3625.0
TT	189	117	D	000	9	13	7	85	1613	1713	2	0.07	142	59.67	3881.0
TT	189	118	D	000	9	13	7	85	1901	1915	1	59.97	142	59.15	1003.0
TT	189	119	D	000	9	13	7	85	2311	9	2	30.67	143	0.93	3631.0
TT	189	120	D	000	9	14	7	85	615	709	2	59.97	143	0.03	4089.0
TT	189	121	D	000	9	14	7	85	1151	1236	3	29.83	143	0.03	3283.0
TT	189	122	D	000	9	14	7	85	1445	1509	3	30.05	143	0.09	1143.0
TT	189	123	D	000	9	14	7	85	1906	1939	3	59.87	143	0.18	2805.0
TT	189	124	D	000	9	15	7	85	38	117	4	31.30	142	59.97	3089.0
TT	189	125	D	000	9	15	7	85	526	608	4	59.92	143	0.17	2999.0
TT	189	126	D	000	9	15	7	85	744	804	4	59.85	143	0.23	999.0

41 00061

CTDLIST84 MAY 16,1984
Run on 17-MAY-89\000\000\000 at 14:22:00
Using SUBINDEX.CTD of date:

METOC I

Enter SHIP Name & Cruise#
STATION SUMMARY

<CTD.MW088D006>

SH	CRU	STAT	DV	CST	CTD	DA	MO	YR	ST GMT	END GMT	LATITUDE	LONGITUDE	P MAX
MW	88	1	H	001	4	21	6	88	1830	0	7 0.40	142 58.70	1528.0
MW	88	2	H	001	4	22	6	88	309	0	6 0.40	143 0.00	1546.0
MW	88	3	H	001	4	22	6	88	1051	0	5 0.50	143 0.30	1512.0
MW	88	4	H	001	4	22	6	88	1832	0	3 59.70	142 59.90	1554.0
MW	88	5	H	001	4	23	6	88	255	0	3 0.60	143 0.60	1512.0
MW	88	6	H	001	4	23	6	88	816	0	2 30.10	143 0.30	1512.0
MW	88	7	H	001	4	23	6	88	1316	0	2 0.00	143 0.30	1510.0
MW	88	8	H	001	4	23	6	88	1838	0	1 29.90	142 59.90	1510.0
MW	88	9	H	002	4	24	6	88	152	0	1 0.10	142 59.60	1510.0
MW	88	10	H	001	4	24	6	88	701	0	0 30.90	142 59.50	1518.0
MW	88	11	H	001	4	24	6	88	1229	0	0 0.50	143 0.30	1502.0
MW	88	12	H	001	4	24	6	88	1747	0	0-29.90	142 59.90	1506.0
MW	88	13	H	001	4	24	6	88	2241	0	-1 -0.10	142 59.80	1512.0
MW	88	14	H	001	4	25	6	88	604	0	-1-28.30	142 57.00	1500.0
MW	88	15	H	001	4	25	6	88	1130	0	-2 -0.20	142 59.50	1520.0
MW	88	16	H	001	4	25	6	88	1625	0	-2-30.00	142 59.20	1500.0
MW	88	17	H	001	4	25	6	88	2125	0	-3 -0.30	142 59.60	1506.0
MW	88	18	H	001	4	26	6	88	111	0	-3-14.10	142 59.40	1004.0
MW	88	19	H	001	4	29	6	88	1018	0	7 0.40	143 0.00	1508.0
MW	88	20	H	001	4	29	6	88	2256	0	7 0.20	140 59.70	1494.0
MW	88	21	H	001	4	30	6	88	1118	0	7 0.60	139 0.00	1506.0
MW	88	22	H	001	4	30	6	88	2335	0	7 0.30	136 59.70	1504.0
MW	88	23	H	001	4	1	7	88	1151	0	6 59.30	135 0.20	1506.0
MW	88	24	H	001	4	5	7	88	2240	0	6 59.90	133 59.10	2826.0
MW	88	25	H	001	4	6	7	88	438	0	6 29.40	133 38.59	2610.0
MW	88	26	H	001	4	6	7	88	1009	0	5 59.20	133 20.60	2340.0
MW	88	27	H	001	4	6	7	88	1616	0	5 24.40	133 4.69	4396.0
MW	88	28	H	001	4	6	7	88	2237	0	4 58.60	132 42.50	3998.0
MW	88	29	H	001	4	7	7	88	500	0	4 30.70	132 24.10	3560.0
MW	88	30	H	001	4	7	7	88	1136	0	3 59.80	132 2.20	4154.0
MW	88	31	H	001	4	7	7	88	1809	0	3 30.10	131 42.30	2832.0
MW	88	32	H	001	4	8	7	88	26	0	2 59.50	131 23.30	4182.0
MW	88	33	H	001	4	8	7	88	641	0	2 31.10	131 3.00	3176.0
MW	88	34	H	001	4	10	7	88	217	0	5 8.80	125 34.20	1408.0
MW	88	35	H	001	4	10	7	88	836	0	5 9.80	125 0.30	4538.0
MW	88	36	H	001	4	10	7	88	1456	0	5 9.60	124 30.30	4552.0
MW	88	37	H	001	4	10	7	88	2301	0	5 34.40	123 46.60	2008.0
MW	88	38	H	001	4	11	7	88	645	0	6 30.70	123 29.60	2010.0
MW	88	39	H	001	4	11	7	88	1257	0	6 59.10	123 29.70	4704.0
MW	88	40	H	001	4	11	7	88	1743	0	6 54.50	123 43.20	2010.0
MW	88	41	H	001	4	11	7	88	2042	0	6 50.20	123 52.40	1450.0
MW	88	42	H	001	4	11	7	88	2338	0	6 51.40	123 54.30	516.0
MW	88	43	H	001	4	12	7	88	212	0	6 42.10	123 44.20	1012.0
MW	88	44	H	001	4	12	7	88	615	0	6 29.40	123 45.40	1052.0
MW	88	45	H	001	4	12	7	88	906	0	6 30.10	123 54.60	1124.0
MW	88	46	H	001	4	12	7	88	1148	0	6 20.10	123 50.00	1002.0
MW	88	47	H	001	4	12	7	88	1405	0	6 9.89	123 40.59	1010.0
MW	88	48	H	001	4	12	7	88	1700	0	6 0.00	123 30.50	2008.0
MW	88	49	H	001	4	12	7	88	1957	0	6 2.40	123 45.30	1026.0

MW	88	50	H	001	4	12	7	88	2206	0	6	5.30	123	59.50	1028.0
MW	88	51	H	001	4	13	7	88	50	0	6	7.20	124	12.30	1172.0
MW	88	52	H	001	4	13	7	88	412	0	5	50.30	124	11.80	2046.0
MW	88	53	H	001	4	13	7	88	710	0	5	37.20	124	10.20	2006.0
MW	88	54	H	001	4	13	7	88	1006	0	5	22.90	124	7.80	2010.0
MW	88	55	H	001	4	13	7	88	1339	0	5	31.80	124	18.40	1004.0
MW	88	56	H	001	4	13	7	88	1618	0	5	41.70	124	30.10	1010.0
MW	88	57	H	001	4	13	7	88	1842	0	5	51.40	124	40.09	1028.0
MW	88	58	H	001	4	13	7	88	2240	0	5	39.30	124	51.60	2036.0
MW	88	59	H	001	4	14	7	88	156	0	5	23.70	124	55.40	2034.0
MW	88	60	H	001	4	14	7	88	513	0	5	9.39	124	59.10	2026.0
MW	88	61	H	001	4	14	7	88	1247	0	5	25.50	125	44.10	2510.0
MW	88	62	H	001	4	14	7	88	1815	0	6	1.10	125	44.00	1394.0
MW	88	63	H	001	4	15	7	88	13	0	5	40.80	126	9.39	2728.0
MW	88	64	H	001	4	15	7	88	700	0	6	17.79	126	14.80	608.0
MW	88	65	H	001	10	15	7	88	1020	0	6	15.60	126	27.10	1438.0
MW	88	66	H	001	10	15	7	88	1411	0	6	13.70	126	42.40	3612.0
MW	88	67	H	001	10	15	7	88	1825	0	6	13.30	126	56.70	2646.0
MW	88	68	H	002	10	15	7	88	2311	0	6	13.60	127	12.00	4548.0
MW	88	69	H	001	10	16	7	88	750	0	7	0.80	126	29.10	616.0
MW	88	70	H	001	10	16	7	88	1206	0	6	56.80	126	42.70	3194.0
MW	88	71	H	001	10	16	7	88	1707	0	6	58.50	126	57.50	4472.0
MW	88	72	H	001	10	16	7	88	2151	0	6	59.40	127	13.00	2560.0
MW	88	73	H	001	10	17	7	88	225	0	6	59.20	127	28.70	4552.0
MW	88	74	H	001	10	17	7	88	753	0	7	1.30	127	58.80	2534.0
MW	88	75	H	001	10	17	7	88	1321	0	6	59.70	128	31.30	4526.0
MW	88	76	H	001	10	17	7	88	1834	0	6	59.70	129	0.80	2542.0
MW	88	77	H	001	10	17	7	88	2349	0	7	0.10	129	31.20	4528.0
MW	88	78	H	001	10	18	7	88	429	0	7	0.20	130	0.90	2552.0
MW	88	79	H	001	10	18	7	88	1146	0	6	58.40	131	0.10	4526.0
MW	88	80	H	001	10	18	7	88	2021	0	7	0.20	131	59.70	4534.0
MW	88	81	H	001	10	19	7	88	514	0	7	0.20	133	0.50	4456.0
MW	88	82	H	001	10	19	7	88	1419	0	7	0.60	134	0.00	2782.0
MW	88	83	H	001	10	20	7	88	938	0	8	0.30	130	59.90	2512.0
MW	88	84	H	001	10	20	7	88	1756	0	8	0.20	129	59.50	4532.0
MW	88	85	H	001	10	20	7	88	2332	0	7	59.80	129	29.80	2516.0
MW	88	86	H	001	10	21	7	88	501	0	8	0.50	129	0.40	4574.0
MW	88	87	H	001	10	21	7	88	1034	0	7	59.50	128	28.90	2514.0
MW	88	88	H	001	10	21	7	88	1858	0	7	0.10	127	57.60	1502.0
MW	88	89	H	001	10	21	7	88	2327	0	7	29.40	127	58.00	1502.0
MW	88	90	H	001	10	22	7	88	502	0	7	59.70	127	57.90	4556.0
MW	88	91	H	001	10	22	7	88	1025	0	7	59.40	127	26.90	2516.0
MW	88	92	H	001	10	22	7	88	1423	0	7	59.10	127	12.20	4514.0
MW	88	93	H	001	10	22	7	88	1917	0	7	58.80	126	57.50	4522.0
MW	88	94	H	001	10	22	7	88	2339	0	7	58.50	126	44.30	2208.0
MW	88	95	H	001	10	23	7	88	315	0	7	58.40	126	37.09	764.0
MW	88	96	H	001	10	23	7	88	2335	0	10	0.60	126	7.80	1106.0
MW	88	97	H	001	10	24	7	88	326	0	9	59.10	126	20.90	3964.0
MW	88	98	H	001	10	24	7	88	753	0	10	0.30	126	35.70	4526.0
MW	88	99	H	001	10	24	7	88	1403	0	9	59.90	126	51.40	3794.0
MW	88	100	H	001	10	24	7	88	1841	0	10	0.20	127	5.90	3770.0
MW	88	101	H	001	10	24	7	88	2351	0	10	0.80	127	33.70	2512.0
MW	88	102	H	001	10	25	7	88	500	0	10	0.20	128	0.60	3770.0
MW	88	103	H	001	10	25	7	88	1013	0	9	59.80	128	29.70	2512.0
MW	88	104	H	001	10	25	7	88	1546	0	9	59.80	128	59.40	3732.0
MW	88	105	H	001	10	26	7	88	446	0	9	59.50	130	0.20	1710.0
MW	88	106	H	001	10	26	7	88	1229	0	10	59.90	129	59.40	1804.0
MW	88	107	H	001	10	26	7	88	1957	0	11	59.80	129	59.90	1808.0
MW	88	108	H	001	10	27	7	88	428	0	12	0.10	129	0.20	1810.0
MW	88	109	H	001	10	27	7	88	910	0	12	0.20	128	29.80	1804.0
MW	88	110	H	002	10	27	7	88	1525	0	12	0.00	127	59.90	1806.0
MW	88	111	H	001	10	27	7	88	2008	0	12	0.30	127	30.00	1804.0
MW	88	112	H	001	10	28	7	88	52	0	11	59.30	126	59.70	1782.0
MW	88	113	H	001	10	28	7	88	459	0	11	59.30	126	36.00	1760.0

MW	88	114	H	001	10	28	7	88	820	0	11	59.20	126 20.60	1796.0
MW	88	115	H	001	10	28	7	88	1137	0	11	59.20	126 5.60	1750.0
MW	88	116	H	001	10	28	7	88	1534	0	11	59.80	125 51.20	1800.0
MW	88	117	H	001	10	28	7	88	1941	0	11	59.00	125 39.09	1210.0

4100061

CTDLIST84 MAY 16,1984
Run on 24-MAR-89\000\000\000 at 14:45:12
Using SUBINDEX.CTD of date:

II

Enter SHIP Name & Cruise#
STATION SUMMARY

<CTD.MW086D001>

SH	CRU	STAT	DV	CST	CTD	DA	MO	YR	ST GMT	END GMT	LATITUDE	LONGITUDE	P MAX
MW	86	1	D	001	10	14	1	86	35	0	5 0.30	154 59.60	3468.0
MW	86	2	D	001	10	14	1	86	659	0	4 30.20	155 0.70	3476.0
MW	86	3	D	001	10	14	1	86	1318	0	4 0.00	154 59.10	3152.0
MW	86	4	D	001	10	14	1	86	1915	0	3 29.40	154 59.40	2136.0
MW	86	5	D	001	10	15	1	86	41	0	3 0.10	155 0.20	2820.0
MW	86	6	D	001	10	15	1	86	652	0	2 30.20	154 59.50	2948.0
MW	86	7	D	001	10	15	1	86	1240	0	2 0.30	154 59.80	2772.0
MW	86	7	D	002	10	15	1	86	1604	0	1 59.50	154 59.80	1104.0
MW	86	8	D	001	10	15	1	86	2050	0	1 30.00	154 59.90	2848.0
MW	86	9	D	001	10	16	1	86	228	0	1 0.10	155 0.00	2760.0
MW	86	10	D	001	10	16	1	86	832	0	0 30.30	155 0.20	2932.0
MW	86	11	D	001	10	16	1	86	1420	0	0 -0.50	154 59.90	2512.0
MW	86	12	D	001	10	16	1	86	1943	0	0-30.00	155 0.00	2516.0
MW	86	13	D	001	10	17	1	86	203	0	-1 -0.40	155 0.10	2434.0
MW	86	14	D	001	10	17	1	86	739	0	-1-30.10	154 59.60	2370.0
MW	86	15	D	001	10	17	1	86	1248	0	-1-59.80	154 59.50	2348.0
MW	86	15	D	002	10	17	1	86	1547	0	-2 -0.20	155 0.00	1004.0
MW	86	16	D	001	10	17	1	86	2026	0	-2-30.00	154 59.60	2648.0
MW	86	17	D	001	10	18	1	86	207	0	-2-59.90	154 59.80	2478.0
MW	86	18	D	001	10	18	1	86	725	0	-3-30.40	155 0.10	2250.0
MW	86	19	D	001	10	18	1	86	1241	0	-4 -0.70	155 0.00	2402.0
MW	86	20	D	001	10	18	1	86	1804	0	-4-30.00	154 59.80	3096.0
MW	86	21	D	001	10	18	1	86	2340	0	-4-56.50	154 37.00	500.0
MW	86	22	D	001	10	20	1	86	448	0	-4-51.00	152 20.20	458.0
MW	86	23	D	001	10	20	1	86	756	0	-4-53.20	152 35.20	3498.0
MW	86	24	D	001	10	20	1	86	1153	0	-4-55.60	152 53.30	624.0
MW	86	25	D	001	10	20	1	86	1621	0	-5-12.10	153 18.29	3112.0
MW	86	26	D	001	10	20	1	86	2146	0	-5-29.60	153 43.40	2520.0
MW	86	27	D	001	10	21	1	86	247	0	-5-47.30	154 7.70	1230.0
MW	86	28	D	001	10	21	1	86	721	0	-6 -4.00	154 32.50	546.0
MW	86	29	D	001	10	21	1	86	1214	0	-6-20.10	154 7.60	4590.0
MW	86	30	D	001	10	21	1	86	1938	0	-6-38.59	153 39.70	5822.0
MW	86	31	D	001	10	22	1	86	306	0	-6-55.80	153 13.70	4782.0
MW	86	32	D	001	10	22	1	86	956	0	-7-14.40	152 48.60	4326.0
MW	86	33	D	001	10	22	1	86	1625	0	-7-30.60	152 22.70	4078.0
MW	86	33	D	002	10	22	1	86	1943	0	-7-31.70	152 23.00	998.0
MW	86	34	D	001	10	23	1	86	135	0	-7-47.60	151 57.90	5240.0
MW	86	34	D	002	10	23	1	86	535	0	-7-47.80	151 58.50	998.0
MW	86	35	D	001	10	23	1	86	1137	0	-8 -5.70	151 31.90	3974.0
MW	86	35	D	002	10	23	1	86	1507	0	-8 -5.90	151 32.20	1060.0
MW	86	36	D	001	10	23	1	86	1943	0	-8-22.00	151 5.80	514.0
MW	86	37	D	001	10	24	1	86	1508	0	-8 -4.30	148 33.40	498.0
MW	86	38	D	001	10	24	1	86	2104	0	-7-33.80	148 42.80	4594.0
MW	86	38	D	002	10	25	1	86	58	0	-7-33.00	148 43.30	1106.0
MW	86	39	D	001	10	25	1	86	731	0	-7 -7.30	148 49.20	4852.0
MW	86	39	D	002	10	25	1	86	1127	0	-7 -5.90	148 51.90	1046.0
MW	86	40	D	001	10	25	1	86	1728	0	-6-40.00	148 57.20	4614.0
MW	86	40	D	002	10	25	1	86	2107	0	-6-40.30	148 59.20	1032.0

MW	86	41	D	001	10	26	1	86	147	0	-6	-11.00	149	6.50	598.0
MW	86	42	D	001	10	26	1	86	1253	0	-6	-22.30	148	38.59	3754.0
MW	86	43	D	001	10	26	1	86	1909	0	-6	-29.70	148	15.10	4520.0
MW	86	44	D	001	10	27	1	86	16	0	-6	-36.40	147	54.10	548.0
MW	86	45	D	001	10	27	1	86	1056	0	-6	-19.00	148	4.00	2312.0
MW	86	46	D	001	10	27	1	86	1641	0	-6	-2.40	147	55.80	1492.0
MW	86	47	D	001	10	27	1	86	2147	0	-5	-48.90	147	39.90	1140.0
MW	86	48	D	001	10	28	1	86	127	0	-5	-42.80	147	25.10	1436.0
MW	86	49	D	001	10	28	1	86	609	0	-5	-53.90	147	1.70	506.0
MW	86	50	D	001	10	28	1	86	857	0	-5	-40.50	147	10.40	1372.0
MW	86	51	D	001	10	28	1	86	1243	0	-5	-26.70	147	13.50	502.0
MW	86	52	D	001	10	28	1	86	1735	0	-4	-56.40	147	20.80	1564.0
MW	86	53	D	001	10	28	1	86	2256	0	-4	-26.70	147	23.60	1962.0
MW	86	54	D	001	10	29	1	86	430	0	-3	-58.10	147	28.40	1432.0
MW	86	55	D	001	10	29	1	86	944	0	-3	-28.00	147	32.50	1458.0
MW	86	56	D	001	10	29	1	86	1508	0	-2	-58.00	147	36.20	1288.0
MW	86	57	D	001	10	29	1	86	2039	0	-2	-20.90	147	40.90	600.0
MW	86	58	D	001	10	30	1	86	2	0	-2	-32.00	147	27.30	996.0
MW	86	59	D	001	10	30	1	86	531	0	-2	-48.70	147	1.20	1068.0
MW	86	60	D	001	10	30	1	86	1108	0	-3	-2.90	146	35.50	1836.0
MW	86	61	D	001	10	30	1	86	1722	0	-3	-19.90	146	10.00	2158.0
MW	86	62	D	001	10	31	1	86	58	0	-3	-35.59	145	46.80	2152.0
MW	86	63	D	001	10	31	1	86	712	0	-3	-50.90	145	19.60	2030.0
MW	86	64	D	001	10	31	1	86	1226	0	-4	-3.40	144	51.80	538.0
MW	86	65	D	001	10	31	1	86	1525	0	-3	-50.10	144	52.40	1424.0
MW	86	66	D	001	10	31	1	86	1944	0	-3	-29.50	144	51.90	1664.0
MW	86	67	D	001	10	1	2	86	107	0	-3	-0.30	144	52.10	1990.0
MW	86	68	D	001	10	1	2	86	612	0	-2	-30.00	144	52.70	1146.0
MW	86	69	D	001	10	1	2	86	1050	0	-2	0.00	144	51.90	996.0
MW	86	70	D	001	10	1	2	86	1523	0	-1	-29.30	144	51.50	1146.0
MW	86	71	D	001	10	1	2	86	1959	0	-1	-0.30	144	51.30	2182.0
MW	86	72	D	001	10	2	2	86	252	0	0	-30.60	144	52.70	3266.0
MW	86	73	D	001	10	2	2	86	859	0	0	0.70	144	51.70	3892.0
MW	86	74	D	001	10	2	2	86	1625	0	0	-28.90	144	36.09	4268.0
MW	86	75	D	001	10	2	2	86	2313	0	0	-59.30	144	18.60	1880.0
MW	86	76	D	001	10	3	2	86	511	0	-1	-30.80	144	1.00	704.0
MW	86	77	D	001	10	3	2	86	1020	0	-1	-59.60	143	44.80	1422.0
MW	86	78	D	001	10	3	2	86	1556	0	-2	-30.00	143	27.50	2032.0
MW	86	79	D	001	10	3	2	86	2200	0	-3	-0.20	143	10.10	2802.0
MW	86	80	D	001	10	4	2	86	304	0	-3	-19.20	142	59.70	530.0
MW	86	81	D	001	10	4	2	86	631	0	-3	-0.50	143	0.70	2622.0
MW	86	82	D	001	10	4	2	86	1154	0	-2	-30.80	142	59.80	2844.0
MW	86	83	D	001	10	4	2	86	1738	0	-2	-0.20	143	0.60	3136.0
MW	86	84	D	001	10	4	2	86	2352	0	-1	-30.70	143	1.00	1768.0
MW	86	85	D	001	10	5	2	86	543	0	0	-59.60	142	59.80	4252.0
MW	86	86	D	001	10	5	2	86	1139	0	0	-30.10	143	0.50	3060.0
MW	86	87	D	001	10	5	2	86	1720	0	0	0.40	142	59.10	3136.0
MW	86	88	D	001	10	5	2	86	2251	0	0	29.60	142	58.90	2992.0
MW	86	89	D	001	10	6	2	86	440	0	1	0.20	143	0.30	3378.0
MW	86	90	D	001	10	6	2	86	1031	0	1	29.50	142	59.40	3562.0
MW	86	91	D	001	10	6	2	86	1642	0	1	59.70	143	0.00	3888.0
MW	86	92	D	001	10	6	2	86	2317	0	2	29.70	142	59.30	3686.0
MW	86	93	D	001	10	7	2	86	550	0	3	0.20	142	58.90	4080.0
MW	86	94	D	001	10	7	2	86	1156	0	3	30.60	142	59.30	3394.0
MW	86	95	D	001	10	7	2	86	1746	0	4	0.70	142	59.30	3570.0
MW	86	96	D	001	10	7	2	86	2319	0	4	30.60	143	0.30	3080.0
MW	86	97	D	001	10	8	2	86	445	0	5	0.90	143	0.60	3052.0
MW	86	98	D	001	10	8	2	86	1606	0	5	0.40	144	30.20	3898.0
MW	86	98	D	002	10	8	2	86	1921	0	5	0.10	144	29.60	1006.0
MW	86	99	D	001	10	9	2	86	650	0	5	0.30	146	0.00	4420.0
MW	86	100	D	001	10	9	2	86	2310	0	5	0.40	147	59.50	4184.0
MW	86	100	D	002	10	10	2	86	241	0	4	59.70	147	59.50	1002.0
MW	86	101	D	001	10	10	2	86	1840	0	5	1.30	149	59.10	5416.0
MW	86	102	D	001	10	11	2	86	834	0	4	59.80	151	31.50	4688.0

MW	86	102	D	002	10	11	2	86	1228	0	5	0.70	151	29.60	1006.0
MW	86	103	D	001	10	12	2	86	19	0	5	1.60	153	0.90	4160.0
MW	86	103	D	002	10	12	2	86	356	0	5	0.20	153	0.20	1014.0
MW	86	104	D	001	10	12	2	86	1754	0	5	0.90	155	0.10	3470.0

05/29/91

TO: E/OC12 - Douglas Hamilton

E/OC11 - P. Hadsell

FROM: E/OC13 - A. Picciolo

SUBJECT: Data Transfer

The following listed data sets have been transferred as indicated:

C/STD (F022)

Acc: 9100061 Ref: TV5876 - TV5877 233 sta. 56,133 rec.

Univ. of Hawaii

(WEPOCS)

Unique No.: 198393 Date of Entry: 05/29/91

DATA ENTRY INFORMATION SYSTEM
(DATASET INVENTORY - DINDB)

Accession No.: 9100061 Reference No.: TV5876
Former Accession No.: Former Reference No.: (Resub ONLY)

Media-In (DINDB): 09 - Digital Magnetic Tape

Exchange Format: E018 - STD/CTD (F022)

Processing Format: F022 - CTD/STD

* Note * If data is F022, create an additional record for C022.

Country/Institute Code: 31R2 Country/Platform Code: 32MW

Platform Type (DINDB): 09 - Ship Orig. Cruise ID: 86

Cruise Start Date: 01/14/86 Project Code: 0176

Cruise End Date: 02/12/86 Data Use Code (DUC): 3

Number of Stations: 116 Number of Records: 28,332

If stations/records not appropriate then:

Number: Units:

Ocean Area:

Code 1: 57G Meaning: TOGA Area - Pacific (30 N TO 30 S)
Code 2: Meaning:
Code 3: Meaning:

DINDB Transaction Date:

Unique No.: 198395 Date of Entry: 05/29/91

DATA ENTRY INFORMATION SYSTEM
(DATASET INVENTORY - DINDB)

Accession No.: 9100061 Reference No.: TV5877
Former Accession No.: Former Reference No.: (Resub ONLY)

Media-In (DINDB): 09 - Digital Magnetic Tape

Exchange Format: E018 - STD/CTD (F022)

Processing Format: F022 - CTD/STD

* Note * If data is F022, create an additional record for C022.

Country/Institute Code: 31R2 Country/Platform Code: 32MW

Platform Type (DINDB): 09 - Ship Orig. Cruise ID: 88

Cruise Start Date: 06/21/88 Project Code: 0176

Cruise End Date: 07/28/88 Data Use Code (DUC): 3

Number of Stations: 117 Number of Records: 27,801

If stations/records not appropriate then:

Number: Units:

Ocean Area:

Code 1: 57G Meaning: TOGA Area - Pacific (30 N TO 30 S)
Code 2: Meaning:
Code 3: Meaning:

DINDB Transaction Date:

9100061

FILETYPE _____ TRACK NO. _____ PROJECT IDENTIFICATION _____

	DATE	INIT.	TAPE OR DISK DSN	NO. FILES	RECL	BLK SIZE	NO. RECORDS
	03/25/91	CMH	AD1400	363	see below		449,934
TAPE	04/03/91	CMH	W18761 1st 3 files	3	80	4000	8634
TAPE	04/03/91	CMH	W18762 files 4-363	360	35	3500	441,300
DISK	5-16-91	R.P.S.	** W15339	1	120	12000	56,133

~~COPY TO PRINCIPAL INVESTIGATOR:~~ Tapes W18761 and W18762 are 9TRK, NL, 1600 bpi.

** LABEL = DNODC.WECOMACIDOUT.

ERRORS/CORRECTIONS (NOT REPORTED TO P.I.)

TRACKS DELETED, FIELDS DELETED, ETC.)

NOTE: STATION DATA (C100) in SEPARATE FOLDER.

REQUEST FOR ADP [illegible]

User Name	Phone #	Org/Task	Submit Date	Due Date
Cliff Hartley	673-5636	EG12005V3AH9	04/01/91	ASAP

PART A

Request/Problem Category

[ ] General Info [ ] Communications [ ] Equipment [ ] Supplies
[ ] Software [ ] Tape Library [X] Computer Operations
[ ] *Other* Specify:

Request/Problem Description: files 1-3 only
Copy files 1-3 ~~only~~ of Tape A01400 to a 'W' tape
Please scan 'W' tape

PART B (For Operator Job Requests)

Operator Job Request Type

[ ] Run BRBUOY procedure *Name:* _____ [] See attached list
[ ] Run SELBUOY procedure *Name:* _____ [] See attached list
[ ] Run BUOYSUM procedure *Name:* _____ [] See attached list
[ ] Run *OTHER* procedure - see SPECIAL INSTRUCTIONS
[ ] Tape Scan
[X] Tape to Tape Copy *Scan OUTPUT tape?* [X] yes [] no
[ ] Disk to Tape Copy *Scan OUTPUT tape?* [] yes [] no
[ ] Tape to Disk Copy
[ ] Print [] 80 column [] 132 column [] HEX [] OCTAL [] Character
All files/records? [] yes [] no, see SPECIAL INSTRUCTIONS
[ ] Restore VAX file *Name:* _____
[ ] *OTHER* - see SPECIAL INSTRUCTIONS

Special Operator Instructions:
Please send 'W' tape to Asheville, N.C.

JOB INPUT Id#/Filename: A01400

Medium: [illegible]
Code: [illegible]
Tape Specs: [illegible]
MAX Record Length: 80 MAX Blocksize: 4000

JOB OUTPUT Id#/Filename: W18761

Medium: [X] Tape [ ] Disk [ ] Diskette [ ] Other Specify:
Code: [X] ASCII [ ] EBCDIC [ ] Binary [ ] Other Specify:
Tape Specs: [ ] 800 [X] 1600 [ ] 6250 [X] NL [ ] SL
MAX Record Length: 80 MAX Blocksize: 4000

(OC3 Use Only)
JOB Number: 91040201
Completed By: J.S

Date/Time Start: 4-3-91/1155
Date/Time Completed: 4-3-91/12:00

REQUEST FOR ADP SERVICES

User Name	Phone #	Org/Task	Submit Date	Due Date
Cliff Hartley	673-5636	EG12008N3AH9	04/01/91	ASAP

PART A

Request/Problem Category

[ ] General Info [ ] Communications [ ] Equipment [ ] Supplies
[ ] Software [ ] Tape Library [X] Computer Operations
[ ] *Other* Specify:

Request/Problem Description:

Copy files 4-363 of tape A01400 to a 'W' tape
Please scan 'W' tape - Use abbreviated scan
print out 1st 5 files - abbreviate the rest

PART B (For Operator Job Requests)

Operator Job Request Type

[ ] Run BRBUOY procedure *Name:* _____ [] See attached list
[ ] Run SELBUOY procedure *Name:* _____ [] See attached list
[ ] Run BUOYSUM procedure *Name:* _____ [] See attached list
[ ] Run *OTHER* procedure - see SPECIAL INSTRUCTIONS
[ ] Tape Scan
[X] Tape to Tape Copy *Scan OUTPUT tape?* [X] yes [] no
[ ] Disk to Tape Copy *Scan OUTPUT tape?* [] yes [] no
[ ] Tape to Disk Copy
[ ] Print [] 80 column [] 132 column [] HEX [] OCTAL [] Character
All files/records? [] yes [] no, see SPECIAL INSTRUCTIONS
[ ] Restore VAX file *Name:* _____
[ ] *OTHER* - see SPECIAL INSTRUCTIONS

Special Operator Instructions:

JOB INPUT Id#/Filename: A01400

Medium: [X]
Code: [X] ASCII [ ] EBCDIC [ ] Binary [ ] Other Specify:
Tape Specs: [ ] 800 [X] 1600 [ ] 6250 [ ] NL [ ] SL
MAX Record Length: 35 MAX Blocksize: 3500

JOB OUTPUT Id#/Filename: W18762

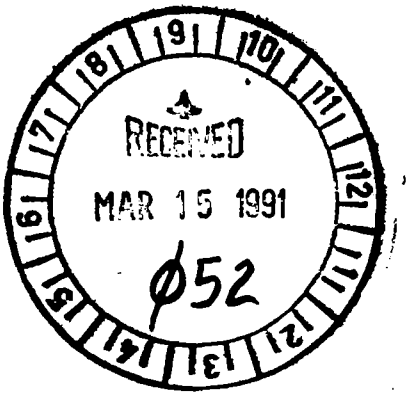
Medium: [X] Tape [ ] Disk [ ] Diskette [ ] Other Specify:
Code: [X] ASCII [ ] EBCDIC [ ] Binary [ ] Other Specify:
Tape Specs: [ ] 800 [X] 1600 [ ] 6250 [ ] NL [ ] SL
MAX Record Length: 35 MAX Blocksize: 3500

(OC3 Use Only)
JOB Number: 91040202
Completed By: J.B
Date/Time Start: 4-3-91/12:05
Date/Time Completed: 4-3-91/12:55

University of Hawaii at Manoa

Joint Institute for Marine and Atmospheric Research (JIMAR)
1000 Pope Road • Honolulu, Hawaii 96822
Cable Address: UNIHAW

March 1, 1991



Mr. Anthony Picciolo
E/OC13
NOAA / NESDIS / NODC
1825 Connecticut Avenue, N. W.
Washington, D.C. 20235

9100061
A 014006

Dear Mr. Picciolo:

As requested by Dr. Roger Lukas, enclosed is a tape containing CTD and nutrient data from the three WEPOCS cruises. WEPOCS I occurred in June and July 1985 on R/V Thomas Thompson. This was followed by the second cruise in January and Feburary 1986 on the R/V Moana Wave. During June and July of 1988 the third cruise was made on the R/V Moana Wave.

The tape was written in ASCII with a density of 1600 bpi and is unlabelled. The first three files contain nutrient data. These files have 4000 characters per block and 80 characters per record (blocking factor = 50). Missing data were marked with a -99.0. Negative salinities specify that the bottle salinity was bad. The corresponding CTD salinity was inserted as a negative number. Potential temperatures at these salinities were also negatively designated.

File 1:	WEPOCS I bottle data
2:	WEPOCS II bottle data
3:	WEPOCS III bottle data

The rest of the files on the tape contain CTD data. They have 35 characters per block and 3500 characters per block. Each CTD station was written on a separate file. Please refer to the station listing for the order of the files within a partcular cruise. The U. S. WEPOCS II data does not contain oxygen, so conductivity was stored in its place. These files were written in Woods Hole NODC format. Enclosed is a description of the data format.

Files 4-130:	WEPOCS I CTD data
131-246:	WEPOCS II CTD data
247-363:	WEPOCS III CTD data

I have also enclosed the replacement tape of HOT-1 through HOT-12 data. Originally, the tape was assigned NODC Identification Number 9100012. I hope that all the problems have been solved and that the data is readable.

Please feel free to contact me at (808) 956-7000 if you have any questions or problems.

Sincerely,

Sharon H. DeCarlo

Sharon H. DeCarlo
Computer Specialist

Enclosures

SHD91-002.doc

9100061

Joint Institute for Marine and Atmospheric Research (JIMAR)
University of Hawaii at Manoa
1000 Pope Road, MSB 400
Honolulu, Hawaii 96822
(808) 956-7000

WEPOCS Hydrographic Bottle Data Format Document

February 1991

WEPOCS hydrographic data are distributed as ASCII flat files. An entire cruise's data is contained in one file. The first record contains a header for the station. The subsequent records contain bottle data for that station. This pattern is then repeated for each station.

Missing data are marked with a -99.0 (or -9.0 for tritium). A negative salinity signifies a bad salinity bottle was obtained. In this situation the CTD's corresponding salinity was inserted as a negative number in its place. Potential temperature was then calculated using that salinity.

Header Record Format:

Column	Format	Item
1-4	i4	Station number
5-8	i4	Number of bottle records to follow
9-16	f8.3	Latitude (Negative = South)
17-24	f8.3	Longitude (Negative = North)
25-27	i3	Month
28-30	i3	Day
31-33	i3	Year
34-39	i6	Time (GMT) (HHMM where HH is Hour & MM is Minutes)
40-47	i8	Maximum Depth

A composite FORTRAN format to read this record is: '(2i4, 2f8.3, 3i3, i6, i8)'

Data Record Format:

Column	Format	Item	
1-2	i2	Bottle number	
3-11	f9.3	Pressure (dbar)	
12-18	f7.3	Temperature (degrees C)	
19-25	f7.3	Salinity (o/oo)	
26-32	f7.3	Potential Temperature (degrees C)	
33-38	f6.2	Oxygen (ml/l)	(-99.0 if missing)
39-44	f6.2	PO4 (u mol/l)	(-99.0 if missing)
45-50	f6.2	NO3 (u mol/l)	(-99.0 if missing)
51-56	f6.2	NO2 (u mol/l)	(-99.0 if missing)
57-62	f6.2	SiO2 (u mol/l)	(-99.0 if missing)
63-68	f6.2	Freon 11 (pmol/kg)	(-99.0 if missing)
69-74	f6.2	Freon 12 (pmol/kg)	(-99.0 if missing)
75-80	f6.3	Tritium (TU)	(-9.0 if missing)

A composite FORTRAN format to read a data record is: '(i2, f9.3, 3f7.3, 7f6.2, f6.3)'

Sample data file: (first two stations)

```
 1 24  7.007 142.978 6 21 88 1830   2987
 1      2.009   29.532   33.629   29.532   4.49   0.14   0.00   0.00   1.70   1.44   0.81  -9.000
 2     58.351   29.266   34.093   29.252   4.54   0.10   0.00   0.01   1.90   1.48   0.81   1.409
 3     72.443   27.894   34.307   27.877   4.43   0.16   0.20   0.02   2.30   1.57 -99.00  -9.000
 4     99.615   25.464   34.541   25.442   4.05   0.28   1.40   0.31   3.40   1.47   0.80  -9.000
 5    107.666   23.842   34.645   23.819   3.89   0.38   3.00   0.10   4.40   1.44   0.76  -9.000
 6    125.790   22.938   34.690   22.912   3.80 -99.00   4.00   0.07   5.50   1.42   0.79   1.910
 7    138.871   21.078   34.750   21.051   3.58   0.60   6.40   0.04   7.10   1.41 -99.00  -9.000
 8    141.891   20.831   34.761   20.804   3.55   0.62   6.70   0.04   7.30   1.46 -99.00  -9.000
 9    162.025   19.024   34.752   18.995   3.30   0.81   9.80   0.03   9.70   1.32   0.71  -9.000
10    176.117   18.123   34.730   18.093   3.17   0.90  11.60   0.02  11.40   1.28   0.67   1.983
11    217.409   12.967   34.579   12.937   2.31   1.59  23.10   0.01  24.50   0.75   0.40   1.406
12    258.700   11.496   34.561   11.463   1.91   1.87  27.60   0.01  30.70   0.52   0.25  -9.000
13    271.794   10.713   34.570   10.680   1.60   2.04  30.60   0.00  34.30   0.34   0.20  -9.000
14    309.054    9.584   34.593    9.549   1.24   2.27  34.50   0.00  39.40   0.21   0.11   0.379
15    347.352    9.165   34.598    9.127   1.31   2.32  35.20   0.00  41.20   0.12   0.09  -9.000
16    407.806    8.602   34.597    8.559   1.34   2.38  36.70   0.00  43.80   0.06   0.05  -9.000
17    504.590    7.580   34.561    7.530   1.54   2.45  37.60   0.00  51.90   0.05   0.05   0.221
18    625.620    6.906   34.543    6.846   1.62   2.55  38.20   0.00  59.00   0.03   0.03-  9.000
19    749.737    5.879   34.532    5.813   1.76   2.63  39.50   0.00  72.60   0.02   0.02  -9.000
20    827.480    5.302   34.538    5.232   1.87   2.68  40.00   0.00  81.90   0.01 -99.00  -9.000
21    994.143    4.546   34.551    4.467   1.96   2.71  40.20   0.00  95.70   0.02   0.01  -9.000
22   1156.896    3.887   34.569    3.799   2.09   2.82  40.50   0.00 106.70   0.06 -99.00  -9.000
23   1355.183    3.370   34.585    3.270   2.18   2.85  40.10   0.00 119.60   0.00  -0.01  -9.000
24   1529.345    2.952   34.603    2.842   2.30   2.82  40.20   0.00 127.80   0.00   0.00  -9.000
---------------------------------------------------------------------------------------------------
 2 24  6.007 143.000 6 22 88  306      0
 1      1.011   29.672   33.836   29.672   4.50   0.13   0.00   0.00   1.70   1.47   0.80  -9.000
 2     75.463   29.497   34.139   29.479   4.58   0.11   0.00   0.00   1.90   1.55   0.84  -9.000
 3     98.617   28.290   34.327   28.267   4.55   0.11   0.00   0.00   1.90   1.65 -99.00  -9.000
 4    108.677   27.747   34.438   27.722   4.35   0.16   0.10   0.13   2.30   1.55   0.86  -9.000
 5    117.739   25.823   34.514   25.797   4.10   0.26   1.10   0.34   2.80   1.54   0.79  -9.000
 6    123.781   24.331   34.659   24.305   3.97   0.39   2.50   0.13   3.60   1.52   0.85  -9.000
 7    137.873   22.561   34.759   22.533   3.78   0.49   4.60   0.09   5.20   1.56   0.81  -9.000
 8    142.903   20.697   34.773   20.670   3.56   0.62   6.80   0.04   6.80   1.54   0.82  -9.000
 9    156.995   17.291   34.709   17.265   3.12   0.97  12.50   0.01  12.20   1.29   0.72  -9.000
10    170.076   14.975   34.630   14.949   2.96   1.21  16.30   0.01  17.60   1.13   0.64  -9.000
11    201.294   12.299   34.549   12.272   2.51   1.63  22.70   0.00  26.30   0.85   0.52  -9.000
12    217.409   11.725   34.554   11.697   2.05   1.87  25.70   0.00  28.70   0.60 -99.00  -9.000
13    242.586   10.624   34.562   10.595   1.69   2.09  29.40   0.00  33.30   0.38 -99.00  -9.000
14    269.772    9.861   34.586    9.830   1.48   2.28  31.80   0.00  37.00   0.22 -99.00  -9.000
15    298.981    9.318   34.593    9.285   1.51   2.31  32.80   0.00  39.00   0.17 -99.00  -9.000
16    342.309    8.812   34.608    8.775   1.46   2.42  34.40   0.00  40.60   0.11 -99.00  -9.000
17    446.118    7.999   34.592    7.953   1.53   2.51  35.70   0.00  44.70   0.05 -99.00  -9.000
18    579.203    6.850   34.548    6.795   1.61   2.65  37.30   0.00  58.30 -99.00 -99.00  -9.000
19    738.626    5.871   34.540    5.806   1.80   2.73  38.60   0.00  68.00 -99.00 -99.00  -9.000
20    824.432    5.431   34.540    5.361   1.79   2.78  39.20   0.00  76.90 -99.00 -99.00  -9.000
21    998.162    4.619   34.549    4.539   1.97   2.81  39.40   0.00  91.50 -99.00 -99.00  -9.000
22   1161.940    4.070   34.563    3.980   2.06   2.84  39.80   0.00 102.70 -99.00 -99.00  -9.000
23   1346.054    3.371   34.584    3.272   2.20   2.83  39.70   0.00 118.10   0.02   0.08  -9.000
24   1546.538    2.897   34.604    2.786   2.31   2.84  39.80   0.00 129.00   0.01   0.08  -9.000
```

910006'

Joint Institute for Marine and Atmospheric Research (JIMAR)
University of Hawaii at Manoa
1000 Pope Road
Marine Science Building 400
Honolulu, Hawaii 96822
(808) 956-7000

CTD Data Format Document

February 1991

CTD data are distributed in Woods Hole Oceanographic Institution NODC format. This document describes that format.

Each station/cast is stored in a separate file. A file's name can be determined by concatenating a 4-digit station number, a letter D, a 3-digit cast number, and a file extension. For example, station 2/cast 1 would be found in 0002D001.CTD. The file HEADER.LIS contains header information for an entire cruise.

The first seven records of a CTD file contain header information:

Record 1:

Column	Format	Item
7-8	a2	Ship Id. (TT = T.Thompson, FR = Franklin, MW = Moana Wave)
16-18	i3	Cruise number(WHOI) or Year of cruise
25-28	i4	Station number
33-35	i3	Cast number

Record 2:

Column	Format	Item
7-8	i2	Year
10-11	i2	Month
13-14	i2	Day
22-26	i5	Time (in GMT; 2 digit hour, 2 digit minute)

Record 3:

Column	Format	Item
5-8	i4	Latitude degrees (Negative = South)
10-14	f5.2	Latitude minutes
19-22	i4	Longitude degrees (Negative = West)
24-28	f5.2	Longitude minutes

Record 4:

Column	Format	Item
11-16	f6.0	Maximum cast pressure (dbar)
28-33	f6.0	Water Depth (-99. = missing)

Record 5:

Column	Format	Item
8-11	f4.1	Pressure interval
17-21	i5	Instrument number
27-33	f7.2	Sampling rate (Hz)

Record 6:

Column	Format	Item
6-11	i6	# of observations
13-35	a	Data format specification

Record 7: headers for data columns (variable labels).

The remaining records contain CTD data. The usual order of variables in a record are as follows: pressure, temperature, salt, oxygen, and quality. The American WEPOCS II data did not include oxygen so conductivity was stored in its place. Potential temperature was stored in place of in situ temperature for WEPOCS III. Missing data are marked with -9.0.

Data Record Format:

Column	Format	Item
1-7	f7.1	Pressure (Decibars)
8-15	f8.4	Temperature (Degrees Celsius)
16-23	f8.4	Salinity (1978 International Practical Salinity Scale)
24-29	f6.2	Oxygen (micro moles per liter) or Conductivity
30-35	i6	Quality **

** The quality word for cruises processed by WHOI (i.e. WEPOCS I) are defined as follows: If positive, the quality word contains the number of observations from the timeseries data that went into the pressure bin. It can be used to infer time and lowering rate:

Lowering rate = Sample rate * pressure interval / quality #
time = start time + sample rate * summed quality (ies)

For data processed by SIO (WEPOCS II & III) a ten signifies data exists for all fields. CSIRO (Australian WEPOCS I & II) data contain a CSIRO quality indicator.

For all data sets negative quality words denote data that has been interpolated. The value of the negative number reflects which variable or variables have been modified, based on the variable location in the CTD data file: -1 for T, -2 for S, -4 for O2, -3 for T & s, -5 for T & O2, -6 for S & O2, -7 for T, S & O2.

Sample File: (First and last few records)

```
SHIP TT CRUIS 189 STAT:   1 C#:  0
DATE 85- 6-18  TIME:  837 Z
LAT   4 59.85 LG  143  0.35
MAX. PRS= 2035. DB  DEPTH= 2987. M
AVER   2.0 INST    8 RATE  31.00HZ
OBS=  1018 FMT(F7.1,2F8.4,F6.2,I6)
 PRES    TEMP    SALT   OXYG  QUAL
   1.0 29.3882 34.0332  5.29    45
   3.0 29.4036 34.0272  5.37  1361
   5.0 29.4028 34.0276  5.36   196
   7.0 29.3982 34.0279  5.19   208
   9.0 29.4033 34.0278  5.35   112
  11.0 29.4062 34.0277  5.40   180
  13.0 29.4066 34.0280  5.46   247
  15.0 29.4030 34.0277  5.52  1245
  17.0 29.3986 34.0278  5.47   607
  19.0 29.3955 34.0280  5.31    53

2017.0  2.1877 34.6411  2.72    77
2019.0  2.1839 34.6413  2.73    68
2021.0  2.1821 34.6412  2.73    35
2023.0  2.1807 34.6410  2.73    32
2025.0  2.1798 34.6415  2.73   120
2027.0  2.1783 34.6415  2.73    33
2029.0  2.1772 34.6415  2.73    36
2031.0  2.1759 34.6419  2.73    47
2033.0  2.1753 34.6418  2.74   127
2035.0  2.1708 34.6416  2.74    33
```

4100061

CTDLIST84 MAY 16,1984
Run on 29-MAR-89\000\000\000 at 11:21:10
Using SUBINDEX.CTD of date:

WLPOOL I
MARK. 45

Enter SHIP Name & Cruise#
STATION SUMMARY

<CTD.TT189D033>

SH	CRU	STAT	DV	CST	CTD	DA	MO	YR	ST GMT	END GMT	LATITUDE	LONGITUDE	P MAX
TT	189	1	D	000	8	18	6	85	837	943	4 59.85	143 0.35	2035.0
TT	189	2	D	000	9	18	6	85	1126	1226	5 0.00	143 0.26	3015.0
TT	189	3	D	000	9	18	6	85	2348	109	4 59.92	145 0.34	1869.0
TT	189	4	D	000	9	19	6	85	815	849	4 59.17	146 0.18	1013.0
TT	189	5	D	000	9	19	6	85	1047	1147	4 59.82	145 58.93	4445.0
TT	189	6	D	000	9	19	6	85	1901	2024	4 59.85	147 0.10	4299.0
TT	189	7	D	000	9	20	6	85	843	952	5 0.24	149 0.62	4323.0
TT	189	8	D	000	9	20	6	85	1645	1720	5 0.18	149 59.80	1003.0
TT	189	9	D	000	9	20	6	85	1839	1952	5 0.03	150 0.05	5399.0
TT	189	10	D	000	9	21	6	85	236	346	5 0.05	150 59.90	4707.0
TT	189	11	D	000	9	21	6	85	1554	1659	5 0.01	152 59.93	4181.0
TT	189	12	D	000	9	22	6	85	424	516	5 0.33	155 0.96	3425.0
TT	189	13	D	000	8	22	6	85	640	721	5 1.04	155 2.40	1007.0
TT	189	14	D	000	9	22	6	85	1101	1134	4 29.74	155 0.03	1003.0
TT	189	15	D	000	9	22	6	85	1518	1608	4 0.01	154 59.84	2995.0
TT	189	16	D	000	9	22	6	85	1956	2025	3 30.90	154 59.97	997.0
TT	189	17	D	000	9	22	6	85	2352	37	2 59.86	154 59.92	2835.0
TT	189	18	D	000	9	23	6	85	507	532	2 29.64	154 59.84	1009.0
TT	189	19	D	000	9	23	6	85	931	1015	2 0.08	154 59.97	2757.0
TT	189	20	D	000	9	23	6	85	1358	1430	1 29.98	154 59.85	1007.0
TT	189	21	D	000	9	23	6	85	1754	1836	1 0.01	154 59.97	2763.0
TT	189	22	D	000	9	24	6	85	436	505	0 29.91	154 59.87	1007.0
TT	189	23	D	000	9	24	6	85	822	919	0 0.04	155 0.16	2541.0
TT	189	24	D	000	8	24	6	85	1032	1114	0 0.84	154 59.83	1009.0
TT	189	25	D	000	9	24	6	85	1502	1527	0-29.95	154 59.83	1005.0
TT	189	26	D	000	9	24	6	85	1844	1922	0-59.91	155 0.02	2421.0
TT	189	27	D	000	9	24	6	85	2258	2320	-1 30.13	155 0.13	1007.0
TT	189	28	D	000	9	25	6	85	236	319	-1 59.81	154 59.74	2327.0
TT	189	29	D	000	9	25	6	85	743	801	-2 30.00	154 59.95	1001.0
TT	189	30	D	000	9	25	6	85	1211	1246	-2 59.99	154 59.92	2469.0
TT	189	31	D	000	9	25	6	85	1651	1724	-3 30.00	155 0.08	999.0
TT	189	32	D	000	9	25	6	85	2125	2200	-3 59.80	154 59.96	2451.0
TT	189	33	D	000	9	26	6	85	158	227	-4 30.14	155 0.10	1001.0
TT	189	34	D	000	9	26	6	85	704	718	-4 54.00	154 37.97	481.0
TT	189	35	D	000	9	27	6	85	1815	1830	-4 51.85	152 20.30	561.0
TT	189	36	D	000	9	27	6	85	2218	2304	-4 51.60	152 35.00	3439.0
TT	189	37	D	000	9	28	6	85	715	733	-4 54.70	152 54.17	537.0
TT	189	38	D	000	9	28	6	85	946	1019	-5 6.94	153 14.47	1501.0
TT	189	39	D	000	9	28	6	85	1100	1359	-5 20.13	153 35.05	4153.0
TT	189	40	D	000	9	28	6	85	1543	1614	-5 19.95	153 34.96	995.0
TT	189	41	D	000	9	28	6	85	1905	1934	-5 34.08	153 54.10	1261.0
TT	189	42	D	000	9	28	6	85	2221	2244	-5 48.06	154 15.03	985.0
TT	189	43	D	000	9	29	6	85	154	216	-6 4.50	154 32.50	615.0
TT	189	44	D	000	9	29	6	85	459	526	-6 16.90	154 11.90	1005.0
TT	189	45	D	000	9	29	6	85	819	939	-6 32.98	153 48.96	6453.0
TT	189	46	D	000	9	29	6	85	1633	1710	-6 33.10	153 48.85	2005.0
TT	189	47	D	000	9	29	6	85	2020	2039	-6 47.88	153 26.97	1005.0
TT	189	48	D	000	9	30	6	85	8	111	-7 3.73	153 3.71	4877.0

TT	189	49	D	000	9	30	6	85	513	604	-7	20.71	152 39.37	1043.0
TT	189	50	D	000	9	30	6	85	915	1025	-7	35.17	152 16.73	4471.0
TT	189	51	D	000	9	30	6	85	1411	1436	-7	52.16	151 53.02	1003.0
TT	189	52	D	000	9	30	6	85	1737	1843	-8	8.10	151 30.08	3545.0
TT	189	53	D	000	9	30	6	85	2235	2300	-8	22.41	151 4.51	619.0
TT	189	54	D	000	9	1	7	85	121	212	-8	4.57	150 51.13	2291.0
TT	189	55	D	000	9	1	7	85	537	557	-7	46.01	150 32.80	1001.0
TT	189	56	D	000	9	1	7	85	901	1005	-7	27.62	150 16.26	4893.0
TT	189	57	D	000	9	1	7	85	1400	1426	-7	8.05	149 59.10	1005.0
TT	189	58	D	000	9	1	7	85	1709	1826	-6	50.28	149 42.53	5881.0
TT	189	59	D	000	9	1	7	85	2030	2123	-6	51.64	149 42.36	3117.0
TT	189	60	D	000	9	2	7	85	152	217	-6	31.10	149 24.96	1005.0
TT	189	61	D	000	9	3	7	85	227	250	-6	12.72	149 7.11	929.0
TT	189	62	D	000	9	3	7	85	435	457	-6	11.50	148 59.20	741.0
TT	189	63	D	000	9	3	7	85	741	822	-6	21.04	148 37.49	3265.0
TT	189	64	D	000	9	3	7	85	1125	1220	-6	29.81	148 15.45	4503.0
TT	189	65	D	000	9	3	7	85	1408	1434	-6	30.10	148 15.26	1005.0
TT	189	66	D	000	9	3	7	85	1706	1725	-6	38.38	147 53.91	493.0
TT	189	67	D	000	9	4	7	85	1100	1119	-5	51.83	147 2.20	553.0
TT	189	68	D	000	9	4	7	85	1352	1425	-5	40.00	147 10.50	1361.0
TT	189	69	D	000	9	4	7	85	1654	1716	-5	25.95	147 13.78	575.0
TT	189	70	D	000	9	5	7	85	505	537	-4	57.10	147 21.00	1563.0
TT	189	71	D	000	9	5	7	85	900	928	-4	26.99	147 24.41	1961.0
TT	189	72	D	000	9	5	7	85	1242	1311	-3	57.64	147 28.45	1663.0
TT	189	73	D	000	9	5	7	85	1636	1703	-3	27.66	147 33.10	1455.0
TT	189	73	D	001	9	5	7	85	1703	1734	-3	27.69	147 33.07	1452.0
TT	189	74	D	000	9	5	7	85	2031	2051	-2	58.00	147 36.48	1301.0
TT	189	75	D	000	9	6	7	85	57	110	-2	24.50	147 39.10	585.0
TT	189	76	D	000	9	6	7	85	304	326	-2	31.57	147 27.03	915.0
TT	189	77	D	000	9	6	7	85	628	640	-2	47.45	147 1.07	1051.0
TT	189	78	D	000	9	6	7	85	940	1008	-3	3.08	146 35.43	1839.0
TT	189	79	D	000	9	6	7	85	1310	1343	-3	18.80	146 10.25	2135.0
TT	189	80	D	000	9	6	7	85	1704	1736	-3	35.12	145 45.05	2143.0
TT	189	81	D	000	9	6	7	85	2054	2138	-3	50.49	145 19.37	2035.0
TT	189	82	D	000	9	7	7	85	152	205	-4	5.00	144 51.52	243.0
TT	189	83	D	000	9	7	7	85	318	330	-4	3.03	144 51.80	519.0
TT	189	84	D	000	9	7	7	85	507	534	-3	49.98	144 52.12	1505.0
TT	189	85	D	000	9	7	7	85	720	749	-3	39.88	144 51.94	1647.0
TT	189	86	D	000	9	7	7	85	941	1008	-3	29.96	144 51.97	1645.0
TT	189	87	D	000	9	7	7	85	1312	1339	-2	59.83	144 51.96	1977.0
TT	189	88	D	000	9	7	7	85	1650	1708	-2	29.84	144 51.93	1141.0
TT	189	89	D	000	9	7	7	85	2015	2033	-2	0.11	144 51.56	989.0
TT	189	90	D	000	9	7	7	85	2346	5	-1	30.50	144 51.80	1049.0
TT	189	91	D	000	9	8	7	85	311	344	-1	0.13	144 51.80	1973.0
TT	189	92	D	000	9	8	7	85	651	744	0	-29.97	144 51.99	4485.0
TT	189	93	D	000	9	8	7	85	1146	1240	0	-0.08	144 52.01	3719.0
TT	189	94	D	000	9	8	7	85	1628	1716	0	29.86	144 51.70	3535.0
TT	189	95	D	000	9	8	7	85	2108	2157	1	0.11	144 52.01	4235.0
TT	189	96	D	000	9	9	7	85	141	237	1	25.75	144 53.08	4525.0
TT	189	97	D	000	9	9	7	85	705	759	2	0.66	144 51.98	4389.0
TT	189	98	D	000	9	9	7	85	2156	2249	0	-30.05	144 34.98	4279.0
TT	189	99	D	000	9	10	7	85	254	328	-1	0.00	144 18.00	1935.0
TT	189	100	D	000	9	10	7	85	752	817	-1	-29.91	143 48.54	1931.0
TT	189	101	D	000	9	10	7	85	1129	1151	-2	0.02	143 43.96	1477.0
TT	189	102	D	000	9	10	7	85	1540	1616	-2	29.90	143 27.13	2067.0
TT	189	103	D	000	9	10	7	85	1949	2021	-3	0.06	143 9.86	2723.0
TT	189	104	D	000	9	11	7	85	48	111	-3	18.47	142 52.82	615.0
TT	189	105	D	000	9	11	7	85	1215	1249	-2	58.95	142 59.94	2767.0
TT	189	106	D	000	9	11	7	85	1638	1722	-2	29.89	142 59.94	2863.0
TT	189	107	D	000	9	11	7	85	2129	2206	-2	0.00	142 59.92	3133.0
TT	189	108	D	000	9	11	7	85	2344	2356	-2	0.00	142 59.62	1029.0
TT	189	109	D	000	9	12	7	85	337	410	-1	30.43	142 59.64	1611.0
TT	189	110	D	000	9	12	7	85	840	926	0	-59.66	142 59.92	4247.0
TT	189	111	D	000	9	12	7	85	1401	1447	0	-29.96	142 59.86	3065.0

TT	189	112	D	000	9	12	7	85	1910	1947	0	-0.06	143	0.02	3125.0
TT	189	113	D	000	9	12	7	85	2114	2129	0	-0.09	143	0.56	983.0
TT	189	114	D	000	9	13	7	85	119	155	0	30.04	143	0.05	2973.0
TT	189	115	D	000	9	13	7	85	611	649	1	0.19	142	59.83	3379.0
TT	189	116	D	000	9	13	7	85	1050	1136	1	30.03	143	0.01	3625.0
TT	189	117	D	000	9	13	7	85	1613	1713	2	0.07	142	59.67	3881.0
TT	189	118	D	000	9	13	7	85	1901	1915	1	59.97	142	59.15	1003.0
TT	189	119	D	000	9	13	7	85	2311	9	2	30.67	143	0.93	3631.0
TT	189	120	D	000	9	14	7	85	615	709	2	59.97	143	0.03	4089.0
TT	189	121	D	000	9	14	7	85	1151	1236	3	29.83	143	0.03	3283.0
TT	189	122	D	000	9	14	7	85	1445	1509	3	30.05	143	0.09	1143.0
TT	189	123	D	000	9	14	7	85	1906	1939	3	59.87	143	0.18	2805.0
TT	189	124	D	000	9	15	7	85	38	117	4	31.30	142	59.97	3089.0
TT	189	125	D	000	9	15	7	85	526	608	4	59.92	143	0.17	2999.0
TT	189	126	D	000	9	15	7	85	744	804	4	59.85	143	0.23	999.0

91 00061

CTDLIST84 MAY 16,1984
Run on 17-MAY-89\000\000\000 at 14:22:00
Using SUBINDEX.CTD of date:

WEPOCS III

Enter SHIP Name & Cruise#
STATION SUMMARY

<CTD.MW088D006>

SH	CRU	STAT	DV	CST	CTD	DA	MO	YR	ST GMT	END GMT	LATITUDE	LONGITUDE	P MAX
MW	88	1	H	001	4	21	6	88	1830	0	7 0.40	142 58.70	1528.0
MW	88	2	H	001	4	22	6	88	309	0	6 0.40	143 0.00	1546.0
MW	88	3	H	001	4	22	6	88	1051	0	5 0.50	143 0.30	1512.0
MW	88	4	H	001	4	22	6	88	1832	0	3 59.70	142 59.90	1554.0
MW	88	5	H	001	4	23	6	88	255	0	3 0.60	143 0.60	1512.0
MW	88	6	H	001	4	23	6	88	816	0	2 30.10	143 0.30	1512.0
MW	88	7	H	001	4	23	6	88	1316	0	2 0.00	143 0.30	1510.0
MW	88	8	H	001	4	23	6	88	1838	0	1 29.90	142 59.90	1510.0
MW	88	9	H	002	4	24	6	88	152	0	1 0.10	142 59.60	1510.0
MW	88	10	H	001	4	24	6	88	701	0	0 30.90	142 59.50	1518.0
MW	88	11	H	001	4	24	6	88	1229	0	0 0.50	143 0.30	1502.0
MW	88	12	H	001	4	24	6	88	1747	0	0-29.90	142 59.90	1506.0
MW	88	13	H	001	4	24	6	88	2241	0	-1 -0.10	142 59.80	1512.0
MW	88	14	H	001	4	25	6	88	604	0	-1-28.30	142 57.00	1500.0
MW	88	15	H	001	4	25	6	88	1130	0	-2 -0.20	142 59.50	1520.0
MW	88	16	H	001	4	25	6	88	1625	0	-2-30.00	142 59.20	1500.0
MW	88	17	H	001	4	25	6	88	2125	0	-3 -0.30	142 59.60	1506.0
MW	88	18	H	001	4	26	6	88	111	0	-3-14.10	142 59.40	1004.0
MW	88	19	H	001	4	29	6	88	1018	0	7 0.40	143 0.00	1508.0
MW	88	20	H	001	4	29	6	88	2256	0	7 0.20	140 59.70	1494.0
MW	88	21	H	001	4	30	6	88	1118	0	7 0.60	139 0.00	1506.0
MW	88	22	H	001	4	30	6	88	2335	0	7 0.30	136 59.70	1504.0
MW	88	23	H	001	4	1	7	88	1151	0	6 59.30	135 0.20	1506.0
MW	88	24	H	001	4	5	7	88	2240	0	6 59.90	133 59.10	2826.0
MW	88	25	H	001	4	6	7	88	438	0	6 29.40	133 38.59	2610.0
MW	88	26	H	001	4	6	7	88	1009	0	5 59.20	133 20.60	2340.0
MW	88	27	H	001	4	6	7	88	1616	0	5 24.40	133 4.69	4396.0
MW	88	28	H	001	4	6	7	88	2237	0	4 58.60	132 42.50	3998.0
MW	88	29	H	001	4	7	7	88	500	0	4 30.70	132 24.10	3560.0
MW	88	30	H	001	4	7	7	88	1136	0	3 59.80	132 2.20	4154.0
MW	88	31	H	001	4	7	7	88	1809	0	3 30.10	131 42.30	2832.0
MW	88	32	H	001	4	8	7	88	26	0	2 59.50	131 23.30	4182.0
MW	88	33	H	001	4	8	7	88	641	0	2 31.10	131 3.00	3176.0
MW	88	34	H	001	4	10	7	88	217	0	5 8.80	125 34.20	1408.0
MW	88	35	H	001	4	10	7	88	836	0	5 9.80	125 0.30	4538.0
MW	88	36	H	001	4	10	7	88	1456	0	5 9.60	124 30.30	4552.0
MW	88	37	H	001	4	10	7	88	2301	0	5 34.40	123 46.60	2008.0
MW	88	38	H	001	4	11	7	88	645	0	6 30.70	123 29.60	2010.0
MW	88	39	H	001	4	11	7	88	1257	0	6 59.10	123 29.70	4704.0
MW	88	40	H	001	4	11	7	88	1743	0	6 54.50	123 43.20	2010.0
MW	88	41	H	001	4	11	7	88	2042	0	6 50.20	123 52.40	1450.0
MW	88	42	H	001	4	11	7	88	2338	0	6 51.40	123 54.30	516.0
MW	88	43	H	001	4	12	7	88	212	0	6 42.10	123 44.20	1012.0
MW	88	44	H	001	4	12	7	88	615	0	6 29.40	123 45.40	1052.0
MW	88	45	H	001	4	12	7	88	906	0	6 30.10	123 54.60	1124.0
MW	88	46	H	001	4	12	7	88	1148	0	6 20.10	123 50.00	1002.0
MW	88	47	H	001	4	12	7	88	1405	0	6 9.89	123 40.59	1010.0
MW	88	48	H	001	4	12	7	88	1700	0	6 0.00	123 30.50	2008.0
MW	88	49	H	001	4	12	7	88	1957	0	6 2.40	123 45.30	1026.0

MW	88	50	H	001	4	12	7	88	2206	0	6	5.30	123	59.50	1028.0
MW	88	51	H	001	4	13	7	88	50	0	6	7.20	124	12.30	1172.0
MW	88	52	H	001	4	13	7	88	412	0	5	50.30	124	11.80	2046.0
MW	88	53	H	001	4	13	7	88	710	0	5	37.20	124	10.20	2006.0
MW	88	54	H	001	4	13	7	88	1006	0	5	22.90	124	7.80	2010.0
MW	88	55	H	001	4	13	7	88	1339	0	5	31.80	124	18.40	1004.0
MW	88	56	H	001	4	13	7	88	1618	0	5	41.70	124	30.10	1010.0
MW	88	57	H	001	4	13	7	88	1842	0	5	51.40	124	40.09	1028.0
MW	88	58	H	001	4	13	7	88	2240	0	5	39.30	124	51.60	2036.0
MW	88	59	H	001	4	14	7	88	156	0	5	23.70	124	55.40	2034.0
MW	88	60	H	001	4	14	7	88	513	0	5	9.39	124	59.10	2026.0
MW	88	61	H	001	4	14	7	88	1247	0	5	25.50	125	44.10	2510.0
MW	88	62	H	001	4	14	7	88	1815	0	6	1.10	125	44.00	1394.0
MW	88	63	H	001	4	15	7	88	13	0	5	40.80	126	9.39	2728.0
MW	88	64	H	001	4	15	7	88	700	0	6	17.79	126	14.80	608.0
MW	88	65	H	001	10	15	7	88	1020	0	6	15.60	126	27.10	1438.0
MW	88	66	H	001	10	15	7	88	1411	0	6	13.70	126	42.40	3612.0
MW	88	67	H	001	10	15	7	88	1825	0	6	13.30	126	56.70	2646.0
MW	88	68	H	002	10	15	7	88	2311	0	6	13.60	127	12.00	4548.0
MW	88	69	H	001	10	16	7	88	750	0	7	0.80	126	29.10	616.0
MW	88	70	H	001	10	16	7	88	1206	0	6	56.80	126	42.70	3194.0
MW	88	71	H	001	10	16	7	88	1707	0	6	58.50	126	57.50	4472.0
MW	88	72	H	001	10	16	7	88	2151	0	6	59.40	127	13.00	2560.0
MW	88	73	H	001	10	17	7	88	225	0	6	59.20	127	28.70	4552.0
MW	88	74	H	001	10	17	7	88	753	0	7	1.30	127	58.80	2534.0
MW	88	75	H	001	10	17	7	88	1321	0	6	59.70	128	31.30	4526.0
MW	88	76	H	001	10	17	7	88	1834	0	6	59.70	129	0.80	2542.0
MW	88	77	H	001	10	17	7	88	2349	0	7	0.10	129	31.20	4528.0
MW	88	78	H	001	10	18	7	88	429	0	7	0.20	130	0.90	2552.0
MW	88	79	H	001	10	18	7	88	1146	0	6	58.40	131	0.10	4526.0
MW	88	80	H	001	10	18	7	88	2021	0	7	0.20	131	59.70	4534.0
MW	88	81	H	001	10	19	7	88	514	0	7	0.20	133	0.50	4456.0
MW	88	82	H	001	10	19	7	88	1419	0	7	0.60	134	0.00	2782.0
MW	88	83	H	001	10	20	7	88	938	0	8	0.30	130	59.90	2512.0
MW	88	84	H	001	10	20	7	88	1756	0	8	0.20	129	59.50	4532.0
MW	88	85	H	001	10	20	7	88	2332	0	7	59.80	129	29.80	2516.0
MW	88	86	H	001	10	21	7	88	501	0	8	0.50	129	0.40	4574.0
MW	88	87	H	001	10	21	7	88	1034	0	7	59.50	128	28.90	2514.0
MW	88	88	H	001	10	21	7	88	1858	0	7	0.10	127	57.60	1502.0
MW	88	89	H	001	10	21	7	88	2327	0	7	29.40	127	58.00	1502.0
MW	88	90	H	001	10	22	7	88	502	0	7	59.70	127	57.90	4556.0
MW	88	91	H	001	10	22	7	88	1025	0	7	59.40	127	26.90	2516.0
MW	88	92	H	001	10	22	7	88	1423	0	7	59.10	127	12.20	4514.0
MW	88	93	H	001	10	22	7	88	1917	0	7	58.80	126	57.50	4522.0
MW	88	94	H	001	10	22	7	88	2339	0	7	58.50	126	44.30	2208.0
MW	88	95	H	001	10	23	7	88	315	0	7	58.40	126	37.09	764.0
MW	88	96	H	001	10	23	7	88	2335	0	10	0.60	126	7.80	1106.0
MW	88	97	H	001	10	24	7	88	326	0	9	59.10	126	20.90	3964.0
MW	88	98	H	001	10	24	7	88	753	0	10	0.30	126	35.70	4526.0
MW	88	99	H	001	10	24	7	88	1403	0	9	59.90	126	51.40	3794.0
MW	88	100	H	001	10	24	7	88	1841	0	10	0.20	127	5.90	3770.0
MW	88	101	H	001	10	24	7	88	2351	0	10	0.80	127	33.70	2512.0
MW	88	102	H	001	10	25	7	88	500	0	10	0.20	128	0.60	3770.0
MW	88	103	H	001	10	25	7	88	1013	0	9	59.80	128	29.70	2512.0
MW	88	104	H	001	10	25	7	88	1546	0	9	59.80	128	59.40	3732.0
MW	88	105	H	001	10	26	7	88	446	0	9	59.50	130	0.20	1710.0
MW	88	106	H	001	10	26	7	88	1229	0	10	59.90	129	59.40	1804.0
MW	88	107	H	001	10	26	7	88	1957	0	11	59.80	129	59.90	1808.0
MW	88	108	H	001	10	27	7	88	428	0	12	0.10	129	0.20	1810.0
MW	88	109	H	001	10	27	7	88	910	0	12	0.20	128	29.80	1804.0
MW	88	110	H	002	10	27	7	88	1525	0	12	0.00	127	59.90	1806.0
MW	88	111	H	001	10	27	7	88	2008	0	12	0.30	127	30.00	1804.0
MW	88	112	H	001	10	28	7	88	52	0	11	59.30	126	59.70	1782.0
MW	88	113	H	001	10	28	7	88	459	0	11	59.30	126	36.00	1760.0

MW	88	114	H	001	10	28	7	88	820	0	11 59.20	126 20.60	1796.0
MW	88	115	H	001	10	28	7	88	1137	0	11 59.20	126 5.60	1750.0
MW	88	116	H	001	10	28	7	88	1534	0	11 59.80	125 51.20	1800.0
MW	88	117	H	001	10	28	7	88	1941	0	11 59.00	125 39.09	1210.0

9100061

CTDLIST84 MAY 16,1984
Run on 24-MAR-89\000\000\000 at 14:45:12
Using SUBINDEX.CTD of date:

ALPHA II

Enter SHIP Name & Cruise#
STATION SUMMARY

<CTD.MW086D001>

SH	CRU	STAT	DV	CST	CTD	DA	MO	YR	ST GMT	END GMT	LATITUDE	LONGITUDE	P MAX
MW	86	1	D	001	10	14	1	86	35	0	5 0.30	154 59.60	3468.0
MW	86	2	D	001	10	14	1	86	659	0	4 30.20	155 0.70	3476.0
MW	86	3	D	001	10	14	1	86	1318	0	4 0.00	154 59.10	3152.0
MW	86	4	D	001	10	14	1	86	1915	0	3 29.40	154 59.40	2136.0
MW	86	5	D	001	10	15	1	86	41	0	3 0.10	155 0.20	2820.0
MW	86	6	D	001	10	15	1	86	652	0	2 30.20	154 59.50	2948.0
MW	86	7	D	001	10	15	1	86	1240	0	2 0.30	154 59.80	2772.0
MW	86	7	D	002	10	15	1	86	1604	0	1 59.50	154 59.80	1104.0
MW	86	8	D	001	10	15	1	86	2050	0	1 30.00	154 59.90	2848.0
MW	86	9	D	001	10	16	1	86	228	0	1 0.10	155 0.00	2760.0
MW	86	10	D	001	10	16	1	86	832	0	0 30.30	155 0.20	2932.0
MW	86	11	D	001	10	16	1	86	1420	0	0 -0.50	154 59.90	2512.0
MW	86	12	D	001	10	16	1	86	1943	0	0-30.00	155 0.00	2516.0
MW	86	13	D	001	10	17	1	86	203	0	-1 -0.40	155 0.10	2434.0
MW	86	14	D	001	10	17	1	86	739	0	-1-30.10	154 59.60	2370.0
MW	86	15	D	001	10	17	1	86	1248	0	-1-59.80	154 59.50	2348.0
MW	86	15	D	002	10	17	1	86	1547	0	-2 -0.20	155 0.00	1004.0
MW	86	16	D	001	10	17	1	86	2026	0	-2-30.00	154 59.60	2648.0
MW	86	17	D	001	10	18	1	86	207	0	-2-59.90	154 59.80	2478.0
MW	86	18	D	001	10	18	1	86	725	0	-3-30.40	155 0.10	2250.0
MW	86	19	D	001	10	18	1	86	1241	0	-4 -0.70	155 0.00	2402.0
MW	86	20	D	001	10	18	1	86	1804	0	-4-30.00	154 59.80	3096.0
MW	86	21	D	001	10	18	1	86	2340	0	-4-56.50	154 37.00	500.0
MW	86	22	D	001	10	20	1	86	448	0	-4-51.00	152 20.20	458.0
MW	86	23	D	001	10	20	1	86	756	0	-4-53.20	152 35.20	3498.0
MW	86	24	D	001	10	20	1	86	1153	0	-4-55.60	152 53.30	624.0
MW	86	25	D	001	10	20	1	86	1621	0	-5-12.10	153 18.29	3112.0
MW	86	26	D	001	10	20	1	86	2146	0	-5-29.60	153 43.40	2520.0
MW	86	27	D	001	10	21	1	86	247	0	-5-47.30	154 7.70	1230.0
MW	86	28	D	001	10	21	1	86	721	0	-6 -4.00	154 32.50	546.0
MW	86	29	D	001	10	21	1	86	1214	0	-6-20.10	154 7.60	4590.0
MW	86	30	D	001	10	21	1	86	1938	0	-6-38.59	153 39.70	5822.0
MW	86	31	D	001	10	22	1	86	306	0	-6-55.80	153 13.70	4782.0
MW	86	32	D	001	10	22	1	86	956	0	-7-14.40	152 48.60	4326.0
MW	86	33	D	001	10	22	1	86	1625	0	-7-30.60	152 22.70	4078.0
MW	86	33	D	002	10	22	1	86	1943	0	-7-31.70	152 23.00	998.0
MW	86	34	D	001	10	23	1	86	135	0	-7-47.60	151 57.90	5240.0
MW	86	34	D	002	10	23	1	86	535	0	-7-47.80	151 58.50	998.0
MW	86	35	D	001	10	23	1	86	1137	0	-8 -5.70	151 31.90	3974.0
MW	86	35	D	002	10	23	1	86	1507	0	-8 -5.90	151 32.20	1060.0
MW	86	36	D	001	10	23	1	86	1943	0	-8-22.00	151 5.80	514.0
MW	86	37	D	001	10	24	1	86	1508	0	-8 -4.30	148 33.40	498.0
MW	86	38	D	001	10	24	1	86	2104	0	-7-33.80	148 42.80	4594.0
MW	86	38	D	002	10	25	1	86	58	0	-7-33.00	148 43.30	1106.0
MW	86	39	D	001	10	25	1	86	731	0	-7 -7.30	148 49.20	4852.0
MW	86	39	D	002	10	25	1	86	1127	0	-7 -5.90	148 51.90	1046.0
MW	86	40	D	001	10	25	1	86	1728	0	-6-40.00	148 57.20	4614.0
MW	86	40	D	002	10	25	1	86	2107	0	-6-40.30	148 59.20	1032.0

MW	86	41	D	001	10	26	1	86	147	0	-6-11.00	149	6.50	598.0
MW	86	42	D	001	10	26	1	86	1253	0	-6-22.30	148	38.59	3754.0
MW	86	43	D	001	10	26	1	86	1909	0	-6-29.70	148	15.10	4520.0
MW	86	44	D	001	10	27	1	86	16	0	-6-36.40	147	54.10	548.0
MW	86	45	D	001	10	27	1	86	1056	0	-6-19.00	148	4.00	2312.0
MW	86	46	D	001	10	27	1	86	1641	0	-6 -2.40	147	55.80	1492.0
MW	86	47	D	001	10	27	1	86	2147	0	-5-48.90	147	39.90	1140.0
MW	86	48	D	001	10	28	1	86	127	0	-5-42.80	147	25.10	1436.0
MW	86	49	D	001	10	28	1	86	609	0	-5-53.90	147	1.70	506.0
MW	86	50	D	001	10	28	1	86	857	0	-5-40.50	147	10.40	1372.0
MW	86	51	D	001	10	28	1	86	1243	0	-5-26.70	147	13.50	502.0
MW	86	52	D	001	10	28	1	86	1735	0	-4-56.40	147	20.80	1564.0
MW	86	53	D	001	10	28	1	86	2256	0	-4-26.70	147	23.60	1962.0
MW	86	54	D	001	10	29	1	86	430	0	-3-58.10	147	28.40	1432.0
MW	86	55	D	001	10	29	1	86	944	0	-3-28.00	147	32.50	1458.0
MW	86	56	D	001	10	29	1	86	1508	0	-2-58.00	147	36.20	1288.0
MW	86	57	D	001	10	29	1	86	2039	0	-2-20.90	147	40.90	600.0
MW	86	58	D	001	10	30	1	86	2	0	-2-32.00	147	27.30	996.0
MW	86	59	D	001	10	30	1	86	531	0	-2-48.70	147	1.20	1068.0
MW	86	60	D	001	10	30	1	86	1108	0	-3 -2.90	146	35.50	1836.0
MW	86	61	D	001	10	30	1	86	1722	0	-3-19.90	146	10.00	2158.0
MW	86	62	D	001	10	31	1	86	58	0	-3-35.59	145	46.80	2152.0
MW	86	63	D	001	10	31	1	86	712	0	-3-50.90	145	19.60	2030.0
MW	86	64	D	001	10	31	1	86	1226	0	-4 -3.40	144	51.80	538.0
MW	86	65	D	001	10	31	1	86	1525	0	-3-50.10	144	52.40	1424.0
MW	86	66	D	001	10	31	1	86	1944	0	-3-29.50	144	51.90	1664.0
MW	86	67	D	001	10	1	2	86	107	0	-3 -0.30	144	52.10	1990.0
MW	86	68	D	001	10	1	2	86	612	0	-2-30.00	144	52.70	1146.0
MW	86	69	D	001	10	1	2	86	1050	0	-2 0.00	144	51.90	996.0
MW	86	70	D	001	10	1	2	86	1523	0	-1-29.30	144	51.50	1146.0
MW	86	71	D	001	10	1	2	86	1959	0	-1 -0.30	144	51.30	2182.0
MW	86	72	D	001	10	2	2	86	252	0	0-30.60	144	52.70	3266.0
MW	86	73	D	001	10	2	2	86	859	0	0 0.70	144	51.70	3892.0
MW	86	74	D	001	10	2	2	86	1625	0	0-28.90	144	36.09	4268.0
MW	86	75	D	001	10	2	2	86	2313	0	0-59.30	144	18.60	1880.0
MW	86	76	D	001	10	3	2	86	511	0	-1-30.80	144	1.00	704.0
MW	86	77	D	001	10	3	2	86	1020	0	-1-59.60	143	44.80	1422.0
MW	86	78	D	001	10	3	2	86	1556	0	-2-30.00	143	27.50	2032.0
MW	86	79	D	001	10	3	2	86	2200	0	-3 -0.20	143	10.10	2802.0
MW	86	80	D	001	10	4	2	86	304	0	-3-19.20	142	59.70	530.0
MW	86	81	D	001	10	4	2	86	631	0	-3 -0.50	143	0.70	2622.0
MW	86	82	D	001	10	4	2	86	1154	0	-2-30.80	142	59.80	2844.0
MW	86	83	D	001	10	4	2	86	1738	0	-2 -0.20	143	0.60	3136.0
MW	86	84	D	001	10	4	2	86	2352	0	-1-30.70	143	1.00	1768.0
MW	86	85	D	001	10	5	2	86	543	0	0-59.60	142	59.80	4252.0
MW	86	86	D	001	10	5	2	86	1139	0	0-30.10	143	0.50	3060.0
MW	86	87	D	001	10	5	2	86	1720	0	0 0.40	142	59.10	3136.0
MW	86	88	D	001	10	5	2	86	2251	0	0 29.60	142	58.90	2992.0
MW	86	89	D	001	10	6	2	86	440	0	1 0.20	143	0.30	3378.0
MW	86	90	D	001	10	6	2	86	1031	0	1 29.50	142	59.40	3562.0
MW	86	91	D	001	10	6	2	86	1642	0	1 59.70	143	0.00	3888.0
MW	86	92	D	001	10	6	2	86	2317	0	2 29.70	142	59.30	3686.0
MW	86	93	D	001	10	7	2	86	550	0	3 0.20	142	58.90	4080.0
MW	86	94	D	001	10	7	2	86	1156	0	3 30.60	142	59.30	3394.0
MW	86	95	D	001	10	7	2	86	1746	0	4 0.70	142	59.30	3570.0
MW	86	96	D	001	10	7	2	86	2319	0	4 30.60	143	0.30	3080.0
MW	86	97	D	001	10	8	2	86	445	0	5 0.90	143	0.60	3052.0
MW	86	98	D	001	10	8	2	86	1606	0	5 0.40	144	30.20	3898.0
MW	86	98	D	002	10	8	2	86	1921	0	5 0.10	144	29.60	1006.0
MW	86	99	D	001	10	9	2	86	650	0	5 0.30	146	0.00	4420.0
MW	86	100	D	001	10	9	2	86	2310	0	5 0.40	147	59.50	4184.0
MW	86	100	D	002	10	10	2	86	241	0	4 59.70	147	59.50	1002.0
MW	86	101	D	001	10	10	2	86	1840	0	5 1.30	149	59.10	5416.0
MW	86	102	D	001	10	11	2	86	834	0	4 59.80	151	31.50	4688.0

MW	86	102	D	002	10	11	2	86	1228	0	5	0.70	151	29.60	1006.0
MW	86	103	D	001	10	12	2	86	19	0	5	1.60	153	0.90	4160.0
MW	86	103	D	002	10	12	2	86	356	0	5	0.20	153	0.20	1014.0
MW	86	104	D	001	10	12	2	86	1754	0	5	0.90	155	0.10	3470.0

```
Password:
 accNo   fleA refNo  proj inst ship    startDate  cruise   catId
 ------- ---- ------ ---- ---- ------- ---------- -------- ----------
 9100061 C100 313506 0176 31R2 31TT    1985/06/18 189           197578
 9100061 C100 323105 0176 31R2 32MW    1988/06/21 88            197579
 9100061 C022 329633 0176 31R2 32MW    1986/01/14 TV5876        197580
 9100061 C022 329634 0176 31R2 32MW    1988/06/21 TV5877        197581
 9100061 F022 TV5877 0176 31R2 32MW    1988/06/21 88            197582
 9100061 F022 TV5876 0176 31R2 32MW    1986/01/14 86            197583

(6 rows affected)
```

```
Password:
 accNo   fleA refNo  ship staCnt recCnt startDate  endDate
 ------- ---- ------ ---- ------ ------ ---------- ----------
 9100061 C100 313506 31TT 126    128    85/06/18   85/07/15
 9100061 C100 323105 32MW 117    125    88/06/21   88/07/28
 9100061 C022 329633 32MW 116    246    86/01/14   86/02/12
 9100061 C022 329634 32MW 117    252    88/06/21   88/07/28
 9100061 F022 TV5877 32MW 117    27801  88/06/21   88/07/28
 9100061 F022 TV5876 32MW 116    28332  86/01/14   86/02/12

(6 rows affected)
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