

84NODC092

ACCESSION NUMBER

8400064

DATA DOCUMENTATION FORM

771615

NOAA FORM 24-13 (4-77)

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEANOGRAPHIC DATA CENTER RECORDS SECTION WASHINGTON, DC 20235

FORM APPROVED O.M.B. No. 41-R2651 EXPIRES 1-81

(While you are not required to use this form, it is the most desirable mechanism for providing the required ancillary information enabling the NODC and users to obtain the greatest benefit from your data.)

This form should accompany all data submissions to NODC. Section A, Originator Identification, must be completed when the data are submitted. It is highly desirable for NODC to also receive the remaining pertinent information at that time. This may be most easily accomplished by attaching reports, publications, or manuscripts which are readily available describing data collection, analysis, and format specifics. Readable, handwritten submissions are acceptable in all cases. All data shipments should be sent to the above address.

A. ORIGINATOR IDENTIFICATION

THIS SECTION MUST BE COMPLETED BY DONOR FOR ALL DATA TRANSMITTALS

1. NAME AND ADDRESS OF INSTITUTION, LABORATORY, OR ACTIVITY WITH WHICH SUBMITTED DATA ARE ASSOCIATED
WOODS HOLE OCEANOGRAPHIC INSTITUTION

2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED

3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT

4. PLATFORM NAME(S)
R/V THOMAS WASHINGTON

5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.)
SHIP

6. PLATFORM AND OPERATOR NATIONALITY(IES)
PLATFORM OPERATOR
WASHINGTON USN

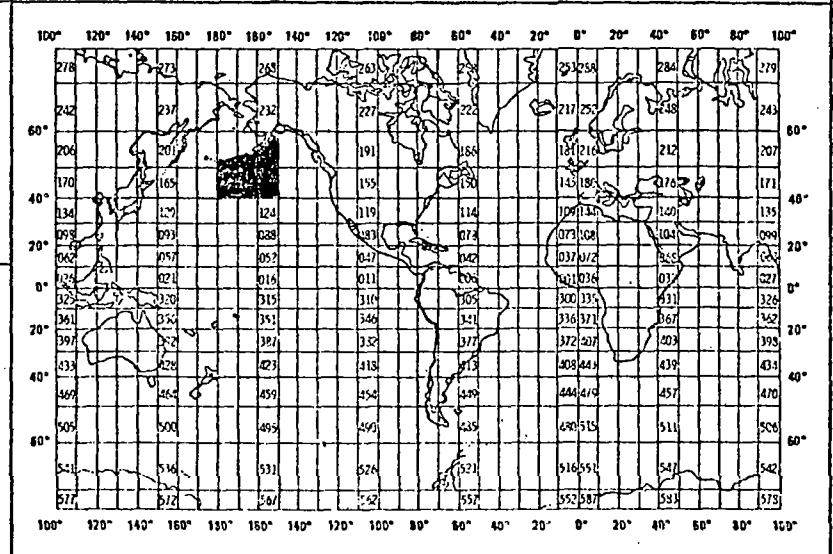
7. DATES
FROM: MO, DAY, YR TO: MO, DAY, YR
06/07/81 06/19/81

8. ARE DATA PROPRIETARY?
[X] NO [ ] YES
IF YES, WHEN CAN THEY BE RELEASED FOR GENERAL USE? YEAR MONTH

11. PLEASE DARKEN ALL MARSDEN SQUARES IN WHICH ANY DATA CONTAINED IN YOUR SUBMISSION WERE COLLECTED.
GENERAL AREA

9. ARE DATA DECLARED NATIONAL PROGRAM (DNP)?
(I.E., SHOULD THEY BE INCLUDED IN WORLD DATA CENTERS HOLDINGS FOR INTERNATIONAL EXCHANGE?)
[X] NO [ ] YES [ ] PART (SPECIFY BELOW)

10. PERSON TO WHOM INQUIRIES CONCERNING DATA SHOULD BE ADDRESSED WITH TELEPHONE NUMBER (AND ADDRESS IF OTHER THAN IN ITEM-1)
BOB MILLARD
617 548 1400 X2528



B. SCIENTIFIC CONTENT

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Pressure Temperature Salinity O <sub>2</sub>	Decabars deg. C Parts/thousand Mil/lit.	Neil Brown CTD " " " " " " " " "		<p>Ref: WHOI/Brown CTD microprofiler: methods of calibration and data handling. By N.P. Fofonoff, S.P. Hays, and R.C. Millard, Jr., Dec. 1974. WHOI Report 74-89</p> <p>Ref: WHOI processed CTD data organization. By Robert C. Millard and Nancy Galbraith. Aug. 1982. WHOI Report 82-37</p> <p>Ref: CTD Calibration and Data Processing Techniques at WHOI Using the 1978 Practical Salinity Scale. by R.C. Millard, Jr. International STD Conference and Workshop 8-11 Feb. 1982</p>

### C. DATA FORMAT

COMPLETE THIS SECTION FOR PUNCHED CARDS OR TAPE, MAGNETIC TAPE, OR DISC SUBMISSIONS.

**1. LIST RECORD TYPES CONTAINED IN THE TRANSMITTAL OF YOUR FILE  
GIVE METHOD OF IDENTIFYING EACH RECORD TYPE**

The first seven (7) records contain the basic sampling information followed by "n" data records (variable length files). The record type is identified by its position/order in the file. The first 7 records are self documenting in that each field has a readable label. See sample file dump in "RECORD FORMAT DESCRIPTION" section.

**2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION**

This data set/tape contains the CTD casts from one cruise. The tape is multi-file with each station being a separate file. The first seven records of each file contains the basic sampling information for that station. The remaining records are data records. Each record is 35 char. long.

**3. ATTRIBUTES AS EXPRESSED IN**     PL-1     ALGOL     COBOL  
 FORTRAN     \_\_\_\_\_ LANGUAGE

**4. RESPONSIBLE COMPUTER SPECIALIST:**

NAME AND PHONE NUMBER BOB MILLARD  
 ADDRESS WOODS HOLE OCEANOGRAPHIC INST. WOODS HOLE, MA

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p><b>5. RECORDING MODE</b></p> <p><input type="checkbox"/> BCD    <input type="checkbox"/> BINARY  <input checked="" type="checkbox"/> ASCII    <input type="checkbox"/> EBCDIC  <input type="checkbox"/> _____</p>	<p><b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b>    <input type="checkbox"/> 3/4 INCH  <input type="checkbox"/> _____</p>
<p><b>6. NUMBER OF TRACKS (CHANNELS)</b></p> <p><input type="checkbox"/> SEVEN  <input checked="" type="checkbox"/> NINE  <input type="checkbox"/> _____</p>	<p><b>10. END OF FILE MARK</b>    <input type="checkbox"/> OCTAL 17  <input type="checkbox"/> _____</p>
<p><b>7. PARITY</b></p> <p><input checked="" type="checkbox"/> ODD  <input type="checkbox"/> EVEN</p>	<p><b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b>  <u>TAPE CTD008</u>  <u>CTD DATA NODC/WHOI EXCHANGE FORMAT</u>  <u>40 STATIONS, 1 FILE PER STATION</u>  <u>R/U THOMAS WASHINGTON, JUNE 1981</u>  <u>9TK, 1600 BPI, RECSIZE = 35, BLKSIZE = 3500</u>  <u>ASCII, MULTI-FILE.</u></p>
<p><b>8. DENSITY</b></p> <p><input type="checkbox"/> 200 BPI    <input checked="" type="checkbox"/> 1600 BPI  <input type="checkbox"/> 556 BPI  <input type="checkbox"/> 800 BPI  <input type="checkbox"/> _____</p>	<p><b>12. PHYSICAL BLOCK LENGTH IN BYTES</b>  <u>3500</u></p> <p><b>13. LENGTH OF BYTES IN BITS</b></p>

RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<u>DESCRIPTION 1ST HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	5		5H	ALWAYS "SHIPØ" (Ø = blank)
SHIP CODE	7	2		A2	2 CHAR. SHIP CODE AT = ATLANTIS II, KN = KNORR OC = OCEANUS, ETC.
FIELD LABEL	9	7		7H	ALWAYS "ØCRUISØ"
CRUISE NUMBER	16	3		I3	CRUISE NO.
FIELD LABEL	19	6		6H	ALWAYS "ØSTAT:"
STATION NUMBER	25	4		I4	STATION NO.
BLANK	29	1			BLANK
FIELD LABEL	30	3		3H	ALWAYS "C#:"
CAST NUMBER	33	3		I3	CAST NO. USED FOR YO-YO STATIONS
TOTAL = 35					
<u>DESCRIPTION 2ND HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	5		H5	ALWAYS "DATEØ" (Ø = blank)
DATE:YEAR	7	2		I2	YEAR LAST TWO DIGITS
	9	1		H1	ALWAYS "-" FIELD SEPARATER
MONTH	10	2		I2	MONTH (1-12)
	12	1		H1	ALWAYS "-" FIELD SEPARATER
DAY	13	2		I2	DAY (1-31)
BLANK	15	2			BLANK
FIELD LABEL	17	6		H6	ALWAYS "TIME:Ø"
TIME	23	4		I4	TIME GMT 24 HR. CLOCK
TIME LABEL	27	2		H2	ALWAYS "ØZ" SYMBOL FOR GMT OR ZULU TIME
BLANK	29	7			BLANK
TOTAL = 35					

RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<u>DESCRIPTION 3RD HEADER RECORD</u>		(All fields right justified)			
BLANK	1	1			BLANK
FIELD LABEL	2	4		4H	ALWAYS "LAT $\emptyset$ " ( $\emptyset$ = blank)
LATITUDE:DEGREES	6	3		I3	DEGREES OF LATITUDE NEGATIVE FOR SOUTH
LATITUDE:MINUTES	9	6		F6.2	MINUTES OF LATITUDE TO HUNDREDTHS OF A MINUTE
FIELD LABEL	15	4		4H	ALWAYS " $\emptyset$ LG $\emptyset$ "
LONGITUDE:DEGREES	19	4		I4	DEGREES OF LONGITUDE NEGATIVE FOR WEST
LONGITUDE:MINUTES	23	6		F6.2	MINUTES OF LONGITUDE TO HUNDREDTHS OF A MINUTE
BLANK	29	7			BLANK
	TOTAL =	35			
<u>DESCRIPTION 4TH HEADER RECORD</u>		(All fields right justified)			
BLANK	1	1			BLANK
FIELD LABEL	2	9			ALWAYS "MAX. $\emptyset$ PRES=" ( $\emptyset$ =blank)
MAXIMUM PRESSURE	11	6		F6.0	MAXIMUM PRESSURE REACHED BY THE CTD CAST, PRESSURE IN DECIBARS
FIELD LABEL	17	11		11H	ALWAYS " $\emptyset$ DB $\emptyset$ DEPTH="
DEPTH TO BOTTOM	28	6		F6.0	WATER DEPTH IN METERS
DEPTH LABEL	34	2		2H	ALWAYS " $\emptyset$ M" M = Meters
	TOTAL =	35			
<u>DESCRIPTION 5TH HEADER RECORD</u>		(All fields right justified)			
BLANK	1	1			BLANK
FIELD LABEL	2	5		5H	ALWAYS "AVER $\emptyset$ " ( $\emptyset$ = blank)
AVERAGING INTERVAL*	7	5		F5.1	ALL DATA REDUCED TO A COMMON REPORTING INTERVAL, IN DECIBARS
FIELD LABEL	12	6		6H	ALWAYS " $\emptyset$ INST $\emptyset$ "
INSTRUMENT NO.	18	4		I4	CTD INSTRUMENT NO.
FIELD LABEL	22	6		6H	ALWAYS " $\emptyset$ RATE $\emptyset$ "
SAMPLING RATE	28	6		F6.2	SAMPLING RATE IN HERTZ (SAMPLES/SECOND), TO HUNDREDTHS
UNITS LABEL	34	2			ALWAYS "HZ"
	TOTAL =	35			
* A NEGATIVE VALUE IN THIS FIELD INDICATES AN UP TRACE/PROFILE					

## RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<u>DESCRIPTION 6TH HEADER RECORD</u>					
BLANK	1	1			BLANK
FIELD LABEL	2	4		H4	ALWAYS "OBS="
TOTAL DATA CYCLES	6	6		I6	TOTAL NUMBER OF DATA CYCLES THIS STATION
FIELD LABEL	12	4		H4	ALWAYS "%FMT" MEANING FORMAT
FORTTRAN FORMAT	16	20		H20	ALWAYS "(F7.1,2F8.4,F6.2,I6)"
	TOTAL = 35				
<u>DESCRIPTION 7TH HEADER RECORD</u>					
IF TAPE IS DUMPED, THIS RECORD PROVIDES COLUMN HEADING ON LISTING, CONTAINS NO STATION INFORMATION <i>(see sample listing next page)</i>					
<u>DESCRIPTION DATA RECORD</u>					
PRESSURE	1	7		F7.1	PRESSURE AS DECIBARS
TEMPERATURE	8	8		F8.4	TEMPERATURE AS DEGREES C
SALINITY	16	8		F8.4	SALINITY AS PARTS/THOUSAND
OXYGEN	24	6		F6.2	OXYGEN AS ML/L
QUALITY WORD	30	6		I6	QUALITY CONTROL CODE SEE FOLLOWING TEXT
<p>Quality word defined: If positive, the quality word contains the number of observations from the time-series data that went into the pressure bin. Negative quality words denote data which 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 &amp; S, -5 for T &amp; O, -6 for S &amp; O, -7 for T,S &amp; O. A positive quality word can be used to infer time and lowering rate: lowering rate = sample rate * pressure interval/quality #                      time = start time(hr:min) + sample rate * summed quality (secs)</p>					
<p>NOTE: A field will be asterisk filled if the value in question exceeds the allocated field length. At this stage of processing this should not occur.</p>					

# RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM-1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH  NUMBER    UNITS		17. ATTRIBUTES	18. USE AND MEANING																																																																																																				
<p>SHIP KN CRUIS 66 STAT: 21 C#: 3            DATE 77- 6- 2 TIME: 1200 Z            LAT 38 2.00 LG -37 53.20            MAX. PRS= 4157, DB DEPTH= 5968. M            WAYER 2.0 INST 4 RATE 31.00HZ            OBS= 2076 FMT(F7.1,2F8.4,F6.2,I6)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">PRES</th> <th style="width: 10%;">TEMP</th> <th style="width: 10%;">SALT</th> <th style="width: 10%;">OXYG</th> <th style="width: 10%;">QUAL</th> </tr> </thead> <tbody> <tr><td>7.0</td><td>19.2491</td><td>36.1420</td><td>6.56</td><td>583</td></tr> <tr><td>9.0</td><td>19.2472</td><td>36.1421</td><td>5.27</td><td>75</td></tr> <tr><td>11.0</td><td>19.2472</td><td>36.1425</td><td>5.30</td><td>76</td></tr> <tr><td>13.0</td><td>19.2472</td><td>36.1426</td><td>5.34</td><td>131</td></tr> <tr><td>15.0</td><td>19.2477</td><td>36.1431</td><td>5.28</td><td>69</td></tr> <tr><td>17.0</td><td>19.2484</td><td>36.1429</td><td>5.28</td><td>70</td></tr> <tr><td>19.0</td><td>19.2482</td><td>36.1420</td><td>5.32</td><td>119</td></tr> <tr><td>21.0</td><td>19.2466</td><td>36.1410</td><td>5.29</td><td>65</td></tr> <tr><td>23.0</td><td>19.2419</td><td>36.1421</td><td>5.25</td><td>71</td></tr> <tr><td>25.0</td><td>19.2393</td><td>36.1458</td><td>5.30</td><td>97</td></tr> <tr><td>27.0</td><td>19.2378</td><td>36.1431</td><td>5.30</td><td>49</td></tr> <tr><td>29.0</td><td>19.2405</td><td>36.1439</td><td>5.31</td><td>42</td></tr> <tr><td>31.0</td><td>19.2343</td><td>36.1461</td><td>5.33</td><td>111</td></tr> <tr><td>33.0</td><td>19.2074</td><td>36.1484</td><td>5.32</td><td>88</td></tr> <tr><td>35.0</td><td>19.1652</td><td>36.1553</td><td>5.31</td><td>63</td></tr> <tr><td>37.0</td><td>19.1152</td><td>36.1576</td><td>5.37</td><td>135</td></tr> <tr><td>39.0</td><td>18.9882</td><td>36.1682</td><td>5.38</td><td>70</td></tr> <tr><td>41.0</td><td>18.8389</td><td>36.1837</td><td>5.38</td><td>55</td></tr> <tr><td>43.0</td><td>18.5625</td><td>36.2002</td><td>5.50</td><td>167</td></tr> </tbody> </table>						PRES	TEMP	SALT	OXYG	QUAL	7.0	19.2491	36.1420	6.56	583	9.0	19.2472	36.1421	5.27	75	11.0	19.2472	36.1425	5.30	76	13.0	19.2472	36.1426	5.34	131	15.0	19.2477	36.1431	5.28	69	17.0	19.2484	36.1429	5.28	70	19.0	19.2482	36.1420	5.32	119	21.0	19.2466	36.1410	5.29	65	23.0	19.2419	36.1421	5.25	71	25.0	19.2393	36.1458	5.30	97	27.0	19.2378	36.1431	5.30	49	29.0	19.2405	36.1439	5.31	42	31.0	19.2343	36.1461	5.33	111	33.0	19.2074	36.1484	5.32	88	35.0	19.1652	36.1553	5.31	63	37.0	19.1152	36.1576	5.37	135	39.0	18.9882	36.1682	5.38	70	41.0	18.8389	36.1837	5.38	55	43.0	18.5625	36.2002	5.50	167
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TRANSMITTAL AND RECEIPT RECORD

(Please sign and return carbon copy acknowledging receipt)

TO: National Oceanographic Data Center 3300 Whitehaven St., NW Washington, D.C. 20235	REFER TO  ATTENTION Dr. Tony Picciolo
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THE ITEM(S) LISTED BELOW WERE FORWARDED TO YOU BY

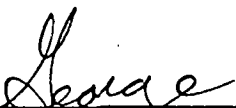

ORDINARY MAIL  
  REGISTERED MAIL  
  AIR MAIL  
  CERTIFIED MAIL  
  GOVERNMENT TRUCK  
  BY HAND  
  OTHER

The following CTD data are forwarded to NODC for processing and archiving:

R/V Thomas Washington      June 7 - 19 1981      40 stations

- a) Magnetic tape CTD008
- b) Data Documentation Form
- c) Sample dump of first and last file (stations).
- d) NAPIS Form

84-NODC-092

FORWARDED BY (Signature)  George Heimerdinger	TITLE NODC Liaison Officer	DATE FORWARDED Mar. 27, 84
RECEIVED BY (Signature)  Lamar Bennett	TITLE Technician, E/OC13	DATE RECEIVED Apr. 02, 84



Step	Completion Date/Init.		Tape # or DSN	# of Files	BLKSIZE	LRECL	# RECORDS
ORIGINATOR TAPE	8/30/84	<del>8/30/84</del>	CTD008	40	3500	35	
QUAD/SCAN TAPE	8/30/84	<del>8/30/84</del>	W01354	40	3500	35	
ASSIGNED FOR PROCESS.							
<del>SDP EVALUATION</del> Tape to disk	07/16/84	CMH					19306
QUALITY REVIEW							
PRELIMINARY DATA-SORT							
PRELIMINARY MULCHEK	07/16/84	CMH					19306
FIRST USER TAPE							
WORK DISK FILE	07/16/84	CMH					19306
FINAL USER TAPE							
FINAL MULCHEK	07/16/84	CMH					19306
SELECTED DISK FILE							
DATA SET "FINALIZED"	07/17/84	CMH					19306

DNODE \*IMP075. TT1615/F022



TO: OC12

FROM: OC13

SUBJECT: Error Correction in Processing of Data Set - Accession # 8400064

- 1) File Type: 022
- 2) Project Ident.: \_\_\_\_\_
- 3) ~~Track~~ <sup>Roll Track</sup> Nos.: TT1615

I. Error Corrections as reported to Principal Investigator:

Error

Correction Completed (Check)

*no corrections necessary*

II. Additional error corrections:

Error

Correction Completed (Check)

III. Processor Name: Cliff Hartley

Step	Completion Date/Init.		Tape # or DSN	# of Files	BLKSIZE	LRECL	# RECORDS
ORIGINATOR TAPE	8/30/84	<del>8/16/84</del>	CTD/008	40	3500	35	
QUAD/SCAN TAPE	8/30/84	<del>8/16/84</del>	W01354	40	3500	35	
ASSIGNED FOR PROCESS.							
<del>SOE EVALUATION</del> tape to disk	07/16/84	CMH					19306
QUALITY REVIEW							
PRELIMINARY DATA SORT							
PRELIMINARY MULCHEK	07/16/84	CMH					19306
FIRST USER TAPE							
WORK DISK FILE	07/16/84	CMH					19306
FINAL USER TAPE							
FINAL MULCHEK	07/16/84	CMH					19,306
SELECTED DISK FILE							
DATA SET "FINALIZED"	07/17/84	CMH					19,306

DNODC\*MPD75.TT1615/F022

DATE:

TO: OC12

FROM: OC13

SUBJECT: Error Correction in Processing of Data Set - Accession # 8400064

- 1) File Type: 022
- 2) Project Ident.:
- 3) ~~Track~~ <sup>Ref Track</sup> Nos.: TT1615

I. Error Corrections as reported to Principal Investigator:

Error

Correction Completed (Check)

*no corrections necessary*

II. Additional error corrections:

Error

Correction Completed (Check)

III. Processor Name: Cliff Hartley

TAPE OR DISK ASSIGNMENT SHEET  
(MRL) 11/6/78  
(Rev. 11/80)

SESSION/TRACK NO.: *SA00064/TT1615*

TYPE OF TAPE	TAPE NUMBER	LABEL	LRECL	BLKSIZE	RECFM	REMARKS	# RECORDS
ORIGINATOR	<i>CTD 048</i>	<i>NL</i>	<i>35</i>	<i>3500</i>	<i>9-tr 1600 BPI ASCII</i>	<i>40 files</i>	
DUPLICATE	<i>W01357</i>	<i>SL</i>	<i>35</i>	<i>3500</i>	<i>9-tr 1600 BPI ASCII</i>	<i>40 files</i>	
REFORMATTED							
FIRST USER							
FINAL USER							
DISK FILE	DSN					REMARKS	# RECORDS
WORK DISK FILE							
Final MOUNTED DISK FILE						<i>DNODC *MPD 75. TT 1615/F022</i>	<i>19,306</i>

DATE:

TO: OC12

FROM: OC13

SUBJECT: Error Correction in Processing of Data Set - Accession # 840006A

- 1) File Type: F022
- 2) Project Ident.:
- 3) ~~#Track~~ <sup>Sub Track</sup> Nos.: TT1616

I. Error Corrections as reported to Principal Investigator:

Error

Correction Completed (Check)

II. Additional error corrections:

Error

Correction Completed (Check)

*No errors*

III. Processor Name: MARY R Lewis

TAPE OR DISK ASSIGNMENT SHEET  
(MRL) 11/6/78  
(Rev. 11/80)

SESSION/TRACK NO.: 8A00064/TT1616

TYPE OF TAPE	TAPE NUMBER	LABEL	LRECL	BLKSIZE	RECFM	REMARKS	# RECORDS
ORIGINATOR	CTD009	NL	35	3500	9-tr 1600 BPI ASCII	22 files	
DUPLICATE	W01330	SL	35	3500	9-tr 1600 BPI ASCII	22 files	
REFORMATTED	W01735	SDF ASCII			DNODC * FNU HOI 3		11903
FIRST USER							
FINAL USER							
DISK FILE	DSN					REMARKS	# RECORDS
WORK DISK FILE						DNODC * MARYI.TT1616A/F022	11903
EDITED DISK FILE							



Step	Completion Date/Init.	Tape # or DSN	# of Files	BLKSIZE	LRECL	# RECORDS
ORIGINATOR TAPE	4/30/84 <del>8/20</del>	CTD009	22	3500	35	
QUADI/SCAN TAPE	4/30/84 <del>8/20</del>	W01330	22	3500	35	
ASSIGNED FOR PROCESS.						
PDF EVALUATION	7/26/84 <del>yes</del>					
QUALITY REVIEW	7/26/84					
PRELIMINARY DATA SORT						
PRELIMINARY MULCHEK	7/26/84	DNODC*				11903
FIRST USER TAPE						
WORK DISK FILE	7/26/84	DNODC*				11903
FINAL USER TAPE						
FINAL MULCHEK	7/27/84	DNODC*				11903
EDITED DISK FILE						
DATA SET "FINALIZED"						

84NODC093

ACCESSION NUMBER

8400064

DATA DOCUMENTATION FORM

TT1616

NOAA FORM 24-13 (4-77)

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEANOGRAPHIC DATA CENTER RECORDS SECTION WASHINGTON, DC 20235

FORM APPROVED O.M.B. No. 41-R2651 EXPIRES 1-81

(While you are not required to use this form, it is the most desirable mechanism for providing the required ancillary information enabling the NODC and users to obtain the greatest benefit from your data.)

This form should accompany all data submissions to NODC. Section A, Originator Identification, must be completed when the data are submitted. It is highly desirable for NODC to also receive the remaining pertinent information at that time. This may be most easily accomplished by attaching reports, publications, or manuscripts which are readily available describing data collection, analysis, and format specifics. Readable, handwritten submissions are acceptable in all cases. All data shipments should be sent to the above address.

A. ORIGINATOR IDENTIFICATION

THIS SECTION MUST BE COMPLETED BY DONOR FOR ALL DATA TRANSMITTALS

1. NAME AND ADDRESS OF INSTITUTION, LABORATORY, OR ACTIVITY WITH WHICH SUBMITTED DATA ARE ASSOCIATED <p>WOODS HOLE OCEANOGRAPHIC INSTITUTION WOODS HOLE, MA 02543</p>											
2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED <p>RAMA EXPEDITION</p>		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT <p><del>THOMAS WASHINGTON</del></p>									
4. PLATFORM NAME(S) <p>THOMAS WASHINGTON</p>	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) <p>SHIP</p>	6. PLATFORM AND OPERATOR NATIONALITY(IES) <table border="1"> <tr> <th>PLATFORM</th> <th>OPERATOR</th> </tr> <tr> <td></td> <td></td> </tr> </table>	PLATFORM	OPERATOR			7. DATES <table border="1"> <tr> <th>FROM: MO, DAY, YR</th> <th>TO: MO, DAY, YR</th> </tr> <tr> <td>MAY 13, 81</td> <td>MAY 28, 81</td> </tr> </table>	FROM: MO, DAY, YR	TO: MO, DAY, YR	MAY 13, 81	MAY 28, 81
PLATFORM	OPERATOR										
FROM: MO, DAY, YR	TO: MO, DAY, YR										
MAY 13, 81	MAY 28, 81										
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <p>IF YES, WHEN CAN THEY BE RELEASED FOR GENERAL USE? YEAR _____ MONTH _____</p>		11. PLEASE DARKEN ALL MARSDEN SQUARES IN WHICH ANY DATA CONTAINED IN YOUR SUBMISSION WERE COLLECTED. <p>GENERAL AREA</p>									
9. ARE DATA DECLARED NATIONAL PROGRAM (DNP)? (I.E., SHOULD THEY BE INCLUDED IN WORLD DATA CENTERS HOLDINGS FOR INTERNATIONAL EXCHANGE?) <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> PART (SPECIFY BELOW)											
10. PERSON TO WHOM INQUIRIES CONCERNING DATA SHOULD BE ADDRESSED WITH TELEPHONE NUMBER (AND ADDRESS IF OTHER THAN IN ITEM-1) <p>MR. BOB MILLARD 617 548 1400</p>											

B. SCIENTIFIC CONTENT

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Pressure Temperature Salinity O <sub>2</sub>	Decabars deg. C Parts/thousand Mil/lit.	Neil Brown CTD " " " " " " " " "		Ref: WHOI/Brown CTD microprofiler: methods of calibration and data handling. By N.P. Fofonoff, S.P. Hays, and R.C. Millard, Jr., Dec. 1974. WHOI Report 74-89.  Ref: WHOI processed CTD data organization. By Robert C. Millard and Nancy Galbraith. Aug. 1982. WHOI Report 82-37.  Ref: CTD Calibration and Data Processing Techniques at WHOI Using the 1978 Practical Salinity Scale. by R.C. Millard, Jr. International STD Conference and Workshop 8-11 Feb. 1982.  CTD TRANSECT OF THE KUROSHIO EXTENSION 27° - 42°N, 152°E MAY 1981 MILLER + WHITMAN, OREGON STATE UNIV. DATA REPORT 94 REF. 82-7 JUNE 1983

### C. DATA FORMAT

COMPLETE THIS SECTION FOR PUNCHED CARDS OR TAPE, MAGNETIC TAPE, OR DISC SUBMISSIONS.

**1. LIST RECORD TYPES CONTAINED IN THE TRANSMITTAL OF YOUR FILE  
GIVE METHOD OF IDENTIFYING EACH RECORD TYPE**

The first seven (7) records contain the basic sampling information followed by "n" data records (variable length files). The record type is identified by its position/order in the file. The first 7 records are self documenting in that each field has a readable label. See sample file dump in "RECORD FORMAT DESCRIPTION" section.

**2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION**

This data set/tape contains the CTD casts from one cruise. The tape is multi-file with each station being a separate file. The first seven records of each file contains the basic sampling information for that station. The remaining records are data records. Each record is 35 char. long.

**3. ATTRIBUTES AS EXPRESSED IN**     PL-1     ALGOL     COBOL  
 FORTRAN     \_\_\_\_\_ LANGUAGE

**4. RESPONSIBLE COMPUTER SPECIALIST:**

NAME AND PHONE NUMBER MR. BOB MILLARD 617 548 1400  
 ADDRESS WOODS HOLE OCEANOGRAPHIC ~~INSTITUTE~~ INSTITUTION

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p><b>5. RECORDING MODE</b></p> <p><input type="checkbox"/> BCD    <input type="checkbox"/> BINARY  <input checked="" type="checkbox"/> ASCII    <input type="checkbox"/> EBCDIC  <input type="checkbox"/> _____</p>	<p><b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b>    <input type="checkbox"/> 3/4 INCH  <input type="checkbox"/> _____</p>
<p><b>6. NUMBER OF TRACKS (CHANNELS)</b></p> <p><input type="checkbox"/> SEVEN  <input checked="" type="checkbox"/> NINE  <input type="checkbox"/> _____</p>	<p><b>10. END OF FILE MARK</b>    <input type="checkbox"/> OCTAL 17  <input type="checkbox"/> _____</p>
<p><b>7. PARITY</b></p> <p><input checked="" type="checkbox"/> ODD  <input type="checkbox"/> EVEN</p>	<p><b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b></p> <p style="text-align: center;"><u>CTD009</u>  <u>CTD DATA, THOMAS WASHINGTON, MAY 1981.</u>  <u>22 STATIONS, 1 STATION PER FILE, 9TK</u>  <u>1600 BPI, RECSIZE=35, BLKSIZE 3500, ASCII</u>  <u>NON LABELLED - HEIMERDINGER -</u></p>
<p><b>8. DENSITY</b></p> <p><input type="checkbox"/> 200 BPI    <input checked="" type="checkbox"/> 1600 BPI  <input type="checkbox"/> 556 BPI  <input type="checkbox"/> 800 BPI  <input type="checkbox"/> _____</p>	<p><b>12. PHYSICAL BLOCK LENGTH IN BYTES</b></p> <p style="text-align: center;"><u>3500</u></p>
<p><b>13. LENGTH OF BYTES IN BITS</b></p>	

## RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<u>DESCRIPTION 1ST HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	5		5H	ALWAYS "SHIPø" (ø = blank)
SHIP CODE	7	2		A2	2 CHAR. SHIP CODE AT = ATLANTIS II, KN = KNORR OC = OCEANUS, ETC.
FIELD LABEL	9	7		7H	ALWAYS "øCRUISø"
CRUISE NUMBER	16	3		I3	CRUISE NO.
FIELD LABEL	19	6		6H	ALWAYS "øSTAT:"
STATION NUMBER	25	4		I4	STATION NO.
BLANK	29	1			BLANK
FIELD LABEL	30	3		3H	ALWAYS "C#:"
CAST NUMBER	33	3		I3	CAST NO. USED FOR YO-YO STATIONS
	TOTAL =	35			
<u>DESCRIPTION 2ND HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	5		H5	ALWAYS "DATEø" (ø = blank)
DATE:YEAR	7	2		I2	YEAR LAST TWO DIGITS
	9	1		H1	ALWAYS "-" FIELD SEPARATER
MONTH	10	2		I2	MONTH (1-12)
	12	1		H1	ALWAYS "-" FIELD SEPARATER
DAY	13	2		I2	DAY (1-31)
BLANK	15	2			BLANK
FIELD LABEL	17	6		H6	ALWAYS "TIME:ø"
TIME	23	4		I4	TIME GMT 24 HR. CLOCK
TIME LABEL	27	2		H2	ALWAYS "øZ" SYMBOL FOR GMT OR ZULU TIME
BLANK	29	7			BLANK
	TOTAL =	35			

## RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<u>DESCRIPTION 3RD HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	4		4H	ALWAYS "LATØ" (Ø = blank)
LATITUDE:DEGREES	6	3		I3	DEGREES OF LATITUDE NEGATIVE FOR SOUTH
LATITUDE:MINUTES	9	6		F6.2	MINUTES OF LATITUDE TO HUNDREDTHS OF A MINUTE
FIELD LABEL	15	4		4H	ALWAYS "ØLGØ"
LONGITUDE:DEGREES	19	4		I4	DEGREES OF LONGITUDE NEGATIVE FOR WEST
LONGITUDE:MINUTES	23	6		F6.2	MINUTES OF LONGITUDE TO HUNDREDTHS OF A MINUTE
BLANK	29	7			BLANK
	TOTAL = 35				
<u>DESCRIPTION 4TH HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	9			ALWAYS "MAX.ØPRES=" (Ø=blank)
MAX. PRESSURE	11	6		F6.0	MAXIMUM PRESSURE REACHED BY THE CTD CAST, PRESSURE IN DECIBARS
FIELD LABEL	17	11		11H	ALWAYS "ØDBØØDEPTH="
DEPTH TO BOTTOM	28	6		F6.0	WATER DEPTH IN METERS
DEPTH LABEL	34	2		2H	ALWAYS "ØM" M = Meters
	TOTAL = 35				
<u>DESCRIPTION 5TH HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	5		5H	ALWAYS "AVERØ" (Ø = blank)
AVERAGING INTERVAL*	7	5		F5.1	ALL DATA REDUCED TO A COMMON REPORTING INTERVAL, IN DECIBARS
FIELD LABEL	12	6		6H	ALWAYS "ØINSTØ"
INSTRUMENT NO.	18	4		I4	CTD INSTRUMENT NO.
FIELD LABEL	22	6		6H	ALWAYS "ØRATEØ"
SAMPLING RATE	28	6		F6.2	SAMPLING RATE IN HERTZ (SAMPLES/SECOND), TO HUNDREDTHS
UNITS LABEL	34	2			ALWAYS "HZ"
	TOTAL = 35				
<p><b>A NEGATIVE VALUE IN THIS FIELD INDICATES AN UP TRACE/PROFILE</b></p>					

## RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<u>DESCRIPTION 6TH HEADER RECORD</u>					
BLANK	1	1			BLANK
FIELD LABEL	2	4		H4	ALWAYS "OBS="
TOTAL DATA CYCLES	6	6		I6	TOTAL NUMBER OF DATA CYCLES THIS STATION
FIELD LABEL	12	4		H4	ALWAYS "PFMT" MEANING FORMAT
FORTRAN FORMAT	16	20		H20	ALWAYS "(F7.1,2F8.4,F6.2,I6)"
	TOTAL =	35			
<u>DESCRIPTION 7TH HEADER RECORD</u>					
IF TAPE IS DUMPED, THIS RECORD PROVIDES COLUMN HEADING ON LISTING, CONTAINS NO STATION INFORMATION <i>(see sample listing next page)</i>					
<u>DESCRIPTION DATA RECORD</u>					
PRESSURE	1	7		F7.1	PRESSURE AS DECIBARS
TEMPERATURE	8	8		F8.4	TEMPERATURE AS DEGREES C
SALINITY	16	8		F8.4	SALINITY AS PARTS/THOUSAND
OXYGEN	24	6		F6.2	OXYGEN AS ML/L
QUALITY WORD	30	6		I6	QUALITY CONTROL CODE SEE FOLLOWING TEXT
<p>Quality word defined: If positive, the quality word contains the number of observations from the time-series data that went into the pressure bin. Negative quality words denote data which 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 &amp; S, -5 for T &amp; O, -6 for S &amp; O, -7 for T,S &amp; O. A positive quality word can be used to infer time and lowering rate: lowering rate = sample rate * pressure interval/quality #                      time = start time(hr:min) + sample rate * summed quality (secs)</p>					
<p>NOTE: A field will be asterisk filled if the value in question exceeds the allocated field length. At this stage of processing this should not occur.</p>					

# RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

1. FIELD NAME	15. POSITION FROM-1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING																																																																																															
		NUMBER	UNITS																																																																																																	
<p>SHIP KN CRUIS 66 STAT: 21 C#: 3            DATE 77- 6- 2 TIME: 1200 Z            LAT 38 2.00 LG -37 53.20            MAX. PRS= 4157. DB DEPTH= 5968. M            AVER 2.0 INST 4 RATE 31.00HZ            DBS= 2076 FMT(F7.1,2F8.4,F6.2,I6)            PRES TEMP SALT OXYG QUAL</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>7.0</td><td>19.2491</td><td>36.1420</td><td>6.56</td><td>583</td></tr> <tr><td>9.0</td><td>19.2472</td><td>36.1421</td><td>5.27</td><td>75</td></tr> <tr><td>11.0</td><td>19.2472</td><td>36.1425</td><td>5.30</td><td>76</td></tr> <tr><td>13.0</td><td>19.2472</td><td>36.1426</td><td>5.34</td><td>131</td></tr> <tr><td>15.0</td><td>19.2477</td><td>36.1431</td><td>5.28</td><td>69</td></tr> <tr><td>17.0</td><td>19.2484</td><td>36.1429</td><td>5.28</td><td>70</td></tr> <tr><td>19.0</td><td>19.2482</td><td>36.1420</td><td>5.32</td><td>119</td></tr> <tr><td>21.0</td><td>19.2466</td><td>36.1410</td><td>5.29</td><td>65</td></tr> <tr><td>23.0</td><td>19.2419</td><td>36.1421</td><td>5.25</td><td>71</td></tr> <tr><td>25.0</td><td>19.2393</td><td>36.1458</td><td>5.30</td><td>97</td></tr> <tr><td>27.0</td><td>19.2378</td><td>36.1431</td><td>5.30</td><td>49</td></tr> <tr><td>29.0</td><td>19.2405</td><td>36.1439</td><td>5.31</td><td>42</td></tr> <tr><td>31.0</td><td>19.2343</td><td>36.1461</td><td>5.33</td><td>111</td></tr> <tr><td>33.0</td><td>19.2074</td><td>36.1484</td><td>5.32</td><td>88</td></tr> <tr><td>35.0</td><td>19.1652</td><td>36.1553</td><td>5.31</td><td>63</td></tr> <tr><td>37.0</td><td>19.1152</td><td>36.1576</td><td>5.37</td><td>135</td></tr> <tr><td>39.0</td><td>18.9882</td><td>36.1682</td><td>5.38</td><td>70</td></tr> <tr><td>41.0</td><td>18.8389</td><td>36.1837</td><td>5.38</td><td>55</td></tr> <tr><td>43.0</td><td>18.5625</td><td>36.2002</td><td>5.50</td><td>167</td></tr> </table>						7.0	19.2491	36.1420	6.56	583	9.0	19.2472	36.1421	5.27	75	11.0	19.2472	36.1425	5.30	76	13.0	19.2472	36.1426	5.34	131	15.0	19.2477	36.1431	5.28	69	17.0	19.2484	36.1429	5.28	70	19.0	19.2482	36.1420	5.32	119	21.0	19.2466	36.1410	5.29	65	23.0	19.2419	36.1421	5.25	71	25.0	19.2393	36.1458	5.30	97	27.0	19.2378	36.1431	5.30	49	29.0	19.2405	36.1439	5.31	42	31.0	19.2343	36.1461	5.33	111	33.0	19.2074	36.1484	5.32	88	35.0	19.1652	36.1553	5.31	63	37.0	19.1152	36.1576	5.37	135	39.0	18.9882	36.1682	5.38	70	41.0	18.8389	36.1837	5.38	55	43.0	18.5625	36.2002	5.50	167
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TRANSMITTAL AND RECEIPT RECORD

(Please sign and return carbon copy acknowledging receipt)

TO: National Oceanographic Data Center  
3300 Whitehaven St., NW  
Washington, D.C. 20235

REFER TO

ATTENTION Tony Picciolo

THE ITEM(S) LISTED BELOW WERE FORWARDED TO YOU BY

- ORDINARY MAIL
- REGISTERED MAIL
- AIR MAIL
- CERTIFIED MAIL
- GOVERNMENT TRUCK
- BY HAND
- OTHER

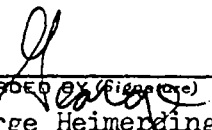

The following CTD data set is forwarded to NODC for processing:

R/V Thomas Washington      May 13 - 28, 1981      22 stations

- a) Magnetic tape CTD~~009~~
- b) Data Documentation Form
- c) Sample dump of first and last station
- d) NAPIS Form

These data were received from the Woods Hole Oceanographic Inst.

84-NODE-093

FORWARDED BY (Signature)  George Heimerdinger	TITLE NODC Liaison Officer	DATE FORWARDED Mar. 27, 84
RECEIVED BY (Signature)  Lamar Bennett	TITLE Technician, E/OC13	DATE RECEIVED Apr. 02, 84

84NODC092

ACCESSION NUMBER

8400064

DATA DOCUMENTATION FORM

Ref # 319388

NOAA FORM 24-13 (4-77)

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEANOGRAPHIC DATA CENTER RECORDS SECTION WASHINGTON, DC 20235

FORM APPROVED O.M.B. No. 41-R2651 EXPIRES 1-81

(While you are not required to use this form, it is the most desirable mechanism for providing the required ancillary information enabling the NODC and users to obtain the greatest benefit from your data.)

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WOODS HOLE OCEANOGRAPHIC INSTITUTION

2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED

3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT

4. PLATFORM NAME(S)

R/V THOMAS WASHINGTON

5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.)

SHIP

6. PLATFORM AND OPERATOR NATIONALITY(IES)

PLATFORM	OPERATOR
WASHINGTON	USA

7. DATES

FROM: MO/DAY/YR	TO: MO/DAY/YR
06/07/81	06/19/81

8. ARE DATA PROPRIETARY?

NO  YES

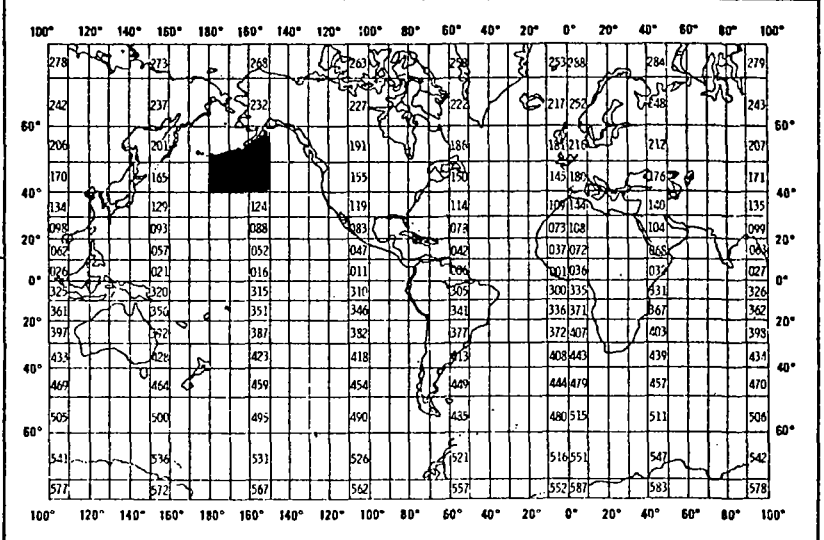
IF YES, WHEN CAN THEY BE RELEASED FOR GENERAL USE? YEAR \_\_\_ MONTH \_\_\_

11. PLEASE DARKEN ALL MARSDEN SQUARES IN WHICH ANY DATA CONTAINED IN YOUR SUBMISSION WERE COLLECTED.

GENERAL AREA

9. ARE DATA DECLARED NATIONAL PROGRAM (DNP)? (I.E., SHOULD THEY BE INCLUDED IN WORLD DATA CENTERS HOLDINGS FOR INTERNATIONAL EXCHANGE?)

NO  YES  PART (SPECIFY BELOW)



10. PERSON TO WHOM INQUIRIES CONCERNING DATA SHOULD BE ADDRESSED WITH TELEPHONE NUMBER (AND ADDRESS IF OTHER THAN IN ITEM-1)

BOB MILLARD  
617 548 1400 X 2528

B. SCIENTIFIC CONTENT

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Pressure Temperature Salinity O <sub>2</sub>	Decabars -deg. C Parts/thousand Mil/lit.	Neil Brown CTD " " " " " " " " "		Ref: WHOI/Brown CTD microprofiler: methods of calibration and data handling. By N.P. Fofonoff, S.P. Hays, and R.C. Millard, Jr., Dec. 1974. WHOI Report 74-89.  Ref: WHOI processed CTD data organization. By Robert C. Millard and Nancy Galbraith. Aug. 1982. WHOI Report 82-37.  Ref: CTD Calibration and Data Processing Techniques at WHOI Using the 1978 Practical Salinity Scale. by R.C. Millard, Jr. International STD Conference and Workshop 8-11 Feb. 1982.

### C. DATA FORMAT

COMPLETE THIS SECTION FOR PUNCHED CARDS OR TAPE, MAGNETIC TAPE, OR DISC SUBMISSIONS.

**1. LIST RECORD TYPES CONTAINED IN THE TRANSMITTAL OF YOUR FILE  
GIVE METHOD OF IDENTIFYING EACH RECORD TYPE**

The first seven (7) records contain the basic sampling information followed by "n" data records (variable length files). The record type is identified by its position/order in the file. The first 7 records are self documenting in that each field has a readable label. See sample file dump in "RECORD FORMAT DESCRIPTION" section.

**2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION**

This data set/tape contains the CTD casts from one cruise. The tape is multi-file with each station being a separate file. The first seven records of each file contains the basic sampling information for that station. The remaining records are data records. Each record is 35 char. long.

**3. ATTRIBUTES AS EXPRESSED IN**     PL-1     ALGOL     COBOL  
 FORTRAN     \_\_\_\_\_ LANGUAGE

**4. RESPONSIBLE COMPUTER SPECIALIST:**

NAME AND PHONE NUMBER BOB MILLARD  
 ADDRESS WOODS HOLE OCEANOGRAPHIC INST. WOODS HOLE, MA

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p><b>5. RECORDING MODE</b></p> <p><input type="checkbox"/> BCD    <input type="checkbox"/> BINARY</p> <p><input checked="" type="checkbox"/> ASCII    <input type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p><b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b>    <input type="checkbox"/> 3/4 INCH</p> <p><input type="checkbox"/> _____</p>
<p><b>6. NUMBER OF TRACKS (CHANNELS)</b></p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p><b>10. END OF FILE MARK</b></p> <p><input type="checkbox"/> OCTAL 17</p> <p><input type="checkbox"/> _____</p>
<p><b>7. PARITY</b></p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p><b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b></p> <p style="text-align: center;"><u>TAPE CTD008</u></p> <p><u>CTD DATA NODC/WHOI EXCHANGE FORMAT</u></p> <p><u>40 STATIONS, 1 FILE PER STATION</u></p> <p><u>R/V THOMAS WASHINGTON, JUNE 1981</u></p> <p><u>9TK, 1600 BPI, RECSIZE = 35, BLKSIZE = 3500</u></p> <p><u>ASCII, MULTI-FILE.</u></p>
<p><b>8. DENSITY</b></p> <p><input type="checkbox"/> 200 BPI    <input checked="" type="checkbox"/> 1600 BPI</p> <p><input type="checkbox"/> 556 BPI</p> <p><input type="checkbox"/> 800 BPI</p> <p><input type="checkbox"/> _____</p>	<p><b>12. PHYSICAL BLOCK LENGTH IN BYTES</b></p> <p style="text-align: center;"><u>3500</u></p>
<p><b>13. LENGTH OF BYTES IN BITS</b></p>	

## RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<u>DESCRIPTION 1ST</u>		<u>HEADER RECORD</u>			(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	5		5H	ALWAYS "SHIPØ" (Ø = blank)
SHIP CODE	7	2		A2	2 CHAR. SHIP CODE AT = ATLANTIS II, KN = KNORR OC = OCEANUS, ETC.
FIELD LABEL	9	7		7H	ALWAYS "ØCRUISØ"
CRUISE NUMBER	16	3		I3	CRUISE NO.
FIELD LABEL	19	6		6H	ALWAYS "ØSTAT:"
STATION NUMBER	25	4		I4	STATION NO.
BLANK	29	1			BLANK
FIELD LABEL	30	3		3H	ALWAYS "C#:"
CAST NUMBER	33	3		I3	CAST NO. USED FOR YO-YO STATIONS
	TOTAL = 35				
<u>DESCRIPTION 2ND</u>		<u>HEADER RECORD</u>			(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	5		H5	ALWAYS "DATEØ" (Ø = blank)
DATE:YEAR	7	2		I2	YEAR LAST TWO DIGITS
	9	1		H1	ALWAYS "-" FIELD SEPARATER
MONTH	10	2		I2	MONTH (1-12)
	12	1		H1	ALWAYS "-" FIELD SEPARATER
DAY	13	2		I2	DAY (1-31)
BLANK	15	2			BLANK
FIELD LABEL	17	6		H6	ALWAYS "TIME:Ø"
TIME	23	4		I4	TIME GMT 24 HR. CLOCK
TIME LABEL	27	2		H2	ALWAYS "ØZ" SYMBOL FOR GMT OR ZULU TIME
BLANK	29	7			BLANK
	TOTAL = 35				

## RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<u>DESCRIPTION 3RD HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	4		4H	ALWAYS "LAT $\emptyset$ " ( $\emptyset$ = blank)
LATITUDE:DEGREES	6	3		I3	DEGREES OF LATITUDE NEGATIVE FOR SOUTH
LATITUDE:MINUTES	9	6		F6.2	MINUTES OF LATITUDE TO HUNDREDTHS OF A MINUTE
FIELD LABEL	15	4		4H	ALWAYS "LG $\emptyset$ "
LONGITUDE:DEGREES	19	4		I4	DEGREES OF LONGITUDE NEGATIVE FOR WEST
LONGITUDE:MINUTES	23	6		F6.2	MINUTES OF LONGITUDE TO HUNDREDTHS OF A MINUTE
BLANK	29	7			BLANK
	TOTAL = 35				
<u>DESCRIPTION 4TH HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	9			ALWAYS "MAX. $\emptyset$ PRES=" ( $\emptyset$ =blank)
MAX. PRESSURE	11	6		F6.0	MAXIMUM PRESSURE REACHED BY THE CTD CAST, PRESSURE IN DECIBARS
FIELD LABEL	17	11		11H	ALWAYS " $\emptyset$ DB $\emptyset$ DEPTH="
DEPTH TO BOTTOM	28	6		F6.0	WATER DEPTH IN METERS
DEPTH LABEL	34	2		2H	ALWAYS " $\emptyset$ M" M = Meters
	TOTAL = 35				
<u>DESCRIPTION 5TH HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	5		5H	ALWAYS "AVER $\emptyset$ " ( $\emptyset$ = blank)
AVERAGING INTERVAL*	7	5		F5.1	ALL DATA REDUCED TO A COMMON REPORTING INTERVAL, IN DECIBARS
FIELD LABEL	12	6		6H	ALWAYS " $\emptyset$ INST $\emptyset$ "
INSTRUMENT NO.	18	4		I4	CTD INSTRUMENT NO.
FIELD LABEL	22	6		6H	ALWAYS " $\emptyset$ RATE $\emptyset$ "
SAMPLING RATE	28	6		F6.2	SAMPLING RATE IN HERTZ (SAMPLES/SECOND), TO HUNDREDTHS
UNITS LABEL	34	2			ALWAYS "HZ"
	TOTAL = 35				
* A NEGATIVE VALUE IN THIS FIELD INDICATES AN UP TRACE/PROFILE					

## RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<u>DESCRIPTION 6TH HEADER RECORD</u>					
BLANK	1	1			BLANK
FIELD LABEL	2	4		H4	ALWAYS "OBS="
TOTAL DATA CYCLES	6	6		I6	TOTAL NUMBER OF DATA CYCLES THIS STATION
FIELD LABEL	12	4		H4	ALWAYS "FMT" MEANING FORMAT
FORTRAN FORMAT	16	20		H20	ALWAYS "(F7.1,2F8.4,F6.2,I6)"
	TOTAL =	35			
<u>DESCRIPTION 7TH HEADER RECORD</u>					
IF TAPE IS DUMPED, THIS RECORD PROVIDES COLUMN HEADING ON LISTING, CONTAINS NO STATION INFORMATION <i>(see sample listing next page)</i>					
<u>DESCRIPTION DATA RECORD</u>					
PRESSURE	1	7		F7.1	PRESSURE AS DECIBARS
TEMPERATURE	8	8		F8.4	TEMPERATURE AS DEGREES C
SALINITY	16	8		F8.4	SALINITY AS PARTS/THOUSAND
OXYGEN	24	6		F6.2	OXYGEN AS ML/L
QUALITY WORD	30	6		I6	QUALITY CONTROL CODE SEE FOLLOWING TEXT
<p>Quality word defined: If positive, the quality word contains the number of observations from the time-series data that went into the pressure bin. Negative quality words denote data which 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 O<sub>2</sub>, -3 for T &amp; S, -5 for T &amp; O, -6 for S &amp; O, -7 for T, S &amp; O. A positive quality word can be used to infer time and lowering rate: lowering rate = sample rate * pressure interval/quality #  time = start time(hr:min) + sample rate * summed quality (secs)</p>					
<p>NOTE: A field will be asterisk filled if the value in question exceeds the allocated field length. At this stage of processing this should not occur.</p>					

# RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

FIELD NAME	15. POSITION FROM-1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<pre> SHIP KN CRUIS 66 STAT: 21 C#: 3 DATE 77- 6- 2 TIME: 1200 Z LAT 38 2.00 LG -37 53.20 MAX. PRS= 4157. DB DEPTH= 5968. M &gt;AVER 2.0 INST 4 RATE 31.00HZ DBS= 2076 FMT(F7.1,2FB.4,F6.2,I6) PRES TEMP SALT OXYG QUAL  7.0 19.2491 36.1420 6.56 583  9.0 19.2472 36.1421 5.27 75 11.0 19.2472 36.1425 5.30 76 13.0 19.2472 36.1426 5.34 131 15.0 19.2477 36.1431 5.28 69 17.0 19.2484 36.1429 5.28 70 19.0 19.2482 36.1420 5.32 119 21.0 19.2466 36.1410 5.29 65 23.0 19.2419 36.1421 5.25 71 25.0 19.2393 36.1458 5.30 97 27.0 19.2378 36.1431 5.30 49 29.0 19.2405 36.1439 5.31 42 31.0 19.2343 36.1461 5.33 111 33.0 19.2074 36.1484 5.32 88 35.0 19.1652 36.1553 5.31 63 37.0 19.1152 36.1576 5.37 135 39.0 18.9882 36.1682 5.38 70 41.0 18.8389 36.1637 5.38 55 43.0 18.5625 36.2002 5.50 167                     </pre>					



DATE:  
TO: OC12  
FROM: OC13

SUBJECT: Error Correction in Processing of Data Set - Accession # 8400064

- 1) File Type: C022
- 2) Project Ident.: \_\_\_\_\_
- 3) ~~Track~~ <sup>Ref</sup> Nos.: 319388

I. Error Corrections as reported to Principal Investigator:

<u>Error</u>	<u>Correction Completed (Check)</u>
--------------	-------------------------------------

II. Additional error corrections:

<u>Error</u>	<u>Correction Completed (Check)</u>
--------------	-------------------------------------

Processor Name: \_\_\_\_\_

Step	Completion Date/Init.		Tape # or DSN	# of Files	BLKSIZE	LRECL	# RECORDS
ORIGINATOR TAPE	1/30/84	<del>8720</del>	CTD 008	40	3500	35	
DADI/SCAN TAPE	1/30/84	<del>8720</del>	W 01357	40	3500	35	
ASSIGNED FOR PROCESS.							
CODE EVALUATION							
QUALITY REVIEW							
PRELIMINARY DATA-SORT							
PRELIMINARY MULCHEK							
FIRST USER TAPE							
WORK DISK FILE							
FINAL USER TAPE							
FINAL MULCHEK							
MOUNTED DISK FILE							
DATA SET "FINALIZED"							

SESSION/TRACK NO.: 840006A/318388

TYPE OF TAPE	TAPE NUMBER	LABEL	LRECL	BLKSIZE	RECFM	REMARKS	# RECORDS
ORIGINATOR	CTD 048	NL	35	3500	9-tr 1600 BPI ASCII	40 files	
DUPLICATE	W 1357	SL	35	3500	9-tr 1600 BPI ASCII	40 files	
REFORMATTED							
FIRST USER							
FINAL USER							
DISK FILE	DSN					REMARKS	# RECORDS
WORK DISK FILE							
QUOTED DISK FILE							

TRANSMITTAL AND RECEIPT RECORD

(Please sign and return carbon copy acknowledging receipt)

To: National Oceanographic Data Center  
3300 Whitehaven St., NW  
Washington, D.C. 20235

REFER TO

ATTENTION Dr. Tony Picciolo

THE ITEM(S) LISTED BELOW WERE FORWARDED TO YOU BY

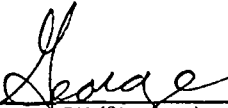
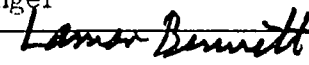
- ORDINARY MAIL
- REGISTERED MAIL
- AIR MAIL
- CERTIFIED MAIL
- GOVERNMENT TRUCK
- BY HAND
- OTHER

The following CTD data are forwarded to NODC for processing and archiving:

R/V Thomas Washington      June 7 - 19 1981      40 stations

- a) Magnetic tape CTD~~008~~
- b) Data Documentation Form
- c) Sample dump of first and last file (stations).
- d) NAPIS Form

84-NODC-092

FORWARDED BY (Signature)  George Heimerdinger	TITLE NODC Liaison Officer	DATE FORWARDED Mar. 27, 84
RECEIVED BY (Signature)  Lamar Bennett	TITLE Technician, E/OC13	DATE RECEIVED Apr. 02, 84

NANSEN REF. #

3/9 388

MULDARS TRACK #

TT/615

MONITOR: CONTACT

Gerald W. Damen

LOCATION OF F022 SOURCE

Archives (TT/615)

RECORD ALL ERRORS FOUND

CONSEC(S)

9

ERRORS FOUND

Last depth: delete depth to bottom -  
C/02120// to C/-----//

Done  
CPD  
~~10/24/84~~

19306 rec.

84NODC093

ACCESSION NUMBER

8400064

DATA DOCUMENTATION FORM

Ref # 319389

NOAA FORM 24-13 (4-77)

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEANOGRAPHIC DATA CENTER RECORDS SECTION WASHINGTON, DC 20235

FORM APPROVED O.M.B. No. 41-R2651 EXPIRES 1-81

(While you are not required to use this form, it is the most desirable mechanism for providing the required ancillary information enabling the NODC and users to obtain the greatest benefit from your data.)

This form should accompany all data submissions to NODC. Section A, Originator Identification, must be completed when the data are submitted. It is highly desirable for NODC to also receive the remaining pertinent information at that time. This may be most easily accomplished by attaching reports, publications, or manuscripts which are readily available describing data collection, analysis, and format specifics. Readable, handwritten submissions are acceptable in all cases. All data shipments should be sent to the above address.

A. ORIGINATOR IDENTIFICATION

THIS SECTION MUST BE COMPLETED BY DONOR FOR ALL DATA TRANSMITTALS

1. NAME AND ADDRESS OF INSTITUTION, LABORATORY, OR ACTIVITY WITH WHICH SUBMITTED DATA ARE ASSOCIATED

WOODS HOLE OCEANOGRAPHIC INSTITUTION  
WOODS HOLE, MA 02543

2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED

RAMA EXPEDITION

3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT

~~THOMAS WASHINGTON~~

4. PLATFORM NAME(S)

THOMAS WASHINGTON

5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.)

SHIP

6. PLATFORM AND OPERATOR NATIONALITY(IES)

PLATFORM	OPERATOR

7. DATES

FROM: MO, DAY, YR	TO: MO, DAY, YR
MAY 13, 81	MAY 28, 81

8. ARE DATA PROPRIETARY?

NO  YES

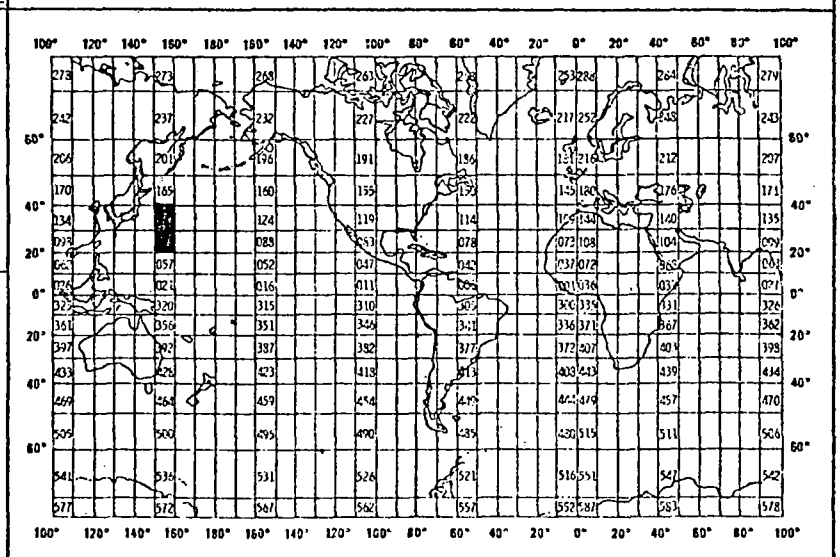
IF YES, WHEN CAN THEY BE RELEASED FOR GENERAL USE? YEAR \_\_\_\_\_ MONTH \_\_\_\_\_

11. PLEASE DARKEN ALL MARSDEN SQUARES IN WHICH ANY DATA CONTAINED IN YOUR SUBMISSION WERE COLLECTED.

GENERAL AREA

9. ARE DATA DECLARED NATIONAL PROGRAM (DNP)? (I.E., SHOULD THEY BE INCLUDED IN WORLD DATA CENTERS HOLDINGS FOR INTERNATIONAL EXCHANGE?)

NO  YES  PART (SPECIFY BELOW)



10. PERSON TO WHOM INQUIRIES CONCERNING DATA SHOULD BE ADDRESSED WITH TELEPHONE NUMBER (AND ADDRESS IF OTHER THAN IN ITEM-1)

MR. BOB MILLARD  
617 548 1400

B. SCIENTIFIC CONTENT

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED (SPECIFY TYPE AND MODEL)	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
Pressure Temperature Salinity O <sub>2</sub>	Decabars deg. C Parts/thousand Mil/lit.	Neil Brown CTD " " " " " " " " "		<p>Ref: WHOI/Brown CTD microprofiler: methods of calibration and data handling. By N.P. Fofonoff, S.P. Hays, and R.C. Millard, Jr., Dec. 1974. WHOI Report 74-89.</p> <p>Ref: WHOI processed CTD data organization. By Robert C. Millard and Nancy Galbraith. Aug. 1982. WHOI Report 82-37.</p> <p>Ref: CTD Calibration and Data Processing Techniques at WHOI Using the 1978 Practical Salinity Scale. by R.C. Millard, Jr. International STD Conference and Workshop 8-11 Feb. 1982.</p> <p><i>CTD TRANSECT of the KUROSHIO EXTENSION                      27° - 42°N, 152°E MAY 1981                      MILLER + WHITMAN, OREGON STATE UNIV. DATA REPORT 94                      REF. 82-7 JUNE 1983</i></p>

### C. DATA FORMAT

COMPLETE THIS SECTION FOR PUNCHED CARDS OR TAPE, MAGNETIC TAPE, OR DISC SUBMISSIONS.

**1. LIST RECORD TYPES CONTAINED IN THE TRANSMITTAL OF YOUR FILE  
GIVE METHOD OF IDENTIFYING EACH RECORD TYPE**

The first seven (7) records contain the basic sampling information followed by "n" data records (variable length files). The record type is identified by its position/order in the file. The first 7 records are self documenting in that each field has a readable label. See sample file dump in "RECORD FORMAT DESCRIPTION" section.

**2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION**

This data set/tape contains the CTD casts from one cruise. The tape is multi-file with each station being a separate file. The first seven records of each file contains the basic sampling information for that station. The remaining records are data records. Each record is 35 char. long.

**3. ATTRIBUTES AS EXPRESSED IN**

<input type="checkbox"/> PL-1	<input type="checkbox"/> ALGOL	<input type="checkbox"/> COBOL
<input type="checkbox"/> FORTRAN	<input type="checkbox"/> _____	LANGUAGE

**4. RESPONSIBLE COMPUTER SPECIALIST:**

NAME AND PHONE NUMBER MR. BOB MILLARD 617 548 1400  
 ADDRESS WOODS HOLE OCEANOGRAPHIC ~~INSTITUTION~~ INSTITUTION

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p><b>5. RECORDING MODE</b></p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> BCD</td> <td><input type="checkbox"/> BINARY</td> </tr> <tr> <td><input checked="" type="checkbox"/> ASCII</td> <td><input type="checkbox"/> EBCDIC</td> </tr> <tr> <td colspan="2"><input type="checkbox"/> _____</td> </tr> </table>	<input type="checkbox"/> BCD	<input type="checkbox"/> BINARY	<input checked="" type="checkbox"/> ASCII	<input type="checkbox"/> EBCDIC	<input type="checkbox"/> _____		<p><b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b> <input type="checkbox"/> 3/4 INCH  <input type="checkbox"/> _____</p>		
<input type="checkbox"/> BCD	<input type="checkbox"/> BINARY								
<input checked="" type="checkbox"/> ASCII	<input type="checkbox"/> EBCDIC								
<input type="checkbox"/> _____									
<p><b>6. NUMBER OF TRACKS (CHANNELS)</b></p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> SEVEN</td> </tr> <tr> <td><input checked="" type="checkbox"/> NINE</td> </tr> <tr> <td><input type="checkbox"/> _____</td> </tr> </table>	<input type="checkbox"/> SEVEN	<input checked="" type="checkbox"/> NINE	<input type="checkbox"/> _____	<p><b>10. END OF FILE MARK</b></p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> OCTAL 17</td> </tr> <tr> <td><input type="checkbox"/> _____</td> </tr> </table>	<input type="checkbox"/> OCTAL 17	<input type="checkbox"/> _____			
<input type="checkbox"/> SEVEN									
<input checked="" type="checkbox"/> NINE									
<input type="checkbox"/> _____									
<input type="checkbox"/> OCTAL 17									
<input type="checkbox"/> _____									
<p><b>7. PARITY</b></p> <table style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/> ODD</td> </tr> <tr> <td><input type="checkbox"/> EVEN</td> </tr> </table>	<input checked="" type="checkbox"/> ODD	<input type="checkbox"/> EVEN	<p><b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b></p> <p style="text-align: center;"><u>CTD009</u></p> <p><u>CTD DATA, THOMAS WASHINGTON, MAY 1981.</u>  <u>22 STATIONS, 1 STATION PER FILE, 9TK</u>  <u>1600 BPI, RECSIZE = 35, BLKSIZE 3500, ASCII</u>  <u>NON LABELLED - HEIMERDINGER -</u></p>						
<input checked="" type="checkbox"/> ODD									
<input type="checkbox"/> EVEN									
<p><b>8. DENSITY</b></p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> 200 BPI</td> <td><input checked="" type="checkbox"/> 1600 BPI</td> </tr> <tr> <td><input type="checkbox"/> 556 BPI</td> <td></td> </tr> <tr> <td><input type="checkbox"/> 800 BPI</td> <td></td> </tr> <tr> <td colspan="2"><input type="checkbox"/> _____</td> </tr> </table>	<input type="checkbox"/> 200 BPI	<input checked="" type="checkbox"/> 1600 BPI	<input type="checkbox"/> 556 BPI		<input type="checkbox"/> 800 BPI		<input type="checkbox"/> _____		<p><b>12. PHYSICAL BLOCK LENGTH IN BYTES</b></p> <p style="text-align: center;"><u>3500</u></p>
<input type="checkbox"/> 200 BPI	<input checked="" type="checkbox"/> 1600 BPI								
<input type="checkbox"/> 556 BPI									
<input type="checkbox"/> 800 BPI									
<input type="checkbox"/> _____									
	<p><b>13. LENGTH OF BYTES IN BITS</b></p>								



RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN _____ (e.g., bits, bytes)	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
DESCRIPTION 1ST	HEADER RECORD				(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	5		5H	ALWAYS "SHIPØ" (Ø = blank)
SHIP CODE	7	2		A2	2 CHAR. SHIP CODE AT = ATLANTIS II, KN = KNORR OC = OCEANUS, ETC.
FIELD LABEL	9	7		7H	ALWAYS "ØCRUISØ"
CRUISE NUMBER	16	3		I3	CRUISE NO.
FIELD LABEL	19	6		6H	ALWAYS "ØSTAT:"
STATION NUMBER	25	4		I4	STATION NO.
BLANK	29	1			BLANK
FIELD LABEL	30	3		3H	ALWAYS "C#:"
CAST NUMBER	33	3		I3	CAST NO. USED FOR YO-YO STATIONS
	TOTAL =	35			
DESCRIPTION 2ND	HEADER RECORD				(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	5		H5	ALWAYS "DATEØ" (Ø = blank)
DATE:YEAR	7	2		I2	YEAR LAST TWO DIGITS
	9	1		H1	ALWAYS "-" FIELD SEPARATER
MONTH	10	2		I2	MONTH (1-12)
	12	1		H1	ALWAYS "-" FIELD SEPARATER
DAY	13	2		I2	DAY (1-31)
BLANK	15	2			BLANK
FIELD LABEL	17	6		H6	ALWAYS "TIME:Ø"
TIME	23	4		I4	TIME GMT 24 HR. CLOCK
TIME LABEL	27	2		H2	ALWAYS "ØZ" SYMBOL FOR GMT OR ZULU TIME
BLANK	29	7			BLANK
	TOTAL =	35			

## RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<u>DESCRIPTION 3RD HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	4		4H	ALWAYS "LAT $\emptyset$ " ( $\emptyset$ = blank)
LATITUDE:DEGREES	6	3		I3	DEGREES OF LATITUDE NEGATIVE FOR SOUTH
LATITUDE:MINUTES	9	6		F6.2	MINUTES OF LATITUDE TO HUNDREDTHS OF A MINUTE
FIELD LABEL	15	4		4H	ALWAYS "LNG $\emptyset$ "
LONGITUDE:DEGREES	19	4		I4	DEGREES OF LONGITUDE NEGATIVE FOR WEST
LONGITUDE:MINUTES	23	6		F6.2	MINUTES OF LONGITUDE TO HUNDREDTHS OF A MINUTE
BLANK	29	7			BLANK
	TOTAL = 35				
<u>DESCRIPTION 4TH HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	9			ALWAYS "MAX. $\emptyset$ PRES=" ( $\emptyset$ =blank)
MAXIMUM PRESSURE	11	6		F6.0	MAXIMUM PRESSURE REACHED BY THE CTD CAST, PRESSURE IN DECIBARS
FIELD LABEL	17	11		11H	ALWAYS " $\emptyset$ DB $\emptyset$ DEPTH="
DEPTH TO BOTTOM	28	6		F6.0	WATER DEPTH IN METERS
DEPTH LABEL	34	2		2H	ALWAYS " $\emptyset$ M" M = Meters
	TOTAL = 35				
<u>DESCRIPTION 5TH HEADER RECORD</u>					(All fields right justified)
BLANK	1	1			BLANK
FIELD LABEL	2	5		5H	ALWAYS "AVER $\emptyset$ " ( $\emptyset$ = blank)
AVERAGING INTERVAL*	7	5		F5.1	ALL DATA REDUCED TO A COMMON REPORTING INTERVAL, IN DECIBARS
FIELD LABEL	12	6		6H	ALWAYS " $\emptyset$ INST $\emptyset$ "
INSTRUMENT NO.	18	4		I4	CTD INSTRUMENT NO.
FIELD LABEL	22	6		6H	ALWAYS " $\emptyset$ RATE $\emptyset$ "
SAMPLING RATE	28	6		F6.2	SAMPLING RATE IN HERTZ (SAMPLES/SECOND), TO HUNDREDTHS
UNITS LABEL	34	2			ALWAYS "HZ"
	TOTAL = 35				
* NEGATIVE VALUE IN THIS FIELD INDICATES AN UP TRACE/PROFILE					

## RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING
		NUMBER	UNITS		
<u>DESCRIPTION 6TH HEADER RECORD</u>					
BLANK	1	1			BLANK
FIELD LABEL	2	4		H4	ALWAYS "OBS="
TOTAL DATA CYCLES	6	6		I6	TOTAL NUMBER OF DATA CYCLES THIS STATION
FIELD LABEL	12	4		H4	ALWAYS "WFMT" MEANING FORMAT
FORTTRAN FORMAT	16	20		H20	ALWAYS "(F7.1,2F8.4,F6.2,I6)"
	TOTAL = 35				
<u>DESCRIPTION 7TH HEADER RECORD</u>					
IF TAPE IS DUMPED, THIS RECORD PROVIDES COLUMN HEADING ON LISTING, CONTAINS NO STATION INFORMATION <i>(see sample listing next page)</i>					
<u>DESCRIPTION DATA RECORD</u>					
PRESSURE	1	7		F7.1	PRESSURE AS DECIBARS
TEMPERATURE	8	8		F8.4	TEMPERATURE AS DEGREES C
SALINITY	16	8		F8.4	SALINITY AS PARTS/THOUSAND
OXYGEN	24	6		F6.2	OXYGEN AS ML/L
QUALITY WORD	30	6		I6	QUALITY CONTROL CODE SEE FOLLOWING TEXT
<p>Quality word defined: If positive, the quality word contains the number of observations from the time-series data that went into the pressure bin. Negative quality words denote data which 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 &amp; S, -5 for T &amp; O, -6 for S &amp; O, -7 for T, S &amp; O. A positive quality word can be used to infer time and lowering rate: lowering rate = sample rate * pressure interval/quality #                      time = start time(hr:min) + sample rate * summed quality (secs)</p>					
<p>NOTE: A field will be asterisk filled if the value in question exceeds the allocated field length. At this stage of processing this should not occur.</p>					

# RECORD FORMAT DESCRIPTION

RECORD NAME \_\_\_\_\_

FIELD NAME	15. POSITION FROM-1 MEASURED IN <small>(e.g., bits, bytes)</small>	16. LENGTH		17. ATTRIBUTES	18. USE AND MEANING																																																																																																				
		NUMBER	UNITS																																																																																																						
<p>SHIP KN CRUIS 66 STAT: 21 C#: 3            DATE 77- 6- 2 TIME: 1200 Z            LAT 38 2.00 LG -37 53.20            MAX. PRS= 4157. DB DEPTH= 5968. M            AVER 2.0 INST 4 RATE 31.00HZ            OBS= 2076 FMT(F7.1,2F8.4,F6.2,I6)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">PRES</th> <th style="width: 10%;">TEMP</th> <th style="width: 10%;">SALT</th> <th style="width: 10%;">OXYG</th> <th style="width: 10%;">QUAL</th> </tr> </thead> <tbody> <tr><td>7.0</td><td>19.2491</td><td>36.1420</td><td>6.56</td><td>583</td></tr> <tr><td>9.0</td><td>19.2472</td><td>36.1421</td><td>5.27</td><td>75</td></tr> <tr><td>11.0</td><td>19.2472</td><td>36.1425</td><td>5.30</td><td>76</td></tr> <tr><td>13.0</td><td>19.2472</td><td>36.1426</td><td>5.34</td><td>131</td></tr> <tr><td>15.0</td><td>19.2477</td><td>36.1431</td><td>5.28</td><td>69</td></tr> <tr><td>17.0</td><td>19.2484</td><td>36.1429</td><td>5.28</td><td>70</td></tr> <tr><td>19.0</td><td>19.2482</td><td>36.1420</td><td>5.32</td><td>119</td></tr> <tr><td>21.0</td><td>19.2466</td><td>36.1410</td><td>5.29</td><td>65</td></tr> <tr><td>23.0</td><td>19.2419</td><td>36.1421</td><td>5.25</td><td>71</td></tr> <tr><td>25.0</td><td>19.2393</td><td>36.1458</td><td>5.30</td><td>97</td></tr> <tr><td>27.0</td><td>19.2378</td><td>36.1431</td><td>5.30</td><td>49</td></tr> <tr><td>29.0</td><td>19.2405</td><td>36.1439</td><td>5.31</td><td>42</td></tr> <tr><td>31.0</td><td>19.2343</td><td>36.1461</td><td>5.33</td><td>111</td></tr> <tr><td>33.0</td><td>19.2074</td><td>36.1484</td><td>5.32</td><td>88</td></tr> <tr><td>35.0</td><td>19.1652</td><td>36.1553</td><td>5.31</td><td>63</td></tr> <tr><td>37.0</td><td>19.1152</td><td>36.1576</td><td>5.37</td><td>135</td></tr> <tr><td>39.0</td><td>18.9882</td><td>36.1682</td><td>5.38</td><td>70</td></tr> <tr><td>41.0</td><td>18.8389</td><td>36.1837</td><td>5.38</td><td>55</td></tr> <tr><td>43.0</td><td>18.5625</td><td>36.2002</td><td>5.50</td><td>167</td></tr> </tbody> </table>						PRES	TEMP	SALT	OXYG	QUAL	7.0	19.2491	36.1420	6.56	583	9.0	19.2472	36.1421	5.27	75	11.0	19.2472	36.1425	5.30	76	13.0	19.2472	36.1426	5.34	131	15.0	19.2477	36.1431	5.28	69	17.0	19.2484	36.1429	5.28	70	19.0	19.2482	36.1420	5.32	119	21.0	19.2466	36.1410	5.29	65	23.0	19.2419	36.1421	5.25	71	25.0	19.2393	36.1458	5.30	97	27.0	19.2378	36.1431	5.30	49	29.0	19.2405	36.1439	5.31	42	31.0	19.2343	36.1461	5.33	111	33.0	19.2074	36.1484	5.32	88	35.0	19.1652	36.1553	5.31	63	37.0	19.1152	36.1576	5.37	135	39.0	18.9882	36.1682	5.38	70	41.0	18.8389	36.1837	5.38	55	43.0	18.5625	36.2002	5.50	167
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DATE:

TO: OC12

FROM: OC13

SUBJECT: Error Correction in Processing of Data Set - Accession # 840006A

- 1) File Type: C022
- 2) Project Ident.: \_\_\_\_\_
- 3) ~~Work~~ <sup>Ref</sup> Nos.: 319389

I. Error Corrections as reported to Principal Investigator:

Error

Correction Completed (Check)

II. Additional error corrections:

Error

Correction Completed (Check)

III. Processor Name: \_\_\_\_\_

Step	Completion Date/Init.		Tape # or DSN	# of Files	BLKSIZE	LRECL	# RECORD
ORIGINATOR TAPE	A/30/87	<del>878</del>	CTD009	22	3500	35	
QUAD/SCAN TAPE	A/30/87	<del>878</del>	Wd1330	22	3500	35	
ASSIGNED FOR PROCESS.							
DOF EVALUATION							
QUALITY REVIEW							
PRELIMINARY DATA SORT							
PRELIMINARY MULCHEK							
FIRST USER TAPE							
WORK DISK FILE							
FINAL USER TAPE							
FINAL MULCHEK							
EDITED DISK FILE							
DATA SET "FINALIZED"							

SESSION/TRACK NO.: 8400064/#319389

TYPE OF TAPE	TAPE NUMBER	LABEL	LRECL	BLKSIZE	RECFM	REMARKS	# RECORDS
ORIGINATOR	CTD009	NL	35	3500	9-tr 1600 BPI ASCII	22 files	
DUPLICATE	W01330	SL	35	3500	9-tr 1600 BPI ASCII	22 files	
REFORMATTED							
FIRST USER							
FINAL USER							
SK FILE	DSN					REMARKS	# RECORDS
WORK DISK FILE							
EDITED DISK FILE							

**TRANSMITTAL AND RECEIPT RECORD**

(Please sign and return carbon copy acknowledging receipt)

TO: National Oceanographic Data Center  
3300 Whitehaven St., NW  
Washington, D.C. 20235

REFER TO

ATTENTION Tony Picciolo

THE ITEM(S) LISTED BELOW WERE FORWARDED TO YOU BY

- ORDINARY MAIL   
  REGISTERED MAIL   
  AIR MAIL   
  CERTIFIED MAIL   
  GOVERNMENT TRUCK   
  BY HAND   
  OTHER

The following CTD data set is forwarded to NODC for processing:

R/V Thomas Washington    May 13 - 28, 1981    22 stations

- a) Magnetic tape CTD~~009~~
- b) Data Documentation Form
- c) Sample dump of first and last station
- d) NAPIS Form

These data were received from the Woods Hole Oceanographic Inst.

84-NODC-693

FORWARDED BY (Signature) <i>George Heimerdinger</i> George Heimerdinger	TITLE NODC Liaison Officer	DATE FORWARDED Mar. 27, 84
RECEIVED BY (Signature) <i>Lamar Bennett</i> Lamar Bennett	TITLE Technician, E/OC13	DATE RECEIVED Apr. 02, 84



Password:

accNo	fleA	refNo	proj	inst	ship	startDate	cruise	catId
8400064	F022	TT1615	9999	3102	31WT	1981/06/07	NULL	148587
8400064	C022	319388	9999	3102	31WT	1981/06/07	TT1615	148588
8400064	F022	TT1616	9999	3102	31WT	1981/05/13	NULL	148589
8400064	C022	319389	9999	3102	31WT	1981/05/13	TT1616	148590

(4 rows affected)

Password:

accNo	fileA	refNo	ship	staCnt	recCnt	startDate	endDate
8400064	F022	TT1615	31WT	40	19306	81/06/07	81/06/19
8400064	C022	319388	31WT	40	110	81/06/07	81/06/19
8400064	F022	TT1616	31WT	22	11903	81/05/13	81/05/28
8400064	C022	319389	31WT	22	62	81/05/13	81/05/28

(4 rows affected)