

DDF A: 1:14 DATA DOCUMENTATION FORM

TR0072

NOAA FORM 24-13  
(4-72)

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852

FORM APPROVED  
O.M.B. No. 416-2671

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 Physical Oceanography Laboratory NOAA-AOML 15 Rickenbacker Causeway Miami, Florida 33149			
2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED MESA - New York Bight		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT Ferrel WCC-1 FILE IDENT. 750615	
4. PLATFORM NAME(S) FERREL	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) Ship	6. PLATFORM AND OPERATOR NATIONALITY(IES) U.S.A. U.S.A.	7. DATES FROM: MO/DAY/YR TO: MO/DAY/YR 8/27/73 8/29/73
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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) Robert B. Starr			

# 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
<p>MESA REPORT IN PRESS WILL BE FORWARDED TO NODC.</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

File header - byte 10 = "1"  
 Station header - byte 10 = "2"  
 DATA Record - byte 10 = "3"

## 2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
 FORMAT FOR WATER PHYSICS  
 AND CHEMISTRY DATA (Type "004")

## 3. ATTRIBUTES AS EXPRESSED IN

☐ PL-1 ☐ ALGOL ☐ COBOL  
☒ FORTRAN ☐ \_\_\_\_\_ LANGUAGE

## 4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER PAUL EISEN 516 751 7002  
 ADDRESS MESA PROJECT OFFICE, STONY BROOK NY 11794

## COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<b>5. RECORDING MODE</b> <input type="checkbox"/> BCD <input type="checkbox"/> BINARY <input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC <input type="checkbox"/> _____	<b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b> <input type="checkbox"/> 3/4 INCH <input type="checkbox"/> _____
<b>6. NUMBER OF TRACKS (CHANNELS)</b> <input type="checkbox"/> SEVEN <input checked="" type="checkbox"/> NINE <input type="checkbox"/> _____	<b>10. END OF FILE MARK</b> <input type="checkbox"/> OCTAL 17 <input checked="" type="checkbox"/> STANDARD
<b>7. PARITY</b> <input checked="" type="checkbox"/> ODD <input type="checkbox"/> EVEN	<b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME KEY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b> <u>VOL = SER = PL6197 file 1</u> <u>(8 Cruises)</u>
<b>8. DENSITY</b> <input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI <input type="checkbox"/> 556 BPI <input checked="" type="checkbox"/> 800 BPI <input type="checkbox"/> _____	<b>12. PHYSICAL BLOCK LENGTH IN BYTES</b> <u>UNBLOCKED</u> <b>13. LENGTH OF BYTES IN BITS</b> _____

7C-0777

NODC User Tape Cruise I.D. "1858588"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD    <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII    <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input checked="" type="checkbox"/> .56</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> EBCDIC</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SER = 13455</u></p> <p>12 cruises</p> <p><u>LABEL = (1, NL)</u></p>
<p>8. DENSITY</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>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p>4000</p>	
<p>13. LENGTH OF BYTES IN BITS</p> <p>8</p>	

CRUISE	VESSEL	LOCATION	BEGIN-END DATES	COUNT	PARAMETER
--------	--------	----------	-----------------	-------	-----------

1	FERRFL				
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N40+ W070+

004 750615

		0	CHLOROPHYLL
730827	730829	25	STATIONS
730827	730829	25	TEMPERATURE
730827	730829	25	SALINITY
730827	730829	25	SIGMA T
730827	730829	25	TRANSMISSIVITY ✓
		0	PH
		0	EH
		0	OXYGEN
		0	AMMONIA
730827	730829	25	NITRITE ✓
730827	730829	25	NITRATE ✓
730827	730829	25	SILICATE ✓
730827	730829	25	INORGANIC PHOSPHATE ✓
		0	SUSPENDED SOLIDS
		0	TURBIDITY

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>File Header Record</u>				
FILE TYPE	1	3 A3	"004" (constant)	
FILE DATE	4	6 3I2		Yr., Mo., Dy. of file generation
RECORD TYPE	10	1 A1		"1" (File Header Record)
VESSEL	11	11 11A1		(left aligned)
CRUISE	22	6 6A1		Originator's cruise identifiers
CRUISE DATES	28	17 5(I2,A1), I2		XX/XX/XX-XX/XX/XX
				Beginning Month, Day, Year;
SENIOR SCIENTIST	45	19 19A1		ending Month, Day, Year.
INVESTIGATOR	64	17 17A1		(left aligned)
				Responsible Institution (left aligned)
<u>First Station Header Record</u>				
FILE TYPE	1	3 A3		"004" (constant)
FILE DATE	4	6 3I2		Yr., Mo., Dy. of file generation
RECORD TYPE	10	1 A1		"2" (First Station Header Record)
SEQUENCE	11	3 I2		Sequence of this record type within
				Station. (Leading zeros or leading blanks)
STATION	14	5 5A1		blanks)
LATITUDE	19	6 3I2		Station identifier.
LATHEM	25	1 A1		Degrees, Minutes, Seconds
LONGITUDE	26	7 I3,2I2		Hemisphere "N" or "S"
LONHEM	33	1 A1		Degrees, Minutes, Seconds
TIME	34	3 I3		Hemisphere "W" or "E"
DATE	37	8 2(I2,A1),I2		GMT in hours to tenths
BOTTOM	45	5 I5		XX/XX/XX Station date; Month, Day, Year.
NAVIGATION	50	2 I2		Water Depth, meters to tenths
METHOD	52	1 I1		(See attached codes)
blank	53	28 28X		(See attached codes)
				blank

Water Physics and Chemistry (File Type "004"))

2 3

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>Record Type "2" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Second Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"3" (Second Station Header Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
BAROMETER	19	3	I3	Pressure in millibars to tenths
DRY BULB	22	4	I4	Air temperature; degrees Celsius to tenths
WET BULB	26	4	I4	Air temperature; degrees Celsius to tenths
WIND DIRECTION	30	2	I2	WMO code 0877; tens of degrees
WIND SPEED	32	2	I2	Knots
SEA DIRECTION	34	2	I2	WMO code 0885; tens of degrees
SEA HEIGHT	36	1	A1	WMO code 1555
SWELL DIRECTION	37	2	I2	WMO code 0885
SWELL HEIGHT	39	1	A1	WMO code 1555
WEATHER	40	1	I1	WMO code 4501
CLOUD TYPE	41	1	A1	WMO code 0500
CLOUD COVER	42	1	I1	WMO code 2700
VISIBILITY	43	1	I1	WMO code 4300
TRANSPARENCY	44	4	I4	SECCHI Disk Depth; meters to tenths
TURBIDITY CODE	48	1	I1	(see attached codes)
blank	49	37	37X	blank

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>Record Type "3" Terminator</u>				Optional for those who must re-read their files in FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Second Station Header Record"
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Data Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"4" (Data Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
DEPTH	19	4	I4	Sample depth, meters to tenths
TEMPERATURE	23	5	I5	Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5	Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4	Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3	Transmissivity; percent to tenths
PH	40	3	I3	pH to hundredths
EH	43	4	I4	Eh to hundredths
OXYGEN	47	4	I4	Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3	Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3	Hundredths of µg-atoms/liter
NITRATE	57	4	I4	Hundredths of µg-atoms/liter
SILICATE	61	4	I4	Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3	Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4	Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4	Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5	Chlorophyll; in hundredths of mg./meter <sup>3</sup>
<u>Record Type "4" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Data Record"
SEQUENCE	11	3	A3	"998" = end station. "999" = end file
blank	14	67	67X	blank



## Special Codes

### Water Physics and Chemistry

#### NAVIGATION

- 01 = Loran (mixed or unspecified)
- 02 = Radar and/or fixes
- 03 = Raydist without complications
- 04 = Raydist with errors, drifting, etc.
- 05 = Satellite
- 06 = Omega
- 07 = Loran A only
- 08 = Loran C only

#### TURBIDITY CODE

- 1 = Turbidometer; in JTU
- 2 = Transmissometer; in percent of light transmission over a 10 cm. path.
- 3 = Fluorometer; suspended solids calibration

#### METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)

TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus . . . . .	Cu
9	Cumulonimbus . . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured, or cloud amount cannot be estimated	

TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m (1 $\frac{1}{2}$ ft)	1	5 $\frac{1}{2}$ m (17 $\frac{1}{2}$ ft)
2	1 m (3 ft)	2	6 m (19 ft)
3	1 $\frac{1}{2}$ m (5 ft)	3	6 $\frac{1}{2}$ m (21 ft)
4	2 m (6 $\frac{1}{2}$ ft)	4	7 m (22 $\frac{1}{2}$ ft)
5	2 $\frac{1}{2}$ m (8 ft)	5	7 $\frac{1}{2}$ m (24 ft)
6	3 m (9 $\frac{1}{2}$ ft)	6	8 m (25 $\frac{1}{2}$ ft)
7	3 $\frac{1}{2}$ m (11 ft)	7	8 $\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	4 $\frac{1}{2}$ m (14 ft)	9	9 $\frac{1}{2}$ m (30 $\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example: 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m (2  $\frac{1}{2}$  ft); 5 = 2  $\frac{1}{4}$  m (7 ft) to 2  $\frac{3}{4}$  m (9 ft); 9 = 4  $\frac{1}{4}$  m (13  $\frac{1}{2}$  ft) to 4  $\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of 2  $\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning: 4  $\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.

TABLE 8

## Direction

In tens of degrees from which waves and/or winds  
are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than $4\frac{3}{4}$ metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	Waves confused, direction indeterminate (waves greater than $4\frac{3}{4}$ metres)
			Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.

## Documentation of Processed STD Velocimeter Data

## National Oceanographic Data Center

September 1971

Please use this form as a supplement to the NODC "Data Definition Form, General Information."

All items on this form are considered of importance to the archive processing and future use of STD-velocimeter data. In submitting computer processed data, it is especially important to complete the section titled "Reduction-Processing."

## A. Instrument - Sensors

## 1. Instrument - Sensors

- a. Manufacturer *INTER OCEAN SYSTEMS, INC. CSTC*
- b. Model *513D*
- c. Serial *2846089*
- d. Sensors (The questions asked about each sensor listed may serve as a guide for information to be submitted about other sensors.)

## 2. Salinity (Compensated Conductivity)

- a. Model
- b. Serial
- c. Date of last calibration *FEB. 1974*

3. Temperature *PLATINUM RESISTANCE THERMOMETER*  
*60 m SEC TIME CONSTANT*

- a. Model *513-8105*
- b. Serial
- c. Date of last calibration *FEB. 1974*

## 4. Pressure

- a. Model
- b. Serial *7158*
- c. Date of last calibration *FEB. 1974*
- d. If pressure is recorded as depth, what relationship was used to arrive at depth? *PRESSURE RECORDED AS DEPTH*

5. Sound Velocity *VO*

- a. Model
- b. Serial number
- c. Date of last calibration

- d. Is raw calibration data available? Yes \_\_\_\_\_ No \_\_\_\_\_
- e. Person to be contacted for calibration information.
- f. Reference equation used for sound velocity (i.e., Wilson, Greenspan, etc., or variations thereon).

6. Conductivity (if used)

- a. Model
- b. Serial
- c. Date of last calibration FEB. 1974

7. Other (Attach a list for other parameters such as ambient light, transmissivity, etc.) TRANSMISSIVITY, DISSOLVED OXYGEN, PH, REDOX (EH)

8. Is calibration data for the above sensors available? Yes X No \_\_\_\_\_

9. Have you modified your instrument and/or sensors? WATER PUMP REMOVED

10. Which parameters are affected by the modifications? NONE

11. What is the result of the modification with respect to the accuracy, resolution, and precision of the data? USE NANSEN CASES GIVES IMPROVED DATA PRECISION

B. Operational Methods

1. Mode of use

- a. Platform is affected by pitch and roll which is not decoupled from the package. YES
- b. Platform is stable or platform motion is decoupled from package.
- c. Unit is freefalling. NO
- d. Other (describe).

2. Lowering rate (meters/min)

- a. Enter lowering rate in regions of high parameter gradients
- b. Enter lowering rate in regions of low parameter gradients

6 METERS PER MINUTE

- a. Unit measures continuously YES
- b. Unit measures 1 samples per SEC
- c. Samples are averages of measurements over \_\_\_\_\_ time or \_\_\_\_\_ depth. NO

4. Power Supply

- a. Power supply is ~~un~~stabilized \_\_\_\_\_ Maximum fluctuations  $\pm$  .01 VDC  
Volts about 8 volts nom
- b. Power supply to the following portions of the system is stabilized. CURRENT AND VOLTAGE REGULATOR

5. Field Checks (Indicate any operational "Deck" tests routinely made on the system (e.g., ice point tests on temperature sensors, electrical tests, etc.). (Describe)

6. Thermal Environment

- a. Instrument stored in water bath at \_\_\_\_\_ °C to \_\_\_\_\_ °C

STORED ON DECK AT AMBIENT TEMPERATURE

C. Reduction-Processing

1. Primary Data Output

- a. Strip chart (state scale setting(s))
- b. Paper tape
- c. Magnetic tape ☒ DIGITAL RECORDER TO INTERFACE MODEL 5143 DIGITAL DECK UNIT
  - (1) Digital ☒
  - (2) Analog

2. Initial Reduction

- a. Down trace only ☒
- b. Down trace and up trace processed
  - (1) Separate
  - (2) Averaged
- c. Multiple lowerings \_\_\_\_\_ through depth interval \_\_\_\_\_
- d. Values smoothed against depth. Describe (e.g., running average, etc.) SEPARATE DEPTH THEN NEXT DEEPER DEPTH TO BOTTOM
- e. Special routines to compensate for "spiking" (describe) OVER
- f. Compression applied to final data record (i.e., vertical spacing, rounding of depth, temperature, salinity, etc.)  
LINEAR INTERPOLATION AT ONE METER INTERVALS

3. Corrections

- a. Were corrections applied to final data? YES
- b. Corrections based on (by parameter)



## C. FILTERS

1. VALUES OUTSIDE EXPECTED RANGE
2. COARSE GRADIENT FILTER, GRADIENT SET SPECIAL FOR EACH PARAMETER
3. PLOT PARAMETER VS. DEPTH
4. FROM INSPECTION OF PLOTS, INDIVIDUAL SPIKES ARE FILTERED OUT

1-5  
4

- (1) Surface sample
- (2) On-line samplers (give depth relation to probe)
- (3) Separate lowerings (Nansen casts, other probes)
- (4) Other 2-4 BOTTLES DEPENDING ON DEPTH

c. For corrected data, what is the estimated average accuracy of the final data? For uncorrected data, what is the average bias (if known)?

- |                    |                  |
|--------------------|------------------|
| (1) Depth-pressure | + <u>1 METER</u> |
| (2) Temperature    | + <u>.02 °C</u>  |
| (3) Salinity       | + <u>.05 ‰</u>   |
| (4) Sound Velocity | + <u>—</u>       |

5. TURBIDITY  $\pm 3\%$

6. OXYGEN  $\pm .2 \text{ ppm}$

7. pH  $\pm .1$

DDF A:1:14

## DATA DOCUMENTATION FORM

NOAA FORM 24-13  
(4-72)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852FORM APPROVED  
O.M.B. No. 41-R2651

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  Physical Oceanography Laboratory NOAA-AOML 15 Rickenbacker Causeway MIAMI, FLORIDA 33149			
2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED  MESA - New York Bight		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT  Ferrel WCC-2  FILE IDENT. 750615	
4. PLATFORM NAME(S)  FERREL	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.)  Ship	6. PLATFORM AND OPERATOR NATIONALITY(IES)  U.S.A. U.S.A.	7. DATES  FROM: MO/DAY/YR TO: MO/DAY/YR 9/16/73 9/20/73
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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)  ROBERT B. STARR			

# 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
<p>MESA REPORT IN PRESS WILL BE FORWARDED TO NODC</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

File header - byte 10 = "1"  
Station header - byte 10 = "2"  
DATA Record - byte 10 = "3"

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
FORMAT FOR WATER PHYSICS  
AND CHEMISTRY DATA. (Type "004")

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

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER PAUL EISEN 516 751 7002  
ADDRESS MESA PROJECT OFFICE, STONY BROOK NY 11794

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<b>5. RECORDING MODE</b> <input type="checkbox"/> BCD <input type="checkbox"/> BINARY <input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC <input type="checkbox"/> _____	<b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b> <input type="checkbox"/> 3/4 INCH <input type="checkbox"/> _____
<b>6. NUMBER OF TRACKS (CHANNELS)</b> <input type="checkbox"/> SEVEN <input checked="" type="checkbox"/> NINE <input type="checkbox"/> _____	<b>10. END OF FILE MARK</b> <input type="checkbox"/> OCTAL 17 <input checked="" type="checkbox"/> STANDARD
<b>7. PARITY</b> <input checked="" type="checkbox"/> ODD <input type="checkbox"/> EVEN	<b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b> <u>VOL = SER = PLG 197, file 1</u> <u>8 Cruises</u>
<b>8. DENSITY</b> <input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI <input type="checkbox"/> 556 BPI <input checked="" type="checkbox"/> 800 BPI <input type="checkbox"/> _____	<b>12. PHYSICAL BLOCK LENGTH IN BYTES</b> <u>UNBLOCKED</u> <b>13. LENGTH OF BYTES IN BITS</b> _____

7C-0777

NODC User Tape Cruise I.D. "2888888"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<b>5. RECORDING MODE</b> <input type="checkbox"/> BCD <input type="checkbox"/> BINARY <input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC <input type="checkbox"/> _____	<b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b> <input type="checkbox"/> 3/4 INCH <input checked="" type="checkbox"/> .56
<b>6. NUMBER OF TRACKS (CHANNELS)</b> <input type="checkbox"/> SEVEN <input checked="" type="checkbox"/> NINE <input type="checkbox"/> _____	<b>10. END OF FILE MARK</b> <input type="checkbox"/> OCTAL 17 <input checked="" type="checkbox"/> FBC DEC
<b>7. PARITY</b> <input checked="" type="checkbox"/> ODD <input type="checkbox"/> EVEN	<b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b> <u>VOL = SER = 13455</u> <u>12 cruises</u> <u>LABEL = (1, NL)</u>
<b>8. DENSITY</b> <input type="checkbox"/> 200 BPI <input checked="" type="checkbox"/> 1600 BPI <input type="checkbox"/> 556 BPI <input type="checkbox"/> 800 BPI <input type="checkbox"/> _____	<b>12. PHYSICAL BLOCK LENGTH IN BYTES</b> <u>4000</u> <b>13. LENGTH OF BYTES IN BITS</b> <u>8</u>

CRUISE	VESSEL	LOCATION	BEGIN-END DATES	COUNT	PARAMETER
--------	--------	----------	-----------------	-------	-----------

2	FERREL				
---	--------	--	--	--	--

N40+ N070+

004 750615

		0	CHLOROPHYLL
730916	730920	25	STATIONS
730916	730920	25	TEMPERATURE
730916	730920	25	SALINITY
730916	730920	25	SIGMA T
730916	730920	25	TRANSMISSIVITY
		0	PH
		0	EH
		0	OXYGEN
		0	AMMONIA
730916	730920	25	NITRITE
730916	730920	25	NITRATE
730916	730920	25	SILICATE
730916	730920	25	INORGANIC PHOSPHATE
		0	SUSPENDED SOLIDS
		0	TURBIDITY

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes		17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER			
<u>File Header Record</u>					
FILE TYPE	1	3	A3	"004" (constant)	
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation	
RECORD TYPE	10	1	A1	"1" (File Header Record)	
VESSEL	11	11	11A1	(left aligned)	
CRUISE	22	6	6A1	Originator's cruise identifiers	
CRUISE DATES	28	17	5(I2,A1), I2	XX/XX/XX-XX/XX/XX	
				Beginning Month, Day, Year;	
				ending Month, Day, Year.	
SENIOR SCIENTIST	45	19	19A1	(left aligned)	
INVESTIGATOR	64	17	17A1	Responsible Institution (left aligned)	
<u>First Station Header Record</u>					
FILE TYPE	1	3	A3	"004" (constant)	
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation	
RECORD TYPE	10	1	A1	"2" (First Station Header Record)	
SEQUENCE	11	3	I2	Sequence of this record type within	
				Station. (Leading zeros or leading blanks)	
STATION	14	5	5A1	Station identifier.	
LATITUDE	19	6	3I2	Degrees, Minutes, Seconds	
LATHEM	25	1	A1	Hemisphere "N" or "S"	
LONGITUDE	26	7	I3,2I2	Degrees, Minutes, Seconds	
LONHEM	33	1	A1	Hemisphere "W" or "E"	
TIME	34	3	I3	GMT in hours to tenths	
DATE	37	8	2(I2,A1),I2	XX/XX/XX Station date; Month, Day, Year	
BOTTOM	45	5	I5	Water Depth, meters to tenths	
NAVIGATION	50	2	I2	(See attached codes)	
METHOD	52	1	I1	(See attached codes)	
blank	53	28	28X	blank	



Water Physics and Chemistry (File Type "004"))

2 3

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
Record Type "2" Terminator				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
Second Station Header Record				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"3" (Second Station Header Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
BAROMETER	19	3	I3	Pressure in millibars to tenths
DRY BULB	22	4	I4	Air temperature; degrees Celsius to tenths
WET BULB	26	4	I4	Air temperature; degrees Celsius to tenths
WIND DIRECTION	30	2	I2	WMO code 0877; tens of degrees
WIND SPEED	32	2	I2	Knots
SEA DIRECTION	34	2	I2	WMO code 0885; tens of degrees
SEA HEIGHT	36	1	A1	WMO code 1555
SWELL DIRECTION	37	2	I2	WMO code 0885
SWELL HEIGHT	39	1	A1	WMO code 1555
WEATHER	40	1	I1	WMO code 4501
CLOUD TYPE	41	1	A1	WMO code 0500
CLOUD COVER	42	1	I1	WMO code 2700
VISIBILITY	43	1	I1	WMO code 4300
TRANSPARENCY	44	4	I4	SECCHI Disk Depth; meters to tenths
TURBIDITY CODE	48	1	I1	(see attached codes)
blank	49	37	37X	blank

Water Phsics and Chemistry (File Type "004")

3 3

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER		
<u>Record Type "3" Terminator</u>				Optional for those who must re-read their files in FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Second Station Header Record"
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Data Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"4" (Data Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
DEPTH	19	4	I4	Sample depth, meters to tenths
TEMPERATURE	23	5	I5	Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5	Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4	Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3	Transmissivity; percent to tenths
PH	40	3	I3	pH to hundredths
EH	43	4	I4	Eh to hundredths
OXYGEN	47	4	I4	Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3	Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3	Hundredths of µg-atoms/liter
NITRATE	57	4	I4	Hundredths of µg-atoms/liter
SILICATE	61	4	I4	Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3	Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4	Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4	Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5	Chlorophyll; in hundredths of mg./meter <sup>3</sup>
<u>Record Type "4" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Data Record"
SEQUENCE	11	3	A3	"998" = end station. "999" = end file
blank	14	67	67X	blank

Special Codes

Water Physics and Chemistry

NAVIGATION

- 01 = Loran (mixed or unspecified)
- 02 = Radar and/or fixes
- 03 = Raydist without complications
- 04 = Raydist with errors, drifting, etc.
- 05 = Satellite
- 06 = Omega
- 07 = Loran A only
- 08 = Loran C only

TURBIDITY CODE

- 1 = Turbidometer; in JTU
- 2 = Transmissometer; in percent of light transmission over a 10 cm. path.
- 3 = Fluorometer; suspended solids calibration

METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

## Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

## Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)

TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus . . . . .	Cu
9	Cumulonimbus . . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured, or cloud amount cannot be estimated	

TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m ( $1\frac{1}{2}$ ft)	1	$5\frac{1}{2}$ m (17 $\frac{1}{2}$ ft)
2	1 m ( 3 ft)	2	6 m (19 ft)
3	$1\frac{1}{2}$ m ( 5 ft)	3	$6\frac{1}{2}$ m (21 ft)
4	2 m ( 6 $\frac{1}{2}$ ft)	4	7 m (22 $\frac{1}{2}$ ft)
5	$2\frac{1}{2}$ m ( 8 ft)	5	$7\frac{1}{2}$ m (24 ft)
6	3 m ( 9 $\frac{1}{2}$ ft)	6	8 m (25 $\frac{1}{2}$ ft)
7	$3\frac{1}{2}$ m (11 ft)	7	$8\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	$4\frac{1}{2}$ m (14 ft)	9	$9\frac{1}{2}$ m (30 $\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example : 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft) ; 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft) ; 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported ; e.g. a height of  $2\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning :  $4\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.

TABLE 8

Direction

In tens of degrees from which waves and/or winds  
are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than $4\frac{3}{4}$ metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	Waves confused, direction indeterminate (waves greater than $4\frac{3}{4}$ metres) Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.

## Documentation of Processed STD Velocimeter Data

## National Oceanographic Data Center

September 1971.

Please use this form as a supplement to the NODC "Data Definition Form, General Information."

All items on this form are considered of importance to the archive processing and future use of STD-velocimeter data. In submitting computer processed data, it is especially important to complete the section titled "Reduction-Processing."

## A. Instrument - Sensors

## 1. Instrument - Sensors

- a. Manufacturer INTER OCEAN SYSTEMS, INC. CSTC
- b. Model 513D
- c. Serial 2846087
- d. Sensors (The questions asked about each sensor listed may serve as a guide for information to be submitted about other sensors.)

## 2. Salinity (Compensated Conductivity)

- a. Model
- b. Serial
- c. Date of last calibration FEB. 1974

3. Temperature PLATINUM RESISTANCE THERMOMETER  
60 m SEC TIME CONSTANT

- a. Model 513-8105
- b. Serial
- c. Date of last calibration FEB. 1974

## 4. Pressure

- a. Model
- b. Serial 7158
- c. Date of last calibration FEB. 1974
- d. If pressure is recorded as depth, what relationship was used to arrive at depth? PRESSURE RECORDED AS DEPTH

## 5. Sound Velocity NO

- a. Model
- b. Serial number
- c. Date of last calibration



- d. Is raw calibration data available? Yes \_\_\_\_\_ No \_\_\_\_\_
  - e. Person to be contacted for calibration information.
  - f. Reference equation used for sound velocity (i.e., Wilson, Greenspan, etc., or variations thereon).
6. Conductivity (if used)
- a. Model
  - b. Serial
  - c. Date of last calibration FEB. 1974
7. Other (Attach a list for other parameters such as ambient light, transmissivity, etc.) TRANSMISSIVITY, DISSOLVED OXYGEN, PH, REDOX (EH)
8. Is calibration data for the above sensors available? Yes X No \_\_\_\_\_
9. Have you modified your instrument and/or sensors? WATER PUMP REMOVED
10. Which parameters are affected by the modifications? NONE
11. What is the result of the modification with respect to the accuracy, resolution, and precision of the data? USE NANSEN CASES GIVES IMPROVED DATA PRECISION

B. Operational Methods

1. Mode of use

- a. Platform is affected by pitch and roll which is not decoupled from the package. YES
- b. Platform is stable or platform motion is decoupled from package.
- c. Unit is freefalling. NO
- d. Other (describe).

2. Lowering rate (meters/min)

- a. Enter lowering rate in regions of high parameter gradients
- b. Enter lowering rate in regions of low parameter gradients

6 METERS PER MINUTE

- a. Unit measures continuously YES
- b. Unit measures 1 samples per SEC
- c. Samples are averages of measurements over \_\_\_\_\_ time or \_\_\_\_\_ depth. NO

4. Power Supply

- a. Power supply is ~~un~~stabilized \_\_\_\_\_ Maximum fluctuations + .01 VDC  
Volts about 3 volts nom
- b. Power supply to the following portions of the system is  
stabilized. CURRENT AND VOLTAGE REGULATOR

5. Field Checks (Indicate any operational "Deck" tests routinely made on the system (e.g., ice point tests on temperature sensors, electrical tests, etc.). (Describe)

6. Thermal Environment

- a. Instrument stored in water bath at \_\_\_\_\_ °C to \_\_\_\_\_ °C

STORED ON DECK AT AMBIENT TEMPERATURE

C. Reduction-Processing

1. Primary Data Output

- a. Strip chart (state scale setting(s))
- b. Paper tape
- c. Magnetic tape X DIGITAL RECORDER TO INTERFACE  
MODEL 514B DIGITAL DECK UNIT
  - (1) Digital X
  - (2) Analog

2. Initial Reduction

- a. Down trace only X
- b. Down trace and up trace processed
  - (1) Separate
  - (2) Averaged
- c. Multiple lowerings \_\_\_\_\_ through depth interval \_\_\_\_\_
- d. Values smoothed against depth. Describe (e.g., running average, etc.) SEMI-WEST DEPTH THEN NEXT DEPTH
- e. Special routines to compensate for "spiking" (describe) OVER
- f. Compression applied to final data record (i.e., vertical spacing, rounding of depth, temperature, salinity, etc.)  
LINEAR INTERPOLATION AT ONE HILTER INTERVAL

3. Corrections

- a. Were corrections applied to final data? YES
- b. Corrections based on (by parameter)

## C. FILTERS

1. VALUES OUTSIDE EXPECTED RANGE
2. COARSE GRADIENT FILTER, GRADIENT SET SPECIAL FOR EACH PARAMETER
3. PLOT PARAMETER VS. DEPTH
4. FROM INSPECTION OF PLOTS, INDIVIDUAL SPIKES ARE FILTERED OUT

- (1) Surface sample
- (2) On-line samplers (give depth relation to probe)
- (3) Separate lowerings (Nansen casts, other probes)
- (4) Other 2-4 BOTTLES DEPENDING

c. For corrected data, what is the estimated average accuracy of the final data? For uncorrected data, what is the average bias (if known)?

- |                    |                  |
|--------------------|------------------|
| (1) Depth-pressure | + <u>1 METER</u> |
| (2) Temperature    | + <u>.02 °C</u>  |
| (3) Salinity       | + <u>.05 ‰</u>   |
| (4) Sound Velocity | + <u>—</u>       |

5. TURBIDITY ± 3%

6. OXYGEN ± .2 ppm

7. pH ± .1

DDF A.1.14

## DATA DOCUMENTATION FORM

TR0078

NOAA FORM 24-13  
(4-72)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852FORM APPROVED  
O.M.B. No. 41-R2651

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 Physical Oceanography Laboratory NOAA-AOML 15 Rickenbacker Causeway Miami, Florida 33149				3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT Ferrel WCC-3 FILE IDENT. 750615	
2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED MESA - New York Bight					
4. PLATFORM NAME(S) FERREL	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) Ship	6. PLATFORM AND OPERATOR NATIONALITY(IES) U.S.A. U.S.A.		7. DATES FROM: MO/DAY/YR TO: MO/DAY/YR 10/1/73 10/4/73	
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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) Robert B. Starr			

# 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
MESA REPORT IN PRESS WILL BE FORWARDED TO NODC				

# 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

File header - byte 10 = "1"  
Station header - byte 10 = "2"  
DATA Record - byte 10 = "3"

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
FORMAT FOR WATER PHYSICS  
AND CHEMISTRY DATA (Type "004")

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

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER PAUL EISEN 516 751 7002  
ADDRESS MESA PROJECT OFFICE, STONY BROOK NY 11794

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input type="checkbox"/> _____</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> STANDARD</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL=SER=PL6197, file 1</u></p> <p><u>8 CRUISES</u></p>
<p>8. DENSITY</p> <p><input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI</p> <p><input type="checkbox"/> 556 BPI</p> <p><input checked="" type="checkbox"/> 800 BPI</p> <p><input type="checkbox"/> _____</p>	<p>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p><u>UNBLOCKED</u></p> <p>13. LENGTH OF BYTES IN BITS</p> <p>_____</p>

7C-0777

NODC User Tape Cruise I.D. "388888"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD    <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII    <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input checked="" type="checkbox"/> .56</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> EBCDIC</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SER = 13455</u></p> <p><u>12 CRUISES</u></p> <p><u>LABEL = (1, NL)</u></p>
<p>8. DENSITY</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>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p><u>4000.</u></p> <p>13. LENGTH OF BYTES IN BITS</p> <p><u>8</u></p>



CRUISE	VESSEL	LOCATION	BEGIN-END DATES	COUNT	PARAMETER
--------	--------	----------	-----------------	-------	-----------

3	FERREL				
---	--------	--	--	--	--

004 750615

		0	CHLOROPHYLL
731001	731004	25	STATIONS
731001	731004	25	TEMPERATURE
731001	731004	25	SALINITY
731001	731004	25	SIGMA T
731001	731004	25	TRANSMISSIVITY
		0	PH
		0	EH
		0	OXYGEN
		0	AMMONIA
731001	731004	25	NITRITE
731001	731004	25	NITRATE
731001	731004	25	SILICATE
731001	731004	25	INORGANIC PHOSPHATE
		0	SUSPENDED SOLIDS
		0	TURBIDITY

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>File Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"1" (File Header Record)
VESSEL	11	11	11A1	(left aligned)
CRUISE	22	6	6A1	Originator's cruise identifiers
CRUISE DATES	28	17	5(I2,A1), I2	XX/XX/XX-XX/XX/XX Beginning Month, Day, Year; ending Month, Day, Year.
SENIOR SCIENTIST	45	19	19A1	(left aligned)
INVESTIGATOR	64	17	17A1	Responsible Institution (left aligned)
<u>First Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"2" (First Station Header Record)
SEQUENCE	11	3	I2	Sequence of this record type within Station. (Leading zeros or leading blanks blanks)
STATION	14	5	5A1	Station identifier.
LATITUDE	19	6	3I2	Degrees, Minutes, Seconds
LATHEM	25	1	A1	Hemisphere "N" or "S"
LONGITUDE	26	7	I3,2I2	Degrees, Minutes, Seconds
LONHEM	33	1	A1	Hemisphere "W" or "E"
TIME	34	3	I3	GMT in hours to tenths
DATE	37	8	2(I2,A1),I2	XX/XX/XX Station date; Month, Day, Year
BOTTOM	45	5	I5	Water Depth, meters to tenths
NAVIGATION	50	2	I2	(See attached codes)
METHOD	52	1	I1	(See attached codes)
blank	53	28	28X	blank

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>Record Type "2" Terminator</u>  IDENT SEQUENCE blank	1 11 14	10 3 67	A3,3I2,A1 A3 67X	Optional; for those who must re-read their file using FORTRAN.  "998" (constant) blank
<u>Second Station Header Record</u>  FILE TYPE FILE DATE RECORD TYPE SEQUENCE  STATION BAROMETER DRY BULB  WET BULB  WIND DIRECTION WIND SPEED SEA DIRECTION SEA HEIGHT SWELL DIRECTION SWELL HEIGHT WEATHER CLOUD TYPE CLOUD COVER VISIBILITY TRANSPARENCY TURBIDITY CODE blank	1 4 10 11  14 19 22  26  30 32 34 36 37 39 40 41 42 43 44 48 49	3 6 1 3  5 3 4  4  2 2 2 1 2 1 1 1 1 1 4 1 37	A3 3I2 A1 I3  5A1 I3 I4  I4  I2 I2 I2 A1 I2 A1 I1 A1 I1 I1 I1 I4 I1 37X	"004" (constant) Yr., Mo., Dy., of file generation "3" (Second Station Header Record) Sequence of this record type within Station (Leading zeros or leading blanks) Station identifier Pressure in millibars to tenths Air temperature; degrees Celsius to tenths Air temperature; degrees Celsius to tenths WMO code 0877; tens of degrees Knots WMO code 0885; tens of degrees WMO code 1555 WMO code 0885 WMO code 1555 WMO code 4501 WMO code 0500 WMO code 2700 WMO code 4300 SECCHI Disk Depth; meters to tenths (see attached codes) blank

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER		
Record Type "3" Terminator				Optional for those who must re-read their files in FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Second Station Header Record"
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
Data Record				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"4" (Data Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
DEPTH	19	4	I4	Sample depth, meters to tenths
TEMPERATURE	23	5	I5	Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5	Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4	Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3	Transmissivity; percent to tenths
PH	40	3	I3	pH to hundredths
EH	43	4	I4	Eh to hundredths
OXYGEN	47	4	I4	Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3	Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3	Hundredths of µg-atoms/liter
NITRATE	57	4	I4	Hundredths of µg-atoms/liter
SILICATE	61	4	I4	Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3	Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4	Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4	Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5	Chlorophyll; in hundredths of mg./meter <sup>3</sup>
Record Type "4" Terminator				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Data Record"
SEQUENCE	11	3	A3	"998" = end station. "999" = end file
blank	14	67	67X	blank

Special Codes

Water Physics and Chemistry

NAVIGATION

- 01 = Loran (mixed or unspecified)
- 02 = Radar and/or fixes
- 03 = Raydist without complications
- 04 = Raydist with errors, drifting, etc.
- 05 = Satellite
- 06 = Omega
- 07 = Loran A only
- 08 = Loran C only

TURBIDITY CODE

- 1 = Turbidometer; in JTU
- 2 = Transmissometer; in percent of light transmission over a 10 cm. path.
- 3 = Fluorometer; suspended solids calibration

METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

## Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

## Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)

TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus. . . . .	Cu
9	Cumulonimbus. . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured, or cloud amount cannot be estimated	

TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m ( $1\frac{1}{2}$ ft)	1	$5\frac{1}{2}$ m (17 $\frac{1}{2}$ ft)
2	1 m ( 3 ft)	2	6 m (19 ft)
3	$1\frac{1}{2}$ m ( 5 ft)	3	$6\frac{1}{2}$ m (21 ft)
4	2 m ( $6\frac{1}{2}$ ft)	4	7 m (22 $\frac{1}{2}$ ft)
5	$2\frac{1}{2}$ m ( 8 ft)	5	$7\frac{1}{2}$ m (24 ft)
6	3 m ( $9\frac{1}{2}$ ft)	6	8 m (25 $\frac{1}{2}$ ft)
7	$3\frac{1}{2}$ m (11 ft)	7	$8\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	$4\frac{1}{2}$ m (14 ft)	9	$9\frac{1}{2}$ m (30 $\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example : 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft) ; 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft) ; 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported ; e.g. a height of  $2\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning :  $4\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.



TABLE 8

Direction

In tens of degrees from which waves and/or winds  
are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than 4¾ metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	{ Waves confused, direction indeterminate (waves greater than 4¾ metres) Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.

## Documentation of Processed STD Velocimeter Data

## National Oceanographic Data Center

September 1971

Please use this form as a supplement to the NODC "Data Definition Form, General Information."

All items on this form are considered of importance to the archive processing and future use of STD-velocimeter data. In submitting computer processed data, it is especially important to complete the section titled "Reduction-Processing."

## A. Instrument - Sensors

## 1. Instrument - Sensors

- a. Manufacturer INTER OCEAN SYSTEMS, INC. CSTL
- b. Model 513D
- c. Serial 2846089
- d. Sensors (The questions asked about each sensor listed may serve as a guide for information to be submitted about other sensors.)

## 2. Salinity (Compensated Conductivity)

- a. Model
- b. Serial
- c. Date of last calibration FEB. 1974

3. Temperature PLATINUM RESISTANCE THERMOMETER  
60 M SEC TIME CONSTANT

- a. Model 513-8105
- b. Serial
- c. Date of last calibration FEB. 1974

## 4. Pressure

- a. Model
- b. Serial 7158
- c. Date of last calibration FEB. 1974
- d. If pressure is recorded as depth, what relationship was used to arrive at depth? PRESSURE RECORDED AS DEPTH.

## 5. Sound Velocity NO

- a. Model
- b. Serial number
- c. Date of last calibration

- d. Is raw calibration data available? Yes \_\_\_\_\_ No \_\_\_\_\_
- e. Person to be contacted for calibration information.
- f. Reference equation used for sound velocity (i.e., Wilson, Greenspan, etc., or variations thereon).

6. Conductivity (if used)

- a. Model
- b. Serial
- c. Date of last calibration FEB. 1974

7. Other (Attach a list for other parameters such as ambient light, transmissivity, etc.) TRANSMISSIVITY, DISSOLVED OXYGEN, PH, REDOX (EH)

8. Is calibration data for the above sensors available? Yes X No \_\_\_\_\_

9. Have you modified your instrument and/or sensors? WATER PUMP REMOVED

10. Which parameters are affected by the modifications? NONE

11. What is the result of the modification with respect to the accuracy, resolution, and precision of the data? USE NANSSEN CASE GIVES IMPROVED DATA PRECISION

B. Operational Methods

1. Mode of use

- a. Platform is affected by pitch and roll which is not decoupled from the package. YES
- b. Platform is stable or platform motion is decoupled from package.
- c. Unit is freefalling. NO
- d. Other (describe).

2. Lowering rate (meters/min)

- a. Enter lowering rate in regions of high parameter gradients
- b. Enter lowering rate in regions of low parameter gradients  
6 METERS PER MINUTE

- a. Unit measures continuously YES
- b. Unit measures 1 samples per SEC
- c. Samples are averages of measurements over \_\_\_\_\_ time or \_\_\_\_\_ depth. NO

## 4. Power Supply

- a. Power supply is ~~un~~stabilized \_\_\_\_\_ Maximum fluctuations  $\pm$  0.01 VDC  
Volts about 8 volts nom
- b. Power supply to the following portions of the system is  
stabilized. CURRENT AND VOLTAGE REGULATOR

## 5. Field Checks (Indicate any operational "Deck" tests routinely made on the system (e.g., ice point tests on temperature sensors, electrical tests, etc.). (Describe)

## 6. Thermal Environment

- a. Instrument stored in water bath at \_\_\_\_\_ °C to \_\_\_\_\_ °C

STORED ON DECK AT AMBIENT TEMPERATURE

## C. Reduction-Processing

## 1. Primary Data Output

- a. Strip chart (state scale setting(s))
- b. Paper tape
- c. Magnetic tape  $\times$  DIGITAL RECORDER TO INTERFEROMETER  
MODEL 51413 DIGITAL DECK VME:
  - (1) Digital  $\times$
  - (2) Analog

## 2. Initial Reduction

- a. Down trace only  $\times$
- b. Down trace and up trace processed
  - (1) Separate
  - (2) Averaged

- c. Multiple lowerings \_\_\_\_\_ through depth interval \_\_\_\_\_
- d. Values smoothed against depth. Describe (e.g., running average, etc.) SEPARATE DEPTH THEN NEXT DEPTH
- e. Special routines to compensate for "spiking" (describe) OVER
- f. Compression applied to final data record (i.e., vertical spacing, rounding of depth, temperature, salinity, etc.)  
LINEAR INTERPOLATION AT ONE METER INTERVALS

## 3. Corrections

- a. Were corrections applied to final data? YES
- b. Corrections based on (by parameter)

## C. FILTERS

1. VALUES OUTSIDE EXPECTED RANGE
2. COARSE GRADIENT FILTER, GRADIENT SET SPECIAL FOR EACH PARAMETER
3. PLOT PARAMETER VS. DEPTH
4. FROM INSPECTION OF PLOTS, INDIVIDUAL SPIKES ARE FILTERED OUT

- (1) Surface sample
- (2) On-line samplers (give depth relation to probe)
- (3) Separate lowerings (Nansen casts, other probes)
- (4) Other \_\_\_\_\_ 2-4 BOTTLES DEPENDING  
ON DEPTH

c. For corrected data, what is the estimated average accuracy of the final data? For uncorrected data, what is the average bias (if known)?

- |                    |                  |
|--------------------|------------------|
| (1) Depth-pressure | + <u>1 METER</u> |
| (2) Temperature    | + <u>.02 °C</u>  |
| (3) Salinity       | + <u>.05 ‰</u>   |
| (4) Sound Velocity | + <u>—</u>       |

5. TURBIDITY ± 3%

6. OXYGEN ± .2 ppm

7. pH ± .1

DOF A:114

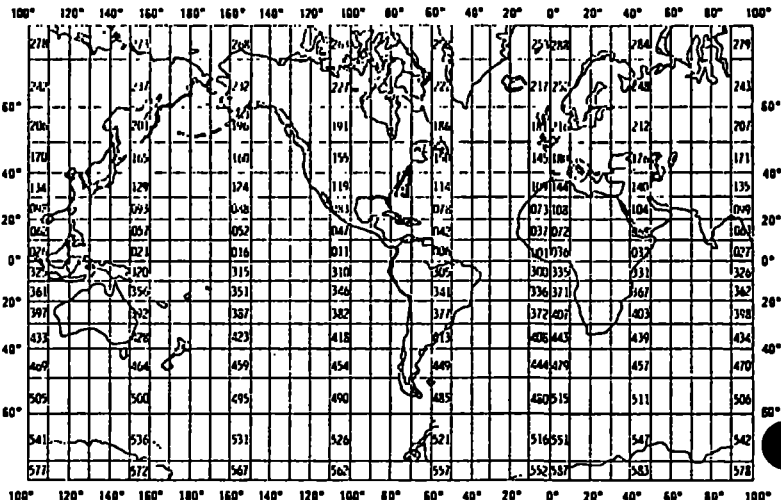
## DATA DOCUMENTATION FORM

NOAA FORM 24-13  
(4-72)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852FORM APPROVED  
O.M.B. No. 41-R2651

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 Physical Oceanography Laboratory NOAA-AOML 15 Rickenbacker Causeway MIAMI, FLORIDA 33149			
2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED MESA - New York Bight		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT Ferrel WCC-4 FILE IDENT. 750615	
4. PLATFORM NAME(S) FERREL	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) Ship	6. PLATFORM AND OPERATOR NATIONALITY(IES) U.S.A. U.S.A.	7. DATES FROM: MO/DAY/YR TO: MO/DAY/YR 11/5/73 11/9/73
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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) Robert B. STAAR			

# 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
<p>MESA REPORT IN PRESS WILL BE FORWARDED TO NODC</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

File header - byte 10 = "1"  
STATION header - byte 10 = "2"  
DATA Record - byte 10 = "3"

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
FORMAT FOR WATER PHYSICS  
AND CHEMISTRY DATA (Type "004")

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

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER PAUL EISEN 516 751 7002  
ADDRESS MESA PROJECT OFFICE, STONY BROOK NY 11774

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input type="checkbox"/> _____</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> STANDARD</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SER = PL6197, file 1</u></p> <p><u>8 Cruises</u></p>
<p>8. DENSITY</p> <p><input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI</p> <p><input type="checkbox"/> 556 BPI</p> <p><input checked="" type="checkbox"/> 800 BPI</p> <p><input type="checkbox"/> _____</p>	<p>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p><u>UNBLOCKED</u></p> <p>13. LENGTH OF BYTES IN BITS</p> <p><u>8</u></p>

7C-0777

NODC User Tape Cruise I.D. "488888"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<b>5. RECORDING MODE</b> <input type="checkbox"/> BCD <input type="checkbox"/> BINARY <input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC <input type="checkbox"/> _____	<b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b> <input type="checkbox"/> 3/4 INCH <input checked="" type="checkbox"/> .56
<b>6. NUMBER OF TRACKS (CHANNELS)</b> <input type="checkbox"/> SEVEN <input checked="" type="checkbox"/> NINE <input type="checkbox"/> _____	<b>10. END OF FILE MARK</b> <input type="checkbox"/> OCTAL 17 <input checked="" type="checkbox"/> EBCDIC
<b>7. PARITY</b> <input checked="" type="checkbox"/> ODD <input type="checkbox"/> EVEN	<b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b> <u>VOL = SER = 13455</u> <u>12 CRUISES</u> <u>LABEL = (1, NL)</u>
<b>8. DENSITY</b> <input type="checkbox"/> 200 BPI <input checked="" type="checkbox"/> 1600 BPI <input type="checkbox"/> 556 BPI <input type="checkbox"/> 800 BPI <input type="checkbox"/> _____	
<b>12. PHYSICAL BLOCK LENGTH IN BYTES</b> <u>4000</u>	
<b>13. LENGTH OF BYTES IN BITS</b> <u>8</u>	

CRUISE	VESSEL	LOCATION	BEGIN-END DATES	CCOUNT	PARAMETER
--------	--------	----------	-----------------	--------	-----------

4	FERREL				
---	--------	--	--	--	--

N40+ W070+

004 750615

		0	CHLOROPHYLL
731105	731109	25	STATIONS
731105	731109	25	TEMPERATURE
731105	731109	25	SALINITY
731105	731109	25	SIGMA T
731105	731109	25	TRANSMISSIVITY
731105	731109	25	PH
		0	EH
		0	OXYGEN
		0	AMMONIA
731105	731109	25	NITRITE
731105	731109	25	NITRATE
731105	731109	25	SILICATE
731105	731109	25	INORGANIC PHOSPHATE
		0	SUSPENDED SOLIDS
		0	TURBIDITY

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>File Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"1" (File Header Record)
VESSEL	11	11	11A1	(left aligned)
CRUISE	22	6	6A1	Originator's cruise identifiers
CRUISE DATES	28	17	5(I2,A1), I2	XX/XX/XX-XX/XX/XX Beginning Month, Day, Year; ending Month, Day, Year.
SENIOR SCIENTIST	45	19	19A1	(left aligned)
INVESTIGATOR	64	17	17A1	Responsible Institution (left aligned)
<u>First Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"2" (First Station Header Record)
SEQUENCE	11	3	I2	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier.
LATITUDE	19	6	3I2	Degrees, Minutes, Seconds
LATHEM	25	1	A1	Hemisphere "N" or "S"
LONGITUDE	26	7	I3,2I2	Degrees, Minutes, Seconds
LONHEM	33	1	A1	Hemisphere "W" or "E"
TIME	34	3	I3	GMT in hours to tenths
DATE	37	8	2(I2,A1),I2	XX/XX/XX Station date; Month, Day, Year
BOTTOM	45	5	I5	Water Depth, meters to tenths
NAVIGATION	50	2	I2	(See attached codes)
METHOD	52	1	I1	(See attached codes)
blank	53	28	28X	blank

Water Physics and Chemistry (File Type "004"))

2 3

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes		17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER			
<u>Record Type "2" Terminator</u>					Optional; for those who must re-read their file using FORTRAN.  "998" (constant) blank
IDENT	1	10	A3,3I2,A1		
SEQUENCE	11	3	A3		
blank	14	67	67X		
<u>Second Station Header Record</u>					"004" (constant) Yr., Mo., Dy., of file generation "3" (Second Station Header Record) Sequence of this record type within Station (Leading zeros or leading blanks) Station identifier Pressure in millibars to tenths Air temperature; degrees Celsius to tenths Air temperature; degrees Celsius to tenths WMO code 0877; tens of degrees Knots WMO code 0885; tens of degrees WMO code 1555 WMO code 0885 WMO code 1555 WMO code 4501 WMO code 0500 WMO code 2700 WMO code 4300 SECCHI Disk Depth; meters to tenths (see attached codes) blank
FILE TYPE	1	3	A3		
FILE DATE	4	6	3I2		
RECORD TYPE	10	1	A1		
SEQUENCE	11	3	I3		
STATION	14	5	5A1		
BAROMETER	19	3	I3		
DRY BULB	22	4	I4		
WET BULB	26	4	I4		
WIND DIRECTION	30	2	I2		
WIND SPEED	32	2	I2		
SEA DIRECTION	34	2	I2		
SEA HEIGHT	36	1	A1		
SWELL DIRECTION	37	2	I2		
SWELL HEIGHT	39	1	A1		
WEATHER	40	1	I1		
CLOUD TYPE	41	1	A1		
CLOUD COVER	42	1	I1		
VISIBILITY	43	1	I1		
TRANSPARENCY	44	4	I4		
TURBIDITY CODE	48	1	I1		
blank	49	37	37X		

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>Record Type "3" Terminator</u>				Optional for those who must re-read their files in FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Second Station Header Record"
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Data Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"4" (Data Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
DEPTH	19	4	I4	Sample depth, meters to tenths
TEMPERATURE	23	5	I5	Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5	Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4	Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3	Transmissivity; percent to tenths
PH	40	3	I3	pH to hundredths
EH	43	4	I4	Eh to hundredths
OXYGEN	47	4	I4	Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3	Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3	Hundredths of µg-atoms/liter
NITRATE	57	4	I4	Hundredths of µg-atoms/liter
SILICATE	61	4	I4	Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3	Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4	Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4	Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5	Chlorophyll; in hundredths of mg./meter <sup>3</sup>
<u>Record Type "4" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Data Record"
SEQUENCE	11	3	A3	"998" = end station. "999" = end file
blank	14	67	67X	blank

Special Codes

Water Physics and Chemistry

NAVIGATION

- 01 = Loran (mixed or unspecified)
- 02 = Radar and/or fixes
- 03 = Raydist without complications
- 04 = Raydist with errors, drifting, etc.
- 05 = Satellite
- 06 = Omega
- 07 = Loran A only
- 08 = Loran C only

TURBIDITY CODE

- 1 = Turbidometer; in JTU
- 2 = Transmissometer; in percent of light transmission over a 10 cm. path.
- 3 = Fluorometer; suspended solids calibration

METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

## Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

## Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)



TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus . . . . .	Cu
9	Cumulonimbus . . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured; or cloud amount cannot be estimated	

TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m ( $1\frac{1}{2}$ ft)	1	$5\frac{1}{2}$ m (17 $\frac{1}{2}$ ft)
2	1 m ( 3 ft)	2	6 m (19 ft)
3	$1\frac{1}{2}$ m ( 5 ft)	3	$6\frac{1}{2}$ m (21 ft)
4	2 m ( $6\frac{1}{2}$ ft)	4	7 m (22 $\frac{1}{2}$ ft)
5	$2\frac{1}{2}$ m ( 8 ft)	5	$7\frac{1}{2}$ m (24 ft)
6	3 m ( $9\frac{1}{2}$ ft)	6	8 m (25 $\frac{1}{2}$ ft)
7	$3\frac{1}{2}$ m (11 ft)	7	$8\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	$4\frac{1}{2}$ m (14 ft)	9	$9\frac{1}{2}$ m (30 $\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example : 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft) ; 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft) ; 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported ; e.g. a height of  $2\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning :  $4\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.

TABLE 8

Direction

In tens of degrees from which waves and/or winds  
are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than $4\frac{3}{4}$ metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	Waves confused, direction indeterminate (waves greater than $4\frac{3}{4}$ metres)
			Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.

## Documentation of Processed STD Velocimeter Data

## National Oceanographic Data Center

September 1971

Please use this form as a supplement to the NODC "Data Definition Form, General Information."

All items on this form are considered of importance to the archive processing and future use of STD-velocimeter data. In submitting computer processed data, it is especially important to complete the section titled "Reduction-Processing."

## A. Instrument - Sensors

## 1. Instrument - Sensors

- a. Manufacturer INTER OCEAN SYSTEMS, INC. CSTU
- b. Model 513D
- c. Serial 2846084
- d. Sensors (The questions asked about each sensor listed may serve as a guide for information to be submitted about other sensors.)

## 2. Salinity (Compensated Conductivity)

- a. Model
- b. Serial
- c. Date of last calibration FEB. 1974

3. Temperature PLATINUM RESISTANCE THERMOMETER  
60 m SEC TIME CONSTANT

- a. Model 513-8105
- b. Serial
- c. Date of last calibration FEB. 1974

## 4. Pressure

- a. Model
- b. Serial 7158
- c. Date of last calibration FEB. 1974
- d. If pressure is recorded as depth, what relationship was used to arrive at depth? PRESSURE RECORDED AS DEPTH

## 5. Sound Velocity NO

- a. Model
- b. Serial number
- c. Date of last calibration

- d. Is raw calibration data available? Yes \_\_\_\_\_ No \_\_\_\_\_
- e. Person to be contacted for calibration information.
- f. Reference equation used for sound velocity (i.e., Wilson, Greenspan, etc., or variations thereon).

6. Conductivity (if used)

- a. Model
- b. Serial
- c. Date of last calibration FEB. 1974

7. Other (Attach a list for other parameters such as ambient light, transmissivity, etc.) TRANSMISSIVITY, DISSOLVED OXYGEN, PH, REDOX (EH)

- 8. Is calibration data for the above sensors available? Yes X No \_\_\_\_\_

- 9. Have you modified your instrument and/or sensors? WATER PUMP REMOVED

- 10. Which parameters are affected by the modifications? NONE

- 11. What is the result of the modification with respect to the accuracy, resolution, and precision of the data? USE NANSSEN CASES GIVES IMPROVED DATA PRECISION

B. Operational Methods

1. Mode of use

- a. Platform is affected by pitch and roll which is not decoupled from the package. YES
- b. Platform is stable or platform motion is decoupled from package.
- c. Unit is freefalling. NO
- d. Other (describe).

2. Lowering rate (meters/min)

- a. Enter lowering rate in regions of high parameter gradients
- b. Enter lowering rate in regions of low parameter gradients

6 METERS PER MIN. AT MIN

- a. Unit measures continuously YES
- b. Unit measures 1 samples per SEC
- c. Samples are averages of measurements over \_\_\_\_\_ time or \_\_\_\_\_ depth. NO

## 4. Power Supply

- a. Power supply is ~~un~~stabilized \_\_\_\_\_ Maximum fluctuations  $\pm$  .01 VDC  
Volts about 8 volts nom
- b. Power supply to the following portions of the system is  
stabilized. CURRENT AND VOLTAGE REGULATOR

## 5. Field Checks (Indicate any operational "Deck" tests routinely made on the system (e.g., ice point tests on temperature sensors, electrical tests, etc.). (Describe)

## 6. Thermal Environment

- a. Instrument stored in water bath at \_\_\_\_\_ °C to \_\_\_\_\_ °C

STORED ON DECK AT AMBIENT TEMPERATURE

## C. Reduction-Processing

## 1. Primary Data Output

- a. Strip chart (state scale setting(s))
- b. Paper tape
- c. Magnetic tape  $\times$  DIGITAL RECORDER TO INTERFACE  
MODEL 51413 DIGITAL DECK UNIT
  - (1) Digital  $\times$
  - (2) Analog

## 2. Initial Reduction

- a. Down trace only  $\times$
- b. Down trace and up trace processed
  - (1) Separate
  - (2) Averaged

- c. Multiple lowerings \_\_\_\_\_ through depth interval \_\_\_\_\_
- d. Values smoothed against depth. Describe (e.g., running average, etc.) SEMI-CONSTANT DEPTH, THEN NEXT DEPTH
- e. Special routines to compensate for "spiking" (describe) OVER
- f. Compression applied to final data record (i.e., vertical spacing, rounding of depth, temperature, salinity, etc.)  
LINEAR INTERPOLATION AT ONE METER INTERVALS

## 3. Corrections

- a. Were corrections applied to final data? YES
- b. Corrections based on (by parameter)

## c. FILTERS

1. VALUES OUTSIDE EXPECTED RANGE
2. COARSE GRADIENT FILTER, GRADIENT SET SPECIAL FOR EACH PARAMETER
3. PLOT PARAMETER VS. DEPTH
4. FROM INSPECTION OF PLOTS, INDIVIDUAL SPIKES ARE FILTERED OUT

- (1) Surface sample
- (2) On-line samplers (give depth relation to probe)
- (3) Separate lowerings (Nansen casts, other probes)
- (4) Other \_\_\_\_\_ 2-4 BOTTLES DEPENDENT ON DEPTH

c. For corrected data, what is the estimated average accuracy of the final data? For uncorrected data, what is the average bias (if known)?

- |                    |                   |
|--------------------|-------------------|
| (1) Depth-pressure | + <u>1 METRON</u> |
| (2) Temperature    | + <u>.02 °C</u>   |
| (3) Salinity       | + <u>.05 ‰</u>    |
| (4) Sound Velocity | + <u>—</u>        |

5. TURBIDITY ± 3%

6. OXYGEN ± .2 ppm

7. pH ± .1



DDF A:114

# DATA DOCUMENTATION FORM

NOAA FORM 24-13  
(4-72)

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852

FORM APPROVED  
O.M.B. No. 41-R2651

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 Physical Oceanography Laboratory NOAA-AOML 15 Rickenbacker Causeway MIAMI, FLORIDA 33149			
2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED MESA - New York Bight		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT Ferrel WCC-5 FILE IDENT. 750615	
4. PLATFORM NAME(S) FERREL	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) Ship	6. PLATFORM AND OPERATOR NATIONALITY(IES) U.S.A. U.S.A.	7. DATES FROM: MO/DAY/YR TO: MO/DAY/YR 11/26/73 11/29/73
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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) Robert B. Starr			

# 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
MESA REPORT IN PRESS WILL BE FORWARDED TO NODC.				

# 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

File header - byte 10 = "1"  
STATION header - byte 10 = "2"  
DATA Record - byte 10 = "3"

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
FORMAT FOR WATER PHYSICS  
AND CHEMISTRY DATA. (Type "004")

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

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER PAUL EISEN 516 751 7002  
ADDRESS MESA PROJECT OFFICE, STONY BROOK NY 11774

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<b>5. RECORDING MODE</b> <input type="checkbox"/> BCD <input type="checkbox"/> BINARY <input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC <input type="checkbox"/> _____	<b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b> <input type="checkbox"/> 3/4 INCH <input type="checkbox"/> _____
<b>6. NUMBER OF TRACKS (CHANNELS)</b> <input type="checkbox"/> SEVEN <input checked="" type="checkbox"/> NINE <input type="checkbox"/> _____	<b>10. END OF FILE MARK</b> <input type="checkbox"/> OCTAL 17 <input checked="" type="checkbox"/> STANDARD
<b>7. PARITY</b> <input checked="" type="checkbox"/> ODD <input type="checkbox"/> EVEN	<b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME KEY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b> <u>VOL = SER = PLG197, File 1</u> <u>8 Cruises</u>
<b>8. DENSITY</b> <input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI <input type="checkbox"/> 556 BPI <input checked="" type="checkbox"/> 800 BPI <input type="checkbox"/> _____	<b>12. PHYSICAL BLOCK LENGTH IN BYTES</b> <u>UNBLOCKED</u> <b>13. LENGTH OF BYTES IN BITS</b> <u>8</u>

76-0777

NODC User Tape Cruise I.D. "5XXXXX"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD    <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII    <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input checked="" type="checkbox"/> .56</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> FBCDSC</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SER = 13455</u></p> <p><u>12 cruises</u></p> <p><u>LABEL = (1, NL)</u></p>
<p>8. DENSITY</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>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p><u>4000</u></p>	
<p>13. LENGTH OF BYTES IN BITS</p> <p><u>8</u></p>	

CRUISE	VESSEL	LOCATION	BEGIN-END DATES	COUNT	PARAMETER
--------	--------	----------	-----------------	-------	-----------

5	FERRER				
---	--------	--	--	--	--

N40+ W070+

004 750615

		0	CHLOROPHYLL
731126	731129	25	STATIONS
731126	731129	25	TEMPERATURE
731126	731129	25	SALINITY
731126	731129	25	SIGMA T
731126	731129	25	TRANSMISSIVITY
731127	731129	13	PH
		0	EH
731126	731129	16	OXYGEN
		0	AMMONIA
731126	731129	25	NITRITE
731126	731129	25	NITRATE
731126	731129	25	SILICATE
731126	731129	25	INORGANIC PHOSPHATE
		0	SUSPENDED SOLIDS
		0	TURBIDITY

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>File Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"1" (File Header Record)
VESSEL	11	11	11A1	(left aligned)
CRUISE	22	6	6A1	Originator's cruise identifiers
CRUISE DATES	28	17	5(I2,A1), I2	XX/XX/XX-XX/XX/XX Beginning Month, Day, Year; ending Month, Day, Year.
SENIOR SCIENTIST	45	19	19A1	(left aligned)
INVESTIGATOR	64	17	17A1	Responsible Institution (left aligned)
<u>First Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"2" (First Station Header Record)
SEQUENCE	11	3	I2	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier.
LATITUDE	19	6	3I2	Degrees, Minutes, Seconds
LATHEM	25	1	A1	Hemisphere "N" or "S"
LONGITUDE	26	7	I3,2I2	Degrees, Minutes, Seconds
LONHEM	33	1	A1	Hemisphere "W" or "E"
TIME	34	3	I3	GMT in hours to tenths
DATE	37	8	2(I2,A1),I2	XX/XX/XX Station date; Month, Day, Year
BOTTOM	45	5	I5	Water Depth, meters to tenths
NAVIGATION	50	2	I2	(See attached codes)
METHOD	52	1	I1	(See attached codes)
blank	53	28	28X	blank

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
Record Type "2" Terminator				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
Second Station Header Record				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"3" (Second Station Header Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
BAROMETER	19	3	I3	Pressure in millibars to tenths
DRY BULB	22	4	I4	Air temperature; degrees Celsius to tenths
WET BULB	26	4	I4	Air temperature; degrees Celsius to tenths
WIND DIRECTION	30	2	I2	WMO code 0877; tens of degrees
WIND SPEED	32	2	I2	Knots
SEA DIRECTION	34	2	I2	WMO code 0885; tens of degrees
SEA HEIGHT	36	1	A1	WMO code 1555
SWELL DIRECTION	37	2	I2	WMO code 0885
SWELL HEIGHT	39	1	A1	WMO code 1555
WEATHER	40	1	I1	WMO code 4501
CLOUD TYPE	41	1	A1	WMO code 0500
CLOUD COVER	42	1	I1	WMO code 2700
VISIBILITY	43	1	I1	WMO code 4300
TRANSPARENCY	44	4	I4	SECCHI Disk Depth; meters to tenths
TURBIDITY CODE	48	1	I1	(see attached codes)
blank	49	37	37X	blank

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER		
<u>Record Type "3" Terminator</u>				Optional for those who must re-read their files in FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Second Station Header Record"
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Data Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"4" (Data Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
DEPTH	19	4	I4	Sample depth, meters to tenths
TEMPERATURE	23	5	I5	Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5	Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4	Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3	Transmissivity; percent to tenths
PH	40	3	I3	pH to hundredths
EH	43	4	I4	Eh to hundredths
OXYGEN	47	4	I4	Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3	Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3	Hundredths of µg-atoms/liter
NITRATE	57	4	I4	Hundredths of µg-atoms/liter
SILICATE	61	4	I4	Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3	Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4	Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4	Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5	Chlorophyll; in hundredths of mg./meter <sup>3</sup>
<u>Record Type "4" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Data Record"
SEQUENCE	11	3	A3	"998" = end station. "999" = end file
blank	14	67	67X	blank



Special Codes

Water Physics and Chemistry

NAVIGATION

- 01 = Loran (mixed or unspecified)
- 02 = Radar and/or fixes
- 03 = Raydist without complications
- 04 = Raydist with errors, drifting, etc.
- 05 = Satellite
- 06 = Omega
- 07 = Loran A only
- 08 = Loran C only

TURBIDITY CODE

- 1 = Turbidometer; in JTU
- 2 = Transmissometer; in percent of light transmission over a 10 cm path.
- 3 = Fluorometer; suspended solids calibration

METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

## Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

## Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)

TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus . . . . .	Cu
9	Cumulonimbus . . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured, or cloud amount cannot be estimated	

TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m (1 $\frac{1}{2}$ ft)	1	5 $\frac{1}{2}$ m (17 $\frac{1}{2}$ ft)
2	1 m (3 ft)	2	6 m (19 ft)
3	1 $\frac{1}{2}$ m (5 ft)	3	6 $\frac{1}{2}$ m (21 ft)
4	2 m (6 $\frac{1}{2}$ ft)	4	7 m (22 $\frac{1}{2}$ ft)
5	2 $\frac{1}{2}$ m (8 ft)	5	7 $\frac{1}{2}$ m (24 ft)
6	3 m (9 $\frac{1}{2}$ ft)	6	8 m (25 $\frac{1}{2}$ ft)
7	3 $\frac{1}{2}$ m (11 ft)	7	8 $\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	4 $\frac{1}{2}$ m (14 ft)	9	9 $\frac{1}{2}$ m (30 $\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example : 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m (2  $\frac{1}{2}$  ft) ; 5 = 2  $\frac{1}{4}$  m (7 ft) to 2  $\frac{3}{4}$  m (9 ft) ; 9 = 4  $\frac{1}{4}$  m (13  $\frac{1}{2}$  ft) to 4  $\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported ; e.g. a height of 2  $\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning : 4  $\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.

TABLE 8

Direction

In tens of degrees from which waves and/or winds  
are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than $4\frac{3}{4}$ metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	{ Waves confused, direction indeterminate (waves greater than $4\frac{3}{4}$ metres) Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.

## Documentation of Processed STD Velocimeter Data

National Oceanographic Data Center

September 1971

Please use this form as a supplement to the NODC "Data Definition Form, General Information."

All items on this form are considered of importance to the archive processing and future use of STD-velocimeter data. In submitting computer processed data, it is especially important to complete the section titled "Reduction-Processing."

## A. Instrument - Sensors

## 1. Instrument - Sensors

- a. Manufacturer INTER OCEAN SYSTEMS, INC. CSTL
- b. Model 513D
- c. Serial 2846089
- d. Sensors (The questions asked about each sensor listed may serve as a guide for information to be submitted about other sensors.)

## 2. Salinity (Compensated Conductivity)

- a. Model
- b. Serial
- c. Date of last calibration FEB. 1974

3. Temperature PLATINUM RESISTANCE THERMOMETER  
60 m SEC TIME CONSTANT

- a. Model 513-8105
- b. Serial
- c. Date of last calibration FEB. 1974

## 4. Pressure

- a. Model
- b. Serial 7158
- c. Date of last calibration FEB. 1974
- d. If pressure is recorded as depth, what relationship was used to arrive at depth? PRESSURE RECORDED AS DEPTH

## 5. Sound Velocity NO

- a. Model
- b. Serial number
- c. Date of last calibration

- 103  
1/2
- d. Is raw calibration data available? Yes        No
  - e. Person to be contacted for calibration information.
  - f. Reference equation used for sound velocity (i.e., Wilson, Greenspan, etc., or variations thereon).
6. Conductivity (if used)
- a. Model
  - b. Serial
  - c. Date of last calibration FEB. 1974
7. Other (Attach a list for other parameters such as ambient light, transmissivity, etc.) TRANSMISSIVITY, DISSOLVED OXYGEN, PH, REDOX (EH)
8. Is calibration data for the above sensors available? Yes X No
9. Have you modified your instrument and/or sensors? WATER PUMP REMOVED
10. Which parameters are affected by the modifications? NONE
11. What is the result of the modification with respect to the accuracy, resolution, and precision of the data? USE NANSSEN CASSIS GIVES APPROVED DATA PRECISION

B. Operational Methods

1. Mode of use
  - a. Platform is affected by pitch and roll which is not decoupled from the package. YES
  - b. Platform is stable or platform motion is decoupled from package.
  - c. Unit is freefalling. NO
  - d. Other (describe).
2. Lowering rate (meters/min)
  - a. Enter lowering rate in regions of high parameter gradients
  - b. Enter lowering rate in regions of low parameter gradients  
6 METERS PER MINUTE
3. Unit measures continuously YES
  - a. Unit measures 1 samples per SEC
  - b. Samples are averages of measurements over        time or        depth. NO

4. Power Supply

- a. Power supply is ~~un~~stabilized \_\_\_\_\_ Maximum fluctuations  $\pm$  .01 VDC  
Volts about 8 volts nom
- b. Power supply to the following portions of the system is  
stabilized. CURRENT AND VOLTAGE REGULATOR

5. Field Checks (Indicate any operational "Deck" tests routinely made on the system (e.g., ice point tests on temperature sensors, electrical tests, etc.). (Describe)

6. Thermal Environment

- a. Instrument stored in water bath at \_\_\_\_\_ °C to \_\_\_\_\_ °C  
STORED ON DECK AT AMBIENT TEMPERATURE

C. Reduction-Processing

1. Primary Data Output

- a. Strip chart (state scale setting(s))
- b. Paper tape
- c. Magnetic tape ☒ DIGITAL RECORDER TO INTERFAC  
MODEL 5143 DIGITAL DECK VME:  
(1) Digital ☒  
(2) Analog

2. Initial Reduction

- a. Down trace only ☒
- b. Down trace and up trace processed  
(1) Separate  
(2) Averaged
- c. Multiple lowerings \_\_\_\_\_ through depth interval \_\_\_\_\_
- d. Values smoothed against depth. Describe (e.g., running  
average, etc.) SEPARATE DEPTH THEN NEXT DEPTH
- e. Special routines to compensate for "spiking" (describe) OVER
- f. Compression applied to final data record (i.e., vertical spacing.  
rounding of depth, temperature, salinity, etc.)  
LINEAR INTERPOLATION AT ONE FILTER INTERVAL

3. Corrections

- a. Were corrections applied to final data? YES
- b. Corrections based on (by parameter)



## C. FILTERS

1. VALUES OUTSIDE EXPECTED RANGE
2. COARSE GRADIENT FILTER, GRADIENT SET SPECIAL FOR EACH PARAMETER
3. PLOT PARAMETER VS. DEPTH
4. FROM INSPECTION OF PLOTS, INDIVIDUAL SPIKES ARE FILTERED OUT

- (1) Surface sample
- (2) On-line samplers (give depth relation to probe)
- (3) Separate lowerings (Nansen casts, other probes)
- (4) Other 2-4 BOTTLES DEPEND ON  
EV DEPTH

c. For corrected data, what is the estimated average accuracy of the final data? For uncorrected data, what is the average bias (if known)?

- |                    |                  |
|--------------------|------------------|
| (1) Depth-pressure | + <u>1 METER</u> |
| (2) Temperature    | + <u>.02 °C</u>  |
| (3) Salinity       | + <u>.05 ‰</u>   |
| (4) Sound Velocity | + <u>—</u>       |

5. TURBIDITY  $\pm 3\%$

6. OXYGEN  $\pm .2$  ppm

7. pH  $\pm .1$

DDF A:144

## DATA DOCUMENTATION FORM

ACCOUNT  
NUMBER

76-0777

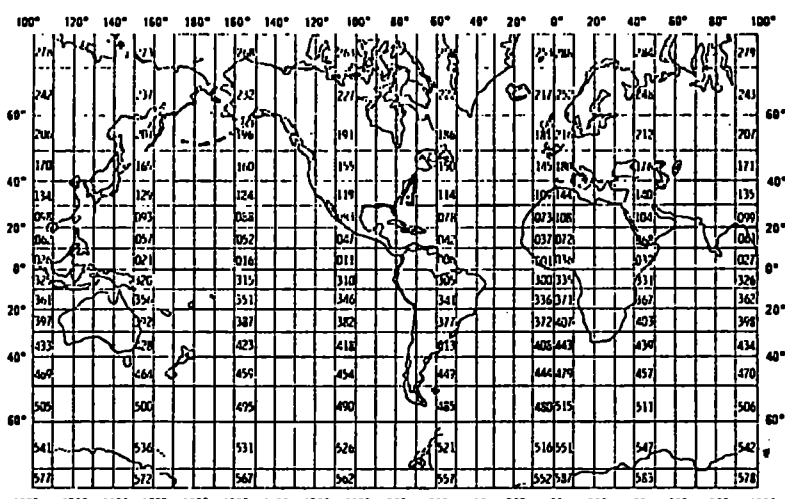
TR0081

NOAA FORM 24-13  
(4-72)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852FORM APPROVED  
O.M.B. No. 41-R2651

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 Physical Oceanography Laboratory NOAA-AOML 15 Rickenbacker Causeway Miami, Florida 33149			
2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED MESA - New York Bight		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT Ferrel WCC-6 FILE IDENT. 750615	
4. PLATFORM NAME(S) FERREL	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) Ship	6. PLATFORM AND OPERATOR NATIONALITY(IES) U.S.A. U.S.A.	7. DATES FROM: MO/DAY/YR TO: MO/DAY/YR 4/16/74 4/26/74
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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) Robert B. Starr			

# 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
<p>MESA REPORT IN PRESS WILL BE FORWARDED TO NODC</p>				

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

File header - byte 10 = "1"  
STATION header - byte 10 = "2"  
DATA Record - byte 10 = "3"

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
FORMAT FOR WATER PHYSICS  
AND CHEMISTRY DATA (Type "004")

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

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER PAUL EISEN 516 751 7002  
ADDRESS MESA PROJECT OFFICE, STONY BROOK NY 11794

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input type="checkbox"/> _____</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> STANDARD</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LABEL SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SER = PL6197, File 1</u></p> <p><u>8 Cruises</u></p>
<p>8. DENSITY</p> <p><input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI</p> <p><input type="checkbox"/> 556 BPI</p> <p><input checked="" type="checkbox"/> 800 BPI</p> <p><input type="checkbox"/> _____</p>	<p>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p><u>UNBLOCKED</u></p> <p>13. LENGTH OF BYTES IN BITS</p> <p><u>8</u></p>

7C-0777

NODC User Tape Cruise I.D. "688888"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD    <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII    <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input checked="" type="checkbox"/> .56</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> FBC DSC</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SER = 13455</u></p> <p><u>12 CRUISES</u></p> <p><u>LABEL = (1, NL)</u></p>
<p>8. DENSITY</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>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p><u>4000</u></p>	
<p>13. LENGTH OF BYTES IN BITS</p> <p><u>8</u></p>	

CRUISE	VESSEL	LOCATION	BEGIN-END DATES	COUNT	PARAMETER
--------	--------	----------	-----------------	-------	-----------

6	FEPREL				
---	--------	--	--	--	--

N40+ W070+

004 750615

		0	CHLOROPHYLL
740416	740420	26	STATIONS
740416	740420	26	TEMPERATURE
740416	740420	26	SALINITY
740416	740420	26	SIGMA T
740416	740420	26	TRANSMISSIVITY
740416	740420	24	PH
		0	EH
740416	740420	26	OXYGEN
		0	AMMONIA
740416	740420	26	NITRITE
740416	740420	26	NITRATE
740416	740420	26	SILICATE
740416	740420	26	INORGANIC PHOSPHATE
		0	SUSPENDED SOLIDS
		0	TURBIDITY

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>File Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"1" (File Header Record)
VESSEL	11	11	11A1	(left aligned)
CRUISE	22	6	6A1	Originator's cruise identifiers
CRUISE DATES	28	17	5(I2,A1), I2	XX/XX/XX-XX/XX/XX Beginning Month, Day, Year; ending Month, Day, Year.
SENIOR SCIENTIST	45	19	19A1	(left aligned)
INVESTIGATOR	64	17	17A1	Responsible Institution (left aligned)
<u>First Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"2" (First Station Header Record)
SEQUENCE	11	3	I2	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier.
LATITUDE	19	6	3I2	Degrees, Minutes, Seconds
LATHEM	25	1	A1	Hemisphere "N" or "S"
LONGITUDE	26	7	I3,2I2	Degrees, Minutes, Seconds
LONHEM	33	1	A1	Hemisphere "W" or "E"
TIME	34	3	I3	GMT in hours to tenths
DATE	37	8	2(I2,A1),I2	XX/XX/XX Station date; Month, Day, Year
BOTTOM	45	5	I5	Water Depth, meters to tenths
NAVIGATION	50	2	I2	(See attached codes)
METHOD	52	1	I1	(See attached codes)
blank	53	28	28X	blank



Water Physics and Chemistry (File Type "004"))

2 3

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>Record Type "2" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Second Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"3" (Second Station Header Record)
SEQUENCE	11	3	I3	Sequence of this record type within
STATION	14	5	5A1	Station (Leading zeros or leading blanks)
BAROMETER	19	3	I3	Station identifier
DRY BULB	22	4	I4	Pressure in millibars to tenths
WET BULB	26	4	I4	Air temperature; degrees Celsius to tenths
WIND DIRECTION	30	2	I2	Air temperature; degrees Celsius to tenths
WIND SPEED	32	2	I2	WMO code 0877; tens of degrees
SEA DIRECTION	34	2	I2	Knots
SEA HEIGHT	36	1	A1	WMO code 0885; tens of degrees
SWELL DIRECTION	37	2	I2	WMO code 1555
SWELL HEIGHT	39	1	A1	WMO code 0885
WEATHER	40	1	I1	WMO code 1555
CLOUD TYPE	41	1	A1	WMO code 4501
CLOUD COVER	42	1	I1	WMO code 0500
VISIBILITY	43	1	I1	WMO code 2700
TRANSPARENCY	44	4	I4	WMO code 4300
TURBIDITY CODE	48	1	I1	SECCHI Disk Depth; meters to tenths
blank	49	37	67X	(see attached codes)
				blank

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER		
<u>Record Type "3" Terminator</u>				Optional for those who must re-read their files in FORTRAN. Same as "Second Station Header Record" "998" (constant) blank
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	
blank	14	67	67X	
<u>Data Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"4" (Data Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
DEPTH	19	4	I4	Sample depth, meters to tenths
TEMPERATURE	23	5	I5	Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5	Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4	Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3	Transmissivity; percent to tenths
PH	40	3	I3	pH to hundredths
EH	43	4	I4	Eh to hundredths
OXYGEN	47	4	I4	Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3	Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3	Hundredths of µg-atoms/liter
NITRATE	57	4	I4	Hundredths of µg-atoms/liter
SILICATE	61	4	I4	Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3	Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4	Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4	Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5	Chlorophyll; in hundredths of mg./meter <sup>3</sup>
<u>Record Type "4" Terminator</u>				Optional; for those who must re-read their file using FORTRAN. Same as "Data Record" "998" = end station. "999" = end file blank
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	
blank	14	67	67X	

Special Codes

Water Physics and Chemistry

NAVIGATION

- 01 = Loran (mixed or unspecified)
- 02 = Radar and/or fixes
- 03 = Raydist without complications
- 04 = Raydist with errors, drifting, etc.
- 05 = Satellite
- 06 = Omega
- 07 = Loran A only
- 08 = Loran C only

TURBIDITY CODE

- 1 = Turbidometer; in JTU
- 2 = Transmissometer; in percent of light transmission over a 10 cm. path.
- 3 = Flourometer; suspended solids calibration

METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

## Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

## Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)

TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus . . . . .	Cu
9	Cumulonimbus . . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured, or cloud amount cannot be estimated	

TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m (1 $\frac{1}{2}$ ft)	1	5 $\frac{1}{2}$ m (17 $\frac{1}{2}$ ft)
2	1 m (3 ft)	2	6 m (19 ft)
3	1 $\frac{1}{2}$ m (5 ft)	3	6 $\frac{1}{2}$ m (21 ft)
4	2 m (6 $\frac{1}{2}$ ft)	4	7 m (22 $\frac{1}{2}$ ft)
5	2 $\frac{1}{2}$ m (8 ft)	5	7 $\frac{1}{2}$ m (24 ft)
6	3 m (9 $\frac{1}{2}$ ft)	6	8 m (25 $\frac{1}{2}$ ft)
7	3 $\frac{1}{2}$ m (11 ft)	7	8 $\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	4 $\frac{1}{2}$ m (14 ft)	9	9 $\frac{1}{2}$ m (30 $\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example: 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m (2  $\frac{1}{2}$  ft); 5 = 2  $\frac{1}{4}$  m (7 ft) to 2  $\frac{3}{4}$  m (9 ft); 9 = 4  $\frac{1}{4}$  m (13  $\frac{1}{2}$  ft) to 4  $\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of 2  $\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning: 4  $\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.

TABLE 8

Direction

In tens of degrees from which waves and/or winds are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than 4 <sup>3</sup> / <sub>4</sub> metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	Waves confused, direction indeterminate (waves greater than 4 <sup>3</sup> / <sub>4</sub> metres)
			Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.

## Documentation of Processed STD Velocimeter Data

National Oceanographic Data Center

September 1971

Please use this form as a supplement to the NODC "Data Definition Form, General Information."

All items on this form are considered of importance to the archive processing and future use of STD-velocimeter data. In submitting computer processed data, it is especially important to complete the section titled "Reduction-Processing."

## A. Instrument - Sensors

## 1. Instrument - Sensors

- a. Manufacturer INTER OCEAN SYSTEMS, INC. CSTD
- b. Model 513D
- c. Serial 2846089
- d. Sensors (The questions asked about each sensor listed may serve as a guide for information to be submitted about other sensors.)

## 2. Salinity (Compensated Conductivity)

- a. Model
- b. Serial
- c. Date of last calibration AUGUST 1973

3. Temperature PLATINUM RESISTANCE THERMISTOR  
60M SEC TIME CONSTANT

- a. Model 513-8105
- b. Serial
- c. Date of last calibration AUGUST 1973

## 4. Pressure

- a. Model
- b. Serial 7158
- c. Date of last calibration AUGUST 1973
- d. If pressure is recorded as depth, what relationship was used to arrive at depth? PRESSURE RECORDED ITS DEPTH

## 5. Sound Velocity NO

- a. Model
- b. Serial number
- c. Date of last calibration



Page 2

- d. Is raw calibration data available? Yes \_\_\_\_\_ No \_\_\_\_\_
- e. Person to be contacted for calibration information.
- f. Reference equation used for sound velocity (i.e., Wilson, Greenspan, etc., or variations thereon).

## 6. Conductivity (if used)

- a. Model
- b. Serial
- c. Date of last calibration AUGUST 1973

7. Other (Attach a list for other parameters such as ambient light, transmissivity, etc.) TRANSMISSIVITY, DISSOLVED OXYGEN, PH, REDOX (EH)8. Is calibration data for the above sensors available? Yes X No \_\_\_\_\_9. Have you modified your instrument and/or sensors? NO

## 10. Which parameters are affected by the modifications?

11. What is the result of the modification with respect to the accuracy, resolution, and precision of the data? NO

## B. Operational Methods

## 1. Mode of use

- a. Platform is affected by pitch and roll which is not decoupled from the package. YES
- b. Platform is stable or platform motion is decoupled from package.
- c. Unit is freefalling. NO
- d. Other (describe).

## 2. Lowering rate (meters/min)

- a. Enter lowering rate in regions of high parameter gradients 8 METERS/MIN
- b. Enter lowering rate in regions of low parameter gradients SAME

## 3. Time Response

- a. Unit measures continuously YES
- b. Unit measures 1 samples per SEC
- c. Samples are averages of measurements over \_\_\_\_\_ time or \_\_\_\_\_ depth. NO

4. Power Supply

- a. Power supply is ~~was~~ stabilized \_\_\_\_\_ Maximum fluctuations  $\pm$  101VDC  
Volts about 8 volts nom
- b. Power supply to the following portions of the system is stabilized. CURRENT AND VOLTAGE REGULATOR

5. Field Checks (Indicate any operational "Deck" tests routinely made on the system (e.g., ice point tests on temperature sensors, electrical tests, etc.). (Describe)

6. Thermal Environment

- a. Instrument stored in water bath at \_\_\_\_\_ °C to \_\_\_\_\_ °C  
STORED ON DECK AT AMBIENT TEMPERATURE

C. Reduction-Processing

1. Primary Data Output

- a. Strip chart (state scale setting(s))
- b. Paper tape
- c. Magnetic tape ☒ DIGITAL RECORDER TO INTERFACE MODEL 514B DIGITAL DECK UNIT
  - (1) Digital ☒
  - (2) Analog

2. Initial Reduction

- a. Down trace only ☒
- b. Down trace and up trace processed
  - (1) Separate
  - (2) Averaged
- c. Multiple lowerings \_\_\_\_\_ through depth interval \_\_\_\_\_
- d. Values smoothed against depth. Describe (e.g., running average, etc.) SHALLOWEST DEPTH THEN NEXT DEEPEST DEPTH TO BOTTOM COARSE FILTER
- e. Special routines to compensate for "spiking" (describe) THEN INDIVIDUAL SPIKE PLOT VS DEPTH
- f. Compression applied to final data record (i.e., vertical spacing, removal of depth, temperature, salinity, etc.) LINEAR INTERPOLATION AT ONE METER INTERVALS

3. Corrections

- a. Were corrections applied to final data? YES
- b. Corrections based on (by parameter)

- (1) Surface sample  
 (2) On-line samplers (give depth relation to probe)  
 (3) Separate lowerings (Nansen casts, other probes)  
 (4) Other \_\_\_\_\_

WATER SAMPLE  
 FROM PUMP  
 ATTACHED TO  
 SENSOR  
 CRUISES 1-4

EVERY CRUISE

- c. For corrected data, what is the estimated average accuracy of the final data? For uncorrected data, what is the average bias (if known)?

- |                    |           |
|--------------------|-----------|
| (1) Depth-pressure | + 1 METEN |
| (2) Temperature    | + .02°C   |
| (3) Salinity       | + .05‰    |
| (4) Sound Velocity | + _____   |
| 5. TURBIDITY       | ± 3%      |
| 6. OXYGEN          | ± .2 ppm  |
| 7. PH              | ± .1      |

DDF A:1:14

## DATA DOCUMENTATION FORM

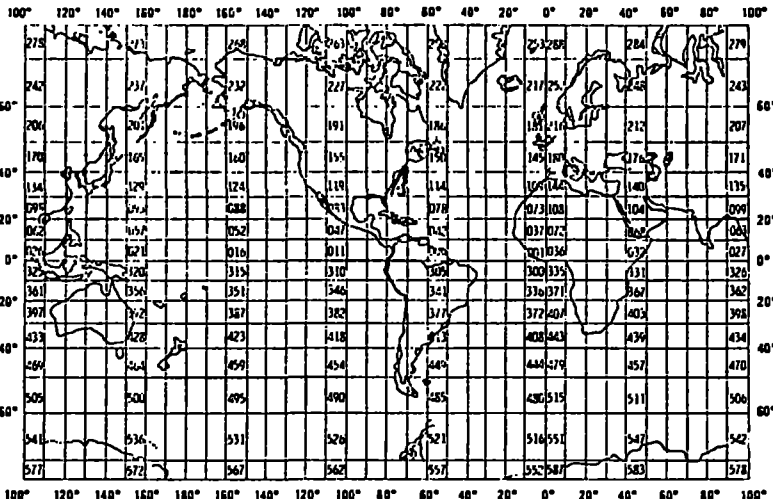
TR0082

NOAA FORM 24-13  
(4-72)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852FORM APPROVED  
O.M.B. No. 41-R2651

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 Physical Oceanography Laboratory NOAA-AOML 15 Rickenbacker Causeway MIAMI, FLORIDA 33149			
2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED MESA - New York Bight		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT Ferrel WCC-7 FILE IDENT. 750615	
4. PLATFORM NAME(S) FERREL	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) Ship	6. PLATFORM AND OPERATOR NATIONALITY(IES) U.S.A. U.S.A.	7. DATES FROM: MO/DAY/YR TO: MO/DAY/YR 5/6/74 5/9/74
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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) Robert B. Starr			

# 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
MESA REPORT IN PRESS WILL BE FORWARDED TO NODC				

# 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

File header - byte 10 = "1"  
Station header - byte 10 = "2"  
DATA Record - byte 10 = "3"

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
FORMAT FOR WATER PHYSICS  
AND CHEMISTRY DATA (Type "004")

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

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER

PAUL EISEN 516 751 7002

ADDRESS

MESA PROJECT OFFICE, STONY BROOK NY 11794

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input type="checkbox"/> _____</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> STANDARD</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME KEY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p>VOL = SER = PL 6197, file 1</p> <p>8 cruises</p>
<p>8. DENSITY</p> <p><input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI</p> <p><input type="checkbox"/> 556 BPI</p> <p><input checked="" type="checkbox"/> 800 BPI</p> <p><input type="checkbox"/> _____</p>	<p>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p>UNBLOCKED</p> <p>13. LENGTH OF BYTES IN BITS</p> <p>8</p>

7C-0777

NODC User Tape Cruise I.D. "7XXXXX"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input checked="" type="checkbox"/> .56</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> F/B/D/S/C</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SER = 13455</u></p> <p>12 CRUISES</p> <p>LABEL = (1, NL)</p>
<p>8. DENSITY</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>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p>4000</p>
	<p>13. LENGTH OF BYTES IN BITS</p> <p>8</p>

CRUISE	VESSEL	LOCATION	BEGIN-END DATES	COUNT	PARAMETER
--------	--------	----------	-----------------	-------	-----------

7	FERREL				
---	--------	--	--	--	--

004 750015

N40+ W070+

		0	CHLOROPHYLL
740506	740509	22	STATIONS
740506	740509	22	TEMPERATURE
740506	740509	22	SALINITY
740506	740509	22	SIGMA T
740506	740509	22	TRANSMISSIVITY
740506	740509	22	PH
740507	740509	12	EH
740506	740509	15	OXYGEN
		0	AMMONIA
740506	740509	22	NITRITE
740506	740509	22	NITRATE
740506	740509	22	SILICATE
740506	740509	22	INORGANIC PHOSPHATE
		0	SUSPENDED SOLIDS
		0	TURBIDITY



14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>File Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"1" (File Header Record)
VESSEL	11	11	11A1	(left aligned)
CRUISE	22	6	6A1	Originator's cruise identifiers
CRUISE DATES	28	17	5(I2,A1), I2	XX/XX/XX-XX/XX/XX
SENIOR SCIENTIST	45	19	19A1	Beginning Month, Day, Year;
INVESTIGATOR	64	17	17A1	ending Month, Day, Year. (left aligned)
				Responsible Institution (left aligned)
<u>First Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"2" (First Station Header Record)
SEQUENCE	11	3	I2	Sequence of this record type within
				Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier.
LATITUDE	19	6	3I2	Degrees, Minutes, Seconds
LATHEM	25	1	A1	Hemisphere "N" or "S"
LONGITUDE	26	7	I3,2I2	Degrees, Minutes, Seconds
LONHEM	33	1	A1	Hemisphere "W" or "E"
TIME	34	3	I3	GMT in hours to tenths
DATE	37	8	2(I2,A1),I2	XX/XX/XX Station date; Month, Day, Year
BOTTOM	45	5	I5	Water Depth, meters to tenths
NAVIGATION	50	2	I2	(See attached codes)
METHOD	52	1	I1	(See attached codes)
blank	53	28	28X	blank

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER		
<u>Record Type "2" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Second Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"3" (Second Station Header Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
BAROMETER	19	3	I3	Pressure in millibars to tenths
DRY BULB	22	4	I4	Air temperature; degrees Celsius to tenths
WET BULB	26	4	I4	Air temperature; degrees Celsius to tenths
WIND DIRECTION	30	2	I2	WMO code 0877; tens of degrees
WIND SPEED	32	2	I2	Knots
SEA DIRECTION	34	2	I2	WMO code 0885; tens of degrees
SEA HEIGHT	36	1	A1	WMO code 1555
SWELL DIRECTION	37	2	I2	WMO code 0885
SWELL HEIGHT	39	1	A1	WMO code 1555
WEATHER	40	1	I1	WMO code 4501
CLOUD TYPE	41	1	A1	WMO code 0500
CLOUD COVER	42	1	I1	WMO code 2700
VISIBILITY	43	1	I1	WMO code 4300
TRANSPARENCY	44	4	I4	SECCHI Disk Depth; meters to tenths
TURBIDITY CODE	48	1	I1	(see attached codes)
blank	49	37	37X	blank

Water Phsics and Chemistry (File Type "004")

3 3

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>Record Type "3" Terminator</u>				Optional for those who must re-read their files in FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Second Station Header Record"
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Data Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"4" (Data Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
DEPTH	19	4	I4	Sample depth, meters to tenths
TEMPERATURE	23	5	I5	Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5	Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4	Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3	Transmissivity; percent to tenths
PH	40	3	I3	pH to hundredths
EH	43	4	I4	Eh to hundredths
OXYGEN	47	4	I4	Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3	Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3	Hundredths of µg-atoms/liter
NITRATE	57	4	I4	Hundredths of µg-atoms/liter
SILICATE	61	4	I4	Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3	Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4	Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4	Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5	Chlorophyll; in hundredths of mg./meter <sup>3</sup>
<u>Record Type "4" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Data Record"
SEQUENCE	11	3	A3	"998" = end station. "999" = end file
blank	14	67	67X	blank

Special Codes

Water Physics and Chemistry

NAVIGATION

- 01 = Loran (mixed or unspecified)
- 02 = Radar and/or fixes
- 03 = Raydist without complications
- 04 = Raydist with errors, drifting, etc.
- 05 = Satellite
- 06 = Omega
- 07 = Loran A only
- 08 = Loran C only

TURBIDITY CODE

- 1 = Turbidometer; in JTU
- 2 = Transmissometer; in percent of light transmission over a 10 cm. path.
- 3 = Flourometer; suspended solids calibration

METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

## Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

## Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)

TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus . . . . .	Cu
9	Cumulonimbus . . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured, or cloud amount cannot be estimated	

TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m (1 $\frac{1}{2}$ ft)	1	5 $\frac{1}{2}$ m (17 $\frac{1}{2}$ ft)
2	1 m (3 ft)	2	6 m (19 ft)
3	1 $\frac{1}{2}$ m (5 ft)	3	6 $\frac{1}{2}$ m (21 ft)
4	2 m (6 $\frac{1}{2}$ ft)	4	7 m (22 $\frac{1}{2}$ ft)
5	2 $\frac{1}{2}$ m (8 ft)	5	7 $\frac{1}{2}$ m (24 ft)
6	3 m (9 $\frac{1}{2}$ ft)	6	8 m (25 $\frac{1}{2}$ ft)
7	3 $\frac{1}{2}$ m (11 ft)	7	8 $\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	4 $\frac{1}{2}$ m (14 ft)	9	9 $\frac{1}{2}$ m (30 $\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example : 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m (2  $\frac{1}{2}$  ft) ; 5 = 2  $\frac{1}{4}$  m (7 ft) to 2  $\frac{3}{4}$  m (9 ft) ; 9 = 4  $\frac{1}{4}$  m (13  $\frac{1}{2}$  ft) to 4  $\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported ; e.g. a height of 2  $\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning : 4  $\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.

TABLE 8

Direction

In tens of degrees from which waves and/or winds are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than 4 3/4 metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	Waves confused, direction indeterminate (waves greater than 4 3/4 metres)
			Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.



## Documentation of Processed STD Velocimeter Data

National Oceanographic Data Center

September 1971

Please use this form as a supplement to the NODC "Data Definition Form, General Information."

All items on this form are considered of importance to the archive processing and future use of STD-velocimeter data. In submitting computer processed data, it is especially important to complete the section titled 'Reduction-Processing.'

## 1. Instrument - Sensors

## 1. Instrument - Sensors

- a. Manufactuerer INTER OCEAN SYSTEMS, INC. CSTD
- b. Model 513D
- c. Serial 2846089
- d. Sensors (The questions asked about each sensor listed may serve as a guide for information to be submitted about other sensors.)

## 2. Salinity (Compensated Conductivity)

- a. Model
- b. Serial
- c. Date of last calibration AUGUST 1973

3. Temperature PLATINUM RESISTANCE THERMOMETER  
60M SEC TIME CONSTANT

- a. Model 513-8105
- b. Serial
- c. Date of last calibration AUGUST 1973

## 4. Pressure

- a. Model
- b. Serial 7158
- c. Date of last calibration AUGUST 1973
- d. If pressure is recorded as depth, what relationship was used to arrive at depth? PRESSURE RECORDED AS DECIHAL

## 5. Sound Velocity NO

- a. Model
- b. Serial number
- c. Date of last calibration

Page 2

- d. Is raw calibration data available? Yes \_\_\_\_\_ No \_\_\_\_\_
- e. Person to be contacted for calibration information.
- f. Reference equation used for sound velocity (i.e., Wilson, Greenspan, etc., or variations thereon).

## 6. Conductivity (if used)

- a. Model
- b. Serial
- c. Date of last calibration AUGUST 1973

7. Other (Attach a list for other parameters such as ambient light, transmissivity, etc.) TRANSMISSIVITY, DISSOLVED OXYGEN, PH, REDOX (EH)

8. Is calibration data for the above sensors available? Yes
- X
- No \_\_\_\_\_

9. Have you modified your instrument and/or sensors?
- NO

10. Which parameters are affected by the modifications?

11. What is the result of the modification with respect to the accuracy, resolution, and precision of the data?
- NO

## B. Operational Methods

## 1. Mode of use

- a. Platform is affected by pitch and roll which is not decoupled from the package. YES
- b. Platform is stable or platform motion is decoupled from package.
- c. Unit is freefalling. NO
- d. Other (describe).

## 2. Lowering rate (meters/min)

- a. Enter lowering rate in regions of high parameter gradients 8 METERS/MIN
- b. Enter lowering rate in regions of low parameter gradients SAME

## 3. Time Response

- a. Unit measures continuously YES
- b. Unit measures 1 samples per SEC
- c. Samples are averages of measurements over \_\_\_\_\_ time or \_\_\_\_\_ depth. NO

4. Power Supply

- a. Power supply is ~~was~~ stabilized \_\_\_\_\_ Maximum fluctuations + 101 VDC  
Volts about 8 volts nom
- b. Power supply to the following portions of the system is  
stabilized. CURRENT AND VOLTAGE REGULATOR

5. Field Checks (Indicate any operational "Deck" tests routinely made on the system (e.g., ice point tests on temperature sensors, electrical tests, etc.). (Describe)

6. Thermal Environment

- a. Instrument stored in water bath at \_\_\_\_\_ °C to \_\_\_\_\_ °C  
STORED ON DECK AT AMBIENT TEMPERATURE

C. Reduction-Processing

1. Primary Data Output

- a. Strip chart (state scale setting(s))
- b. Paper tape
- c. Magnetic tape X DIGITAL RECORDER TO INTERFERENCE  
MODEL 514B DIGITAL DECK UNIT
  - (1) Digital X
  - (2) Analog

2. Initial Reduction

- a. Down trace only X
- b. Down trace and up trace processed
  - (1) Separate
  - (2) Averaged

- c. Multiple lowerings \_\_\_\_\_ through depth interval \_\_\_\_\_
- d. Values smoothed against depth. Describe (e.g., running average, etc.) SHALLOWEST DEPTH THEN NEXT DEEPEST DEPTH TO BOTTOM COARSE FINAL PLOT VS TIME
- e. Special routines to compensate for "spiking" (describe) INDIVIDUAL SPIKE
- f. Compression applied to final data record (i.e., vertical spacing, removal of rounding or depth, temperature, salinity, etc.) LINEAR INTERPOLATION AT ONE METER INTERVALS

3. Corrections

- a. Were corrections applied to final data? YES
- b. Corrections based on (by parameter)

- (1) Surface sample  
 (2) On-line samplers (give depth relation to probe)  
 (3) Separate lowerings (Nansen casts, other probes)  
 (4) Other \_\_\_\_\_

WATER SAMPLE  
 FROM PUMP  
 ATTACHED TO  
 SENSOR  
 CRUISES 1-4

EVERY CRUISE

c. For corrected data, what is the estimated average accuracy of the final data? For uncorrected data, what is the average bias (if known)?

- |                    |           |
|--------------------|-----------|
| (1) Depth-pressure | + 1 METER |
| (2) Temperature    | + .02°C   |
| (3) Salinity       | + .05‰    |
| (4) Sound Velocity | + _____   |
| 5. TURBIDITY       | ± 3%      |
| 6. OXYGEN          | ± .2 ppm  |
| 7. PH              | ± .1      |

DDF A:1:14

## DATA DOCUMENTATION FORM

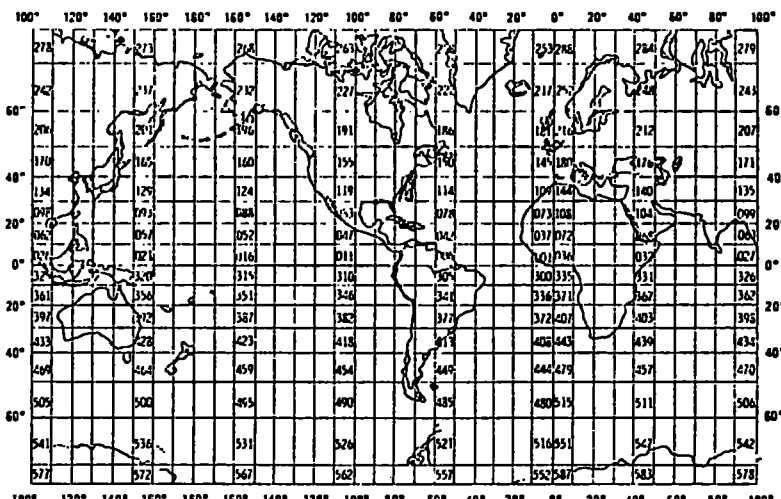
TR0083

NOAA FORM 24-13  
(4-72)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852FORM APPROVED  
O.M.B. No. 41-R2651

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 Physical Oceanography Laboratory NOAA-AOML 15 Rickenbacker Causeway MIAMI, FLORIDA 33149			
2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED MESA - New York Bight		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT Ferrel WCC-8 FILE IDENT. 750615	
4. PLATFORM NAME(S) FERREL	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) Ship	6. PLATFORM AND OPERATOR NATIONALITY(IES) U.S.A., U.S.A.	7. DATES FROM: MO, DAY, YR TO: MO, DAY, YR 6/10/74 6/13/74
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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) ROBERT B. STAAR			

# 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
<p>MESA REPORT IN PRESS WILL BE FORWARDED TO NODC</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

File header - byte 10 = "1"  
Station header - byte 10 = "2"  
DATA Record - byte 10 = "3"

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
FORMAT FOR WATER PHYSICS  
AND CHEMISTRY DATA (Type "004")

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

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER PAUL EISEN 516 751 7002  
ADDRESS MESA PROJECT OFFICE, STONY BROOK NY 11794

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input type="checkbox"/> _____</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> STANDARD</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME KEY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SER = PLG 197, file 1</u></p> <p><u>8 Cruises</u></p>
<p>8. DENSITY</p> <p><input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI</p> <p><input type="checkbox"/> 556 BPI</p> <p><input checked="" type="checkbox"/> 800 BPI</p> <p><input type="checkbox"/> _____</p>	<p>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p><u>UNBLOCKED</u></p> <p>13. LENGTH OF BYTES IN BITS</p> <p>_____</p>

7C-0777

NODC User Tape Cruise I.D. "8XXXXX"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<b>5. RECORDING MODE</b> <input type="checkbox"/> BCD <input type="checkbox"/> BINARY <input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC <input type="checkbox"/> _____	<b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b> <input type="checkbox"/> 3/4 INCH <input checked="" type="checkbox"/> .56
<b>6. NUMBER OF TRACKS (CHANNELS)</b> <input type="checkbox"/> SEVEN <input checked="" type="checkbox"/> NINE <input type="checkbox"/> _____	<b>10. END OF FILE MARK</b> <input type="checkbox"/> OCTAL 17 <input checked="" type="checkbox"/> EBCDIC
<b>7. PARITY</b> <input checked="" type="checkbox"/> ODD <input type="checkbox"/> EVEN	<b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b> <u>VOL = SER = 13455</u> <u>12 CRUISES</u> <u>LABEL = (1, NL)</u>
<b>8. DENSITY</b> <input type="checkbox"/> 200 BPI <input checked="" type="checkbox"/> 1600 BPI <input type="checkbox"/> 556 BPI <input type="checkbox"/> 800 BPI <input type="checkbox"/> _____	
	<b>12. PHYSICAL BLOCK LENGTH IN BYTES</b> <u>4000</u>
	<b>13. LENGTH OF BYTES IN BITS</b> <u>8</u>



CRUISE	VESSEL	LOCATION	BEGIN-END DATES	COUNT	PARAMETER
--------	--------	----------	-----------------	-------	-----------

8	FERREL				
---	--------	--	--	--	--

N40+ WC70+

004 750615

		0	CHLOROPHYLL
740610	740613	27	STATIONS
740610	740613	27	TEMPERATURE
740610	740613	27	SALINITY
740610	740613	27	SIGMA T
		0	TRANSMISSIVITY
740610	740613	27	PH
740610	740613	26	EH
740610	740613	26	OXYGEN
		0	AMMONIA
740610	740613	27	NITRITE
740610	740613	27	NITRATE
740610	740613	27	SILICATE
740610	740613	27	INORGANIC PHOSPHATE
		0	SUSPENDED SOLIDS
		0	TURBIDITY

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>File Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"1" (File Header Record)
VESSEL	11	11	11A1	(left aligned)
CRUISE	22	6	6A1	Originator's cruise identifiers
CRUISE DATES	28	17	5(I2,A1), I2	XX/XX/XX-XX/XX/XX
				Beginning Month, Day, Year;
				ending Month, Day, Year.
SENIOR SCIENTIST	45	19	19A1	(left aligned)
INVESTIGATOR	64	17	17A1	Responsible Institution (left aligned)
<u>First Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"2" (First Station Header Record)
SEQUENCE	11	3	I2	Sequence of this record type within
				Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier.
LATITUDE	19	6	3I2	Degrees, Minutes, Seconds
LATHEM	25	1	A1	Hemisphere "N" or "S"
LONGITUDE	26	7	I3,2I2	Degrees, Minutes, Seconds
LONHEM	33	1	A1	Hemisphere "W" or "E"
TIME	34	3	I3	GMT in hours to tenths
DATE	37	8	2(I2,A1),I2	XX/XX/XX Station date; Month, Day, Year.
BOTTOM	45	5	I5	Water Depth, meters to tenths
NAVIGATION	50	2	I2	(See attached codes)
METHOD	52	1	I1	(See attached codes)
blank	53	28	28X	blank

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>Record Type "2" Terminator</u>  IDENT SEQUENCE blank	1 11 14	10 3 67	A3,3I2,A1 A3 67X	Optional; for those who must re-read their file using FORTRAN.  "998" (constant) blank
<u>Second Station Header Record</u>  FILE TYPE FILE DATE RECORD TYPE SEQUENCE  STATION BAROMETER DRY BULB  WET BULB  WIND DIRECTION WIND SPEED SEA DIRECTION SEA HEIGHT SWELL DIRECTION SWELL HEIGHT WEATHER CLOUD TYPE CLOUD COVER VISIBILITY TRANSPARENCY TURBIDITY CODE blank	1 4 10 11  14 19 22  26  30 32 34 36 37 39 40 41 42 43 44 48 49	3 6 1 3  5 3 4  4  2 2 2 1 2 1 1 1 1 1 4 1 37	A3 3I2 A1 I3  5A1 I3 I4  I4  I2 I2 I2 A1 I2 A1 I1 A1 I1 I1 I1 I4 I1 37X	"004" (constant) Yr., Mo., Dy., of file generation "3" (Second Station Header Record) Sequence of this record type within Station (Leading zeros or leading blanks) Station identifier Pressure in millibars to tenths Air temperature; degrees Celsius to tenths Air temperature; degrees Celsius to tenths WMO code 0877; tens of degrees Knots WMO code 0885; tens of degrees WMO code 1555 WMO code 0885 WMO code 1555 WMO code 4501 WMO code 0500 WMO code 2700 WMO code 4300 SECCHI Disk Depth; meters to tenths (see attached codes) blank

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes  NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<b>Record Type "3" Terminator</b>				
IDENT	1	10	A3,3I2,A1	Optional for those who must re-read their files in FORTRAN.
SEQUENCE	11	3	A3	Same as "Second Station Header Record"
blank	14	67	67X	"998" (constant) blank
<b>Data Record</b>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"4" (Data Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
DEPTH	19	4	I4	Sample depth, meters to tenths
TEMPERATURE	23	5	I5	Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5	Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4	Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3	Transmissivity; percent to tenths
PH	40	3	I3	pH to hundredths
EH	43	4	I4	Eh to hundredths
OXYGEN	47	4	I4	Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3	Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3	Hundredths of µg-atoms/liter
NITRATE	57	4	I4	Hundredths of µg-atoms/liter
SILICATE	61	4	I4	Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3	Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4	Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4	Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5	Chlorophyll; in hundredths of mg./meter <sup>3</sup>
<b>Record Type "4" Terminator</b>				
IDENT	1	10	A3,3I2,A1	Optional; for those who must re-read their file using FORTRAN.
SEQUENCE	11	3	A3	Same as "Data Record"
blank	14	67	67X	"998" = end station. "999" = end file blank

Special Codes

Water Physics and Chemistry

NAVIGATION

- 01 = Loran (mixed or unspecified)
- 02 = Radar and/or fixes
- 03 = Raydist without complications
- 04 = Raydist with errors, drifting, etc.
- 05 = Satellite
- 06 = Omega
- 07 = Loran A only
- 08 = Loran C only

TURBIDITY CODE

- 1 = Turbidometer; in JTU
- 2 = Transmissometer; in percent of light transmission over a 10 cm. path.
- 3 = Fluorometer; suspended solids calibration

METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

## Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

## Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)

TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus . . . . .	Cu
9	Cumulonimbus . . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured, or cloud amount cannot be estimated	

TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m ( $1\frac{1}{2}$ ft)	1	$5\frac{1}{2}$ m (17 $\frac{1}{2}$ ft)
2	1 m ( 3 ft)	2	6 m (19 ft)
3	$1\frac{1}{2}$ m ( 5 ft)	3	$6\frac{1}{2}$ m (21 ft)
4	2 m ( $6\frac{1}{2}$ ft)	4	7 m (22 $\frac{1}{2}$ ft)
5	$2\frac{1}{2}$ m ( 8 ft)	5	$7\frac{1}{2}$ m (24 ft)
6	3 m ( $9\frac{1}{2}$ ft)	6	8 m (25 $\frac{1}{2}$ ft)
7	$3\frac{1}{2}$ m (11 ft)	7	$8\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	$4\frac{1}{2}$ m (14 ft)	9	$9\frac{1}{2}$ m (30 $\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example : 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft) ; 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft) ; 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported ; e.g. a height of  $2\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning :  $4\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.



TABLE 8

Direction

In tens of degrees from which waves and/or winds are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than 4 3/4 metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	Waves confused, direction indeterminate (waves greater than 4 3/4 metres)
			Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.

DDF A:1:14

## DATA DOCUMENTATION FORM

NUMBER

76-0777

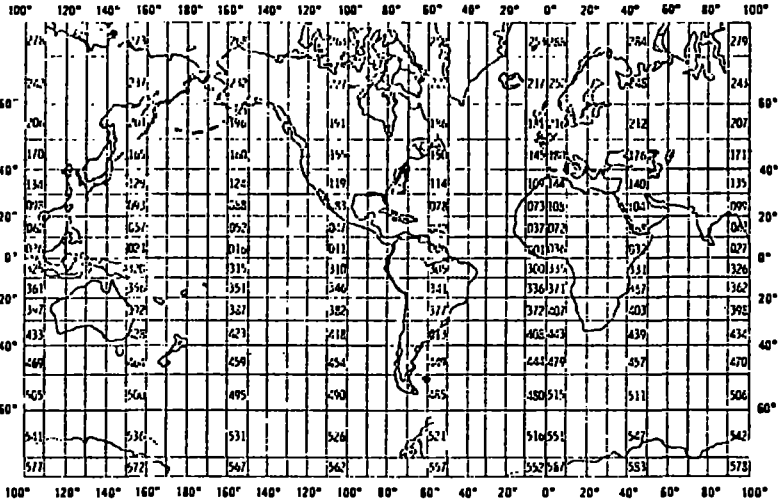
TR0084

NOAA FORM 24-13  
(4-72)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852FORM APPROVED  
O.M.B. No. 41-R2651

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 Physical Oceanography Laboratory NOAA-AOML 15 RICKENBACKER CAUSEWAY MIAMI, FLORIDA 33149			
2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED MESA - New York Bight		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT Ferrel WCC-9 FILE IDENT. 750615	
4. PLATFORM NAME(S) FERREL	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) Ship	6. PLATFORM AND OPERATOR NATIONALITY(IES) U.S.A. U.S.A.	7. DATES FROM: MO/DAY/YR TO: MO/DAY/YR 7/16/74 7/19/74
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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) Robert B. Starr			

# 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
<p>MESA REPORT BY PRESS WILL BE FORWARDED TO NODC</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

File header - byte 10 = "1"  
 Station header - byte 10 = "2"  
 DATA Record - byte 10 = "3"

## 2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
 FORMAT FOR WATER PHYSICS  
 AND CHEMISTRY DATA (Type "004")

## 3. ATTRIBUTES AS EXPRESSED IN

☐ PL-1 ☐ ALGOL ☐ COBOL  
☒ FORTRAN ☐ \_\_\_\_\_ LANGUAGE

## 4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER

PAUL EISEN 516 751 7002

ADDRESS

MESA PROJECT OFFICE, STONY BROOK NY 11794

## COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

### 5. RECORDING MODE

☐ BCD ☐ BINARY  
☐ ASCII ☒ EBCDIC  
☐ \_\_\_\_\_

### 6. NUMBER OF TRACKS (CHANNELS)

☐ SEVEN  
☒ NINE  
☐ \_\_\_\_\_

### 7. PARITY

☒ ODD  
☐ EVEN

### 8. DENSITY

☐ 200 BPI ☐ 1600 BPI  
☐ 556 BPI  
☒ 800 BPI  
☐ \_\_\_\_\_

### 9. LENGTH OF INTER- RECORD GAP (IF KNOWN)

☐ 3/4 INCH  
☐ \_\_\_\_\_

### 10. END OF FILE MARK

☐ OCTAL 17  
☒ STANDARD

### 11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME KEY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)

VOL = SER = PL6097, file 1  
 4 Cruises

### 12. PHYSICAL BLOCK LENGTH IN BYTES

UNBLOCKED

### 13. LENGTH OF BYTES IN BITS

8

7C-0777

NODC User Tape Cruise I.D. "988888"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD    <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII    <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input checked="" type="checkbox"/> .56</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> <u>FRMTC</u></p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SER = 13455</u></p> <p><u>12 CRUISES</u></p> <p><u>LABEL = (1, VL)</u></p>
<p>8. DENSITY</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>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p><u>4000</u></p> <p>13. LENGTH OF BYTES IN BITS</p> <p><u>8</u></p>

CRUISE	VESSEL	LOCATION	BEGIN-END DATES	COUNT	PARAMETER
--------	--------	----------	-----------------	-------	-----------

9	FERRER				
---	--------	--	--	--	--

004 750615

N40+ W070+

		0	CHLOROPHYLL
740710	740719	26	STATIONS
740716	740719	26	TEMPERATURE
740716	740719	26	SALINITY
740716	740719	26	SIGMA T
740716	740719	26	TRANSMISSIVITY
740716	740719	26	PH
740716	740719	26	EH
		0	OXYGEN
		0	AMMONIA
740716	740719	26	NITRITE
740716	740719	26	NITRATE
740716	740719	26	SILICATE
740716	740719	26	INORGANIC PHOSPHATE
		0	SUSPENDED SOLIDS
		0	TURBIDITY

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes		17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER			
<u>File Header Record</u>					
FILE TYPE	1	3	A3	"004" (constant)	
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation	
RECORD TYPE	10	1	A1	"1" (File Header Record)	
VESSEL	11	11	11A1	(left aligned)	
CRUISE	22	6	6A1	Originator's cruise identifiers	
CRUISE DATES	28	17	5(I2,A1), I2	XX/XX/XX-XX/XX/XX	
				Beginning Month, Day, Year;	
				ending Month, Day, Year.	
SENIOR SCIENTIST	45	19	19A1	(left aligned)	
INVESTIGATOR	64	17	17A1	Responsible Institution (left aligned)	
<u>First Station Header Record</u>					
FILE TYPE	1	3	A3	"004" (constant)	
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation	
RECORD TYPE	10	1	A1	"2" (First Station Header Record)	
SEQUENCE	11	3	I2	Sequence of this record type within	
				Station. (Leading zeros or leading blanks)	
STATION	14	5	5A1	Station identifier.	
LATITUDE	19	6	3I2	Degrees, Minutes, Seconds	
LATHEM	25	1	A1	Hemisphere "N" or "S"	
LONGITUDE	26	7	I3,2I2	Degrees, Minutes, Seconds	
LONHEM	33	1	A1	Hemisphere "W" or "E"	
TIME	34	3	I3	GMT in hours to tenths	
DATE	37	8	2(I2,A1),I2	XX/XX/XX Station date; Month, Day, Year	
BOTTOM	45	5	I5	Water Depth, meters to tenths	
NAVIGATION	50	2	I2	(See attached codes)	
METHOD	52	1	I1	(See attached codes)	
blank	53	28	28X	blank	

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER		
<u>Record Type "2" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Second Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"3" (Second Station Header Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
BAROMETER	19	3	I3	Pressure in millibars to tenths
DRY BULB	22	4	I4	Air temperature; degrees Celsius to tenths
WET BULB	26	4	I4	Air temperature; degrees Celsius to tenths
WIND DIRECTION	30	2	I2	WMO code 0877; tens of degrees
WIND SPEED	32	2	I2	Knots
SEA DIRECTION	34	2	I2	WMO code 0885; tens of degrees
SEA HEIGHT	36	1	A1	WMO code 1555
SWELL DIRECTION	37	2	I2	WMO code 0885
SWELL HEIGHT	39	1	A1	WMO code 1555
WEATHER	40	1	I1	WMO code 4501
CLOUD TYPE	41	1	A1	WMO code 0500
CLOUD COVER	42	1	I1	WMO code 2700
VISIBILITY	43	1	I1	WMO code 4300
TRANSPARENCY	44	4	I4	SECCHI Disk Depth; meters to tenths
TURBIDITY CODE	48	1	I1	(see attached codes)
blank	49	37	37X	blank



14. FIELD NAME	15. POSITION FROM -1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>Record Type "3" Terminator</u>				Optional for those who must re-read their files in FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Second Station Header Record"
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Data Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"4" (Data Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
DEPTH	19	4	I4	Sample depth, meters to tenths
TEMPERATURE	23	5	I5	Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5	Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4	Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3	Transmissivity; percent to tenths
PH	40	3	I3	pH to hundredths
EH	43	4	I4	Eh to hundredths
OXYGEN	47	4	I4	Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3	Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3	Hundredths of µg-atoms/liter
NITRATE	57	4	I4	Hundredths of µg-atoms/liter
SILICATE	61	4	I4	Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3	Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4	Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4	Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5	Chlorophyll; in hundredths of mg./meter <sup>3</sup>
<u>Record Type "4" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Data Record"
SEQUENCE	11	3	A3	"998" = end station. "999" = end file
blank	14	67	67X	blank

Special Codes

Water Physics and Chemistry

NAVIGATION

- 01 = Loran (mixed or unspecified)
- 02 = Radar and/or fixes
- 03 = Raydist without complications
- 04 = Raydist with errors, drifting, etc.
- 05 = Satellite
- 06 = Omega
- 07 = Loran A only
- 08 = Loran C only

TURBIDITY CODE

- 1 = Turbidometer; in JTU
- 2 = Transmissometer; in percent of light transmission over a 10 cm. path.
- 3 = Fluorometer; suspended solids calibration

METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

## Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

## Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)

TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus . . . . .	Cu
9	Cumulonimbus . . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured, or cloud amount cannot be estimated	

TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m (1 $\frac{1}{2}$ ft)	1	5 $\frac{1}{2}$ m (17 $\frac{1}{2}$ ft)
2	1 m (3 ft)	2	6 m (19 ft)
3	1 $\frac{1}{2}$ m (5 ft)	3	6 $\frac{1}{2}$ m (21 ft)
4	2 m (6 $\frac{1}{2}$ ft)	4	7 m (22 $\frac{1}{2}$ ft)
5	2 $\frac{1}{2}$ m (8 ft)	5	7 $\frac{1}{2}$ m (24 ft)
6	3 m (9 $\frac{1}{2}$ ft)	6	8 m (25 $\frac{1}{2}$ ft)
7	3 $\frac{1}{2}$ m (11 ft)	7	8 $\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	4 $\frac{1}{2}$ m (14 ft)	9	9 $\frac{1}{2}$ m (30 $\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example : 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m (2  $\frac{1}{2}$  ft) ; 5 = 2  $\frac{1}{4}$  m (7 ft) to 2  $\frac{3}{4}$  m (9 ft) ; 9 = 4  $\frac{1}{4}$  m (13  $\frac{1}{2}$  ft) to 4  $\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported ; e.g. a height of 2  $\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning : 4  $\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.

TABLE 8

Direction

In tens of degrees from which waves and/or winds are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than $4\frac{3}{4}$ metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	Waves confused, direction indeterminate (waves greater than $4\frac{3}{4}$ metres)
			Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.

DDF A:1:14

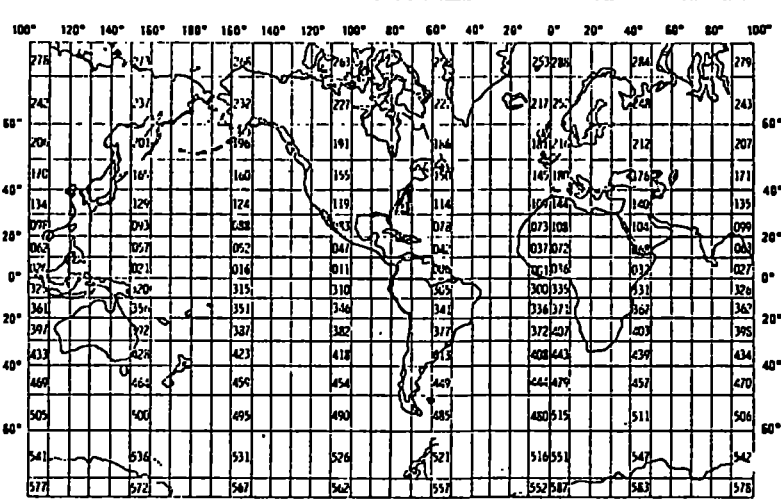
## DATA DOCUMENTATION FORM

NOAA FORM 24-13  
(4-72)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852FORM APPROVED  
O.M.B. No. 41-R2651

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 Physical Oceanography Laboratory NOAA-AOML 15 Rickenbacker Causeway MIAMI, FLORIDA 33149			
2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED MESA - New York Bight		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT Ferrel WCC-10 FILE IDENT. 750615	
4. PLATFORM NAME(S) FERREL	5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) Ship	6. PLATFORM AND OPERATOR NATIONALITY(IES) U.S.A. U.S.A.	7. DATES FROM: MO, DAY, YR TO: MO, DAY, YR 8/21/74 8/24/74
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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) Robert B. Starr			

# 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
MESA REPORT IN PRESS WILL BE FORWARDED TO NODC				



# 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

File header - byte 10 = "1"  
Station header - byte 10 = "2"  
DATA Record - byte 10 = "3"

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
FORMAT FOR WATER PHYSICS  
AND CHEMISTRY DATA (Type "004")

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

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER

PAUL EISEN 516 751 7002

ADDRESS

MESA PROJECT OFFICE, STONY BROOK NY 11794

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input type="checkbox"/> _____</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> STANDARD</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME KEY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p>VOL=SER=PL6097, file 1</p> <p>4 Cruise</p>
<p>8. DENSITY</p> <p><input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI</p> <p><input type="checkbox"/> 556 BPI</p> <p><input checked="" type="checkbox"/> 800 BPI</p> <p><input type="checkbox"/> _____</p>	<p>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p>UNBLOCKED</p> <p>13. LENGTH OF BYTES IN BITS</p>

76-0777

NODC User Tape Cruise I.D. "10XXXX"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD    <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII    <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input checked="" type="checkbox"/> .56</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> <u>ERASE</u></p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SER = 13455</u></p> <p><u>12 CRUISES</u></p> <p><u>LABEL = (1, NL)</u></p>
<p>8. DENSITY</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>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p><u>4000</u></p>	<p>13. LENGTH OF BYTES IN BITS</p> <p><u>8</u></p>

CRUISE	VESSEL	LOCATION	BEGIN-END DATES	COUNT	PARAMETER
--------	--------	----------	-----------------	-------	-----------

10	FERREL				
----	--------	--	--	--	--

N40+ W070+

004 750615

		0	CHLOROPHYLL
740821	740824	26	STATIONS
740821	740824	26	TEMPERATURE
740821	740824	26	SALINITY
740821	740824	26	SIGMA T
740821	740824	26	TRANSMISSIVITY
740821	740824	26	PH
740821	740824	26	EH
740821	740824	26	OXYGEN
		0	AMMONIA
740821	740824	26	NITRITE
740821	740824	26	NITRATE
740821	740824	26	SILICATE
740821	740824	26	INORGANIC PHOSPHATE
		0	SUSPENDED SOLIDS
		0	TURBIDITY

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes		17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER			
<u>File Header Record</u>					
FILE TYPE	1	3	A3	"004" (constant)	
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation	
RECORD TYPE	10	1	A1	"1" (File Header Record)	
VESSEL	11	11	11A1	(left aligned)	
CRUISE	22	6	6A1	Originator's cruise identifiers	
CRUISE DATES	28	17	5(I2,A1), I2	XX/XX/XX-XX/XX/XX	
				Beginning Month, Day, Year;	
				ending Month, Day, Year.	
SENIOR SCIENTIST	45	19	19A1	(left aligned)	
INVESTIGATOR	64	17	17A1	Responsible Institution (left aligned)	
<u>First Station Header Record</u>					
FILE TYPE	1	3	A3	"004" (constant)	
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation	
RECORD TYPE	10	1	A1	"2" (First Station Header Record)	
SEQUENCE	11	3	I2	Sequence of this record type within	
				Station. (Leading zeros or leading blanks)	
STATION	14	5	5A1	Station identifier.	
LATITUDE	19	6	3I2	Degrees, Minutes, Seconds	
LATHEM	25	1	A1	Hemisphere "N" or "S"	
LONGITUDE	26	7	I3,2I2	Degrees, Minutes, Seconds	
LONHEM	33	1	A1	Hemisphere "W" or "E"	
TIME	34	3	I3	GMT in hours to tenths	
DATE	37	8	2(I2,A1),I2	XX/XX/XX Station date; Month, Day, Year	
BOTTOM	45	5	I5	Water Depth, meters to tenths	
NAVIGATION	50	2	I2	(See attached codes)	
METHOD	52	1	I1	(See attached codes)	
blank	53	28	28X	blank	

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER		
<u>Record Type "2" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Second Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"3" (Second Station Header Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
BAROMETER	19	3	I3	Pressure in millibars to tenths
DRY BULB	22	4	I4	Air temperature; degrees Celsius to tenths
WET BULB	26	4	I4	Air temperature; degrees Celsius to tenths
WIND DIRECTION	30	2	I2	WMO code 0877; tens of degrees
WIND SPEED	32	2	I2	Knots
SEA DIRECTION	34	2	I2	WMO code 0885; tens of degrees
SEA HEIGHT	36	1	A1	WMO code 1555
SWELL DIRECTION	37	2	I2	WMO code 0885
SWELL HEIGHT	39	1	A1	WMO code 1555
WEATHER	40	1	I1	WMO code 4501
CLOUD TYPE	41	1	A1	WMO code 0500
CLOUD COVER	42	1	I1	WMO code 2700
VISIBILITY	43	1	I1	WMO code 4300
TRANSPARENCY	44	4	I4	SECCHI Disk Depth; meters to tenths
TURBIDITY CODE	48	1	I1	(see attached codes)
blank	49	37	37X	blank

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER		
<u>Record Type "3" Terminator</u>				Optional for those who must re-read their files in FORTRAN. Same as "Second Station Header Record" "998" (constant) blank
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	
blank	14	67	67X	
<u>Data Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"4" (Data Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
DEPTH	19	4	I4	Sample depth, meters to tenths
TEMPERATURE	23	5	I5	Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5	Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4	Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3	Transmissivity; percent to tenths
PH	40	3	I3	pH to hundredths
EH	43	4	I4	Eh to hundredths
OXYGEN	47	4	I4	Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3	Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3	Hundredths of µg-atoms/liter
NITRATE	57	4	I4	Hundredths of µg-atoms/liter
SILICATE	61	4	I4	Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3	Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4	Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4	Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5	Chlorophyll; in hundredths of mg./meter <sup>3</sup>
<u>Record Type "4" Terminator</u>				Optional; for those who must re-read their file using FORTRAN. Same as "Data Record" "998" = end station. "999" = end file blank
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	
blank	14	67	67X	

Special Codes

Water Physics and Chemistry

NAVIGATION

- 01 = Loran (mixed or unspecified)
- 02 = Radar and/or fixes
- 03 = Raydist without complications
- 04 = Raydist with errors, drifting, etc.
- 05 = Satellite
- 06 = Omega
- 07 = Loran A only
- 08 = Loran C only

TURBIDITY CODE

- 1 = Turbidometer; in JTU
- 2 = Transmissometer; in percent of light transmission over a 10 cm. path.
- 3 = Fluorometer; suspended solids calibration

METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

## Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

## Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)



TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus . . . . .	Cu
9	Cumulonimbus . . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured, or cloud amount cannot be estimated	

TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m (1 $\frac{1}{2}$ ft)	1	5 $\frac{1}{2}$ m (17 $\frac{1}{2}$ ft)
2	1 m (3 ft)	2	6 m (19 ft)
3	1 $\frac{1}{2}$ m (5 ft)	3	6 $\frac{1}{2}$ m (21 ft)
4	2 m (6 $\frac{1}{2}$ ft)	4	7 m (22 $\frac{1}{2}$ ft)
5	2 $\frac{1}{2}$ m (8 ft)	5	7 $\frac{1}{2}$ m (24 ft)
6	3 m (9 $\frac{1}{2}$ ft)	6	8 m (25 $\frac{1}{2}$ ft)
7	3 $\frac{1}{2}$ m (11 ft)	7	8 $\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	4 $\frac{1}{2}$ m (14 ft)	9	9 $\frac{1}{2}$ m (30 $\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example : 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m (2  $\frac{1}{2}$  ft) ; 5 = 2  $\frac{1}{4}$  m (7 ft) to 2  $\frac{3}{4}$  m (9 ft) ; 9 = 4  $\frac{1}{4}$  m (13  $\frac{1}{2}$  ft) to 4  $\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported ; e.g. a height of 2  $\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning : 4  $\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.

TABLE 8

Direction

In tens of degrees from which waves and/or winds are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than $4\frac{3}{4}$ metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	Waves confused, direction indeterminate (waves greater than $4\frac{3}{4}$ metres)
			Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.

TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m ( $1\frac{1}{2}$ ft)	1	$5\frac{1}{2}$ m (17 $\frac{1}{2}$ ft)
2	1 m ( 3 ft)	2	6 m (19 ft)
3	$1\frac{1}{2}$ m ( 5 ft)	3	$6\frac{1}{2}$ m (21 ft)
4	2 m ( $6\frac{1}{2}$ ft)	4	7 m (22 $\frac{1}{2}$ ft)
5	$2\frac{1}{2}$ m ( 8 ft)	5	$7\frac{1}{2}$ m (24 ft)
6	3 m ( $9\frac{1}{2}$ ft)	6	8 m (25 $\frac{1}{2}$ ft)
7	$3\frac{1}{2}$ m (11 ft)	7	$8\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	$4\frac{1}{2}$ m (14 ft)	9	$9\frac{1}{2}$ m (30 $\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example : 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft) ; 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft) ; 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported ; e.g. a height of  $2\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning :  $4\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.

TABLE 8

Direction

In tens of degrees from which waves and/or winds are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than 4¾ metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	Waves confused, direction indeterminate (waves greater than 4¾ metres)
			Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.

DDF 14:11.14

## DATA DOCUMENTATION FORM

NOAA FORM 24-13  
(4-72)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852FORM APPROVED  
O.M.B. No. 41-R2651

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 Physical Oceanography Laboratory NOAA-AOML 15 Rickenbacker Causeway MIAMI, FLORIDA 33149				2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED MESA - New York Bight		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT Ferrel WCC-11 FILE IDENT. 750615	
4. PLATFORM NAME(S) FERREL		5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) Ship		6. PLATFORM AND OPERATOR NATIONALITY(IES) U.S.A. U.S.A.		7. DATES FROM: MO, DAY, YR TO: MO, DAY, YR 9/29/74 10/2/74	
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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) Robert B. Starr							

# 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
<p>MESA REPORT IN PRESS WILL BE FORWARDED TO NOBC.</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

File header - byte 10 = "1"  
Station header - byte 10 = "2"  
DATA Record - byte 10 = "3"

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
FORMAT FOR WATER PHYSICS  
AND CHEMISTRY DATA. (Type "004")

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

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER

PAUL EISEN 516 751 7002

ADDRESS

MESA PROJECT OFFICE, STONY BROOK NY 11794

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<b>5. RECORDING MODE</b> <input type="checkbox"/> BCD <input type="checkbox"/> BINARY <input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC <input type="checkbox"/> _____	<b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b> <input type="checkbox"/> 3/4 INCH <input type="checkbox"/> _____
<b>6. NUMBER OF TRACKS (CHANNELS)</b> <input type="checkbox"/> SEVEN <input checked="" type="checkbox"/> NINE <input type="checkbox"/> _____	<b>10. END OF FILE MARK</b> <input type="checkbox"/> OCTAL 17 <input checked="" type="checkbox"/> STANDARD
<b>7. PARITY</b> <input checked="" type="checkbox"/> ODD <input type="checkbox"/> EVEN	<b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME KEY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b> VOL = SER = PL6097, file 1 4 CRUISES
<b>8. DENSITY</b> <input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI <input type="checkbox"/> 556 BPI <input checked="" type="checkbox"/> 800 BPI <input type="checkbox"/> _____	<b>12. PHYSICAL BLOCK LENGTH IN BYTES</b> UNBLOCKED <b>13. LENGTH OF BYTES IN BITS</b>



76-0777

NODC User Tape Cruise I.D. "118888"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD    <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII    <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input checked="" type="checkbox"/> .56</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> EBCDIC</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SER = 13455</u></p> <p><u>12 CRUISES</u></p> <p><u>LABEL = (1, NL)</u></p>
<p>8. DENSITY</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>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p><u>4000</u></p>	
<p>13. LENGTH OF BYTES IN BITS</p> <p><u>8</u></p>	

CRUISE	VESSEL	LOCATION	BEGIN-END DATES	COUNT	PARAMETER
--------	--------	----------	-----------------	-------	-----------

11	FERREL				
----	--------	--	--	--	--

		N4C+ W070+			
--	--	------------	--	--	--

					CC4 750615
--	--	--	--	--	------------

			0	CHLOROPHYLL
740929	741002	27		STATIONS
740929	741002	27		TEMPERATURE
740929	741002	27		SALINITY
740929	741002	27		SIGMA T
740929	741002	27		TRANSMISSIVITY
740929	741002	27		PH
740929	741002	26		EH
740929	741002	26		OXYGEN
		0		AMMONIA
740929	741002	26		NITRITE
740929	741002	26		NITRATE
740929	741002	26		SILICATE
740929	741002	26		INORGANIC PHOSPHATE
		0		SUSPENDED SOLIDS
		0		TURBIDITY

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes		17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER			
<u>File Header Record</u>					
FILE TYPE	1	3	A3	"004" (constant)	
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation	
RECORD TYPE	10	1	A1	"1" (File Header Record)	
VESSEL	11	11	11A1	(left aligned)	
CRUISE	22	6	6A1	Originator's cruise identifiers	
CRUISE DATES	28	17	5(I2,A1), I2	XX/XX/XX-XX/XX/XX	
				Beginning Month, Day, Year;	
				ending Month, Day, Year.	
SENIOR SCIENTIST	45	19	19A1	(left aligned)	
INVESTIGATOR	64	17	17A1	Responsible Institution (left aligned)	
<u>First Station Header Record</u>					
FILE TYPE	1	3	A3	"004" (constant)	
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation	
RECORD TYPE	10	1	A1	"2" (First Station Header Record)	
SEQUENCE	11	3	I2	Sequence of this record type within	
				Station. (Leading zeros or leading blanks)	
STATION	14	5	5A1	Station identifier.	
LATITUDE	19	6	3I2	Degrees, Minutes, Seconds	
LATHEM	25	1	A1	Hemisphere "N" or "S"	
LONGITUDE	26	7	I3,2I2	Degrees, Minutes, Seconds	
LONHEM	33	1	A1	Hemisphere "W" or "E"	
TIME	34	3	I3	GMT in hours to tenths	
DATE	37	8	2(I2,A1),I2	XX/XX/XX Station date; Month, Day, Year	
BOTTOM	45	5	I5	Water Depth, meters to tenths	
NAVIGATION	50	2	I2	(See attached codes)	
METHOD	52	1	I1	(See attached codes)	
blank	53	28	28X	blank	

Water Physics and Chemistry (File Type "004")

2 3

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER		
<u>Record Type "2" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Second Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"3" (Second Station Header Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
BAROMETER	19	3	I3	Pressure in millibars to tenths
DRY BULB	22	4	I4	Air temperature; degrees Celsius to tenths
WET BULB	26	4	I4	Air temperature; degrees Celsius to tenths
WIND DIRECTION	30	2	I2	WMO code 0877; tens of degrees
WIND SPEED	32	2	I2	Knots
SEA DIRECTION	34	2	I2	WMO code 0885; tens of degrees
SEA HEIGHT	36	1	A1	WMO code 1555
SWELL DIRECTION	37	2	I2	WMO code 0885
SWELL HEIGHT	39	1	A1	WMO code 1555
WEATHER	40	1	I1	WMO code 4501
CLOUD TYPE	41	1	A1	WMO code 0500
CLOUD COVER	42	1	I1	WMO code 2700
VISIBILITY	43	1	I1	WMO code 4300
TRANSPARENCY	44	4	I4	SECCHI Disk Depth; meters to tenths
TURBIDITY CODE	48	1	I1	(see attached codes)
blank	49	37	37X	blank

Water Physics and Chemistry (File Type "004")

3 3

14. FIELD NAME	15. POSITION FROM -1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes		17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER			
<u>Record Type "3" Terminator</u>					Optional for those who must re-read their files in FORTRAN.
IDENT	1	10	A3,3I2,A1		Same as "Second Station Header Record"
SEQUENCE	11	3	A3		"998" (constant)
blank	14	67	67X		blank
<u>Data Record</u>					
FILE TYPE	1	3	A3		"004" (constant)
FILE DATE	4	6	3I2		Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1		"4" (Data Record)
SEQUENCE	11	3	I3		Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1		Station identifier
DEPTH	19	4	I4		Sample depth, meters to tenths
TEMPERATURE	23	5	I5		Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5		Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4		Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3		Transmissivity; percent to tenths
PH	40	3	I3		pH to hundredths
EH	43	4	I4		Eh to hundredths
OXYGEN	47	4	I4		Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3		Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3		Hundredths of µg-atoms/liter
NITRATE	57	4	I4		Hundredths of µg-atoms/liter
SILICATE	61	4	I4		Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3		Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4		Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4		Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5		Chlorophyll; in hundredths of mg./meter <sup>3</sup>
<u>Record Type "4" Terminator</u>					Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1		Same as "Data Record"
SEQUENCE	11	3	A3		"998" = end station. "999" = end file
blank	14	67	67X		blank

Special Codes

Water Physics and Chemistry

NAVIGATION

- 01 = Loran (mixed or unspecified)
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- 03 = Raydist without complications
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- 1 = Turbidometer; in JTU
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METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

## Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

## Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)

TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus . . . . .	Cu
9	Cumulonimbus . . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured, or cloud amount cannot be estimated	



TABLE 10

## Height

WMO Code 1555 for recording height of the dominant waves

Code		Code	If 50 is added to direction
0	Less than $\frac{1}{4}$ m (1 ft)	0	5 m (16 ft)
1	$\frac{1}{2}$ m ( $1\frac{1}{2}$ ft)	1	$5\frac{1}{2}$ m ( $17\frac{1}{2}$ ft)
2	1 m (3 ft)	2	6 m (19 ft)
3	$1\frac{1}{2}$ m (5 ft)	3	$6\frac{1}{2}$ m (21 ft)
4	2 m ( $6\frac{1}{2}$ ft)	4	7 m ( $22\frac{1}{2}$ ft)
5	$2\frac{1}{2}$ m (8 ft)	5	$7\frac{1}{2}$ m (24 ft)
6	3 m ( $9\frac{1}{2}$ ft)	6	8 m ( $25\frac{1}{2}$ ft)
7	$3\frac{1}{2}$ m (11 ft)	7	$8\frac{1}{2}$ m (27 ft)
8	4 m (13 ft)	8	9 m (29 ft)
9	$4\frac{1}{2}$ m (14 ft)	9	$9\frac{1}{2}$ m ( $30\frac{1}{2}$ ft)
x	Height not determined		

## Notes :

- (1) Each code figure provides for reporting a range of heights. For example: 1 =  $\frac{1}{4}$  m (1 ft) to  $\frac{3}{4}$  m ( $2\frac{1}{2}$  ft); 5 =  $2\frac{1}{4}$  m (7 ft) to  $2\frac{3}{4}$  m (9 ft); 9 =  $4\frac{1}{4}$  m ( $13\frac{1}{2}$  ft) to  $4\frac{3}{4}$  m (15 ft), etc.
- (2) If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of  $2\frac{3}{4}$  m is reported by code figure 5.
- (3) In aeronautical forecast codes, only the left-hand table is to be used, and code figure 9 has the meaning:  $4\frac{1}{2}$  m (14 ft) or more.
- (4) The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.

TABLE 8

Direction

In tens of degrees from which waves and/or winds  
are coming

Code		Code	
00	Calm (no waves - no motion)	22	215° - 224°
01	5° - 14°	23	225° - 234°
02	15° - 24°	24	235° - 244°
03	25° - 34°	25	245° - 254°
04	35° - 44°	26	255° - 264°
05	45° - 54°	27	265° - 274°
06	55° - 64°	28	275° - 284°
07	65° - 74°	29	285° - 294°
08	75° - 84°	30	295° - 304°
09	85° - 94°	31	305° - 314°
10	95° - 104°	32	315° - 324°
11	105° - 114°	33	325° - 334°
12	115° - 124°	34	335° - 344°
13	125° - 134°	35	345° - 354°
14	135° - 144°	36	355° - 4°
15	145° - 154°		
16	155° - 164°	49	Waves confused, direction indeterminate (waves equal to or less than $4\frac{3}{4}$ metres)
17	165° - 174°		
18	175° - 184°		
19	185° - 194°		
20	195° - 204°		
21	205° - 214°	99	{ Waves confused, direction indeterminate (waves greater than $4\frac{3}{4}$ metres) Winds variable, or all directions or unknown

Table 8 is a combination of WMO Codes 0885 and 0877.

DDP A:1114

## DATA DOCUMENTATION FORM

NOAA FORM 24-13  
(4-72)U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
ROCKVILLE, MARYLAND 20852FORM APPROVED  
O.M.B. No. 41-R2651

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 Physical Oceanography Laboratory NOAA-AOML 15 Rickenbacker Causeway MIAMI, FLORIDA 33149				2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED MESA - New York Bight		3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT Ferrel WCC-12 FILE IDENT. 750615	
4. PLATFORM NAME(S) FERREL		5. PLATFORM TYPE(S) (E.G., SHIP, BUOY, ETC.) Ship		6. PLATFORM AND OPERATOR NATIONALITY(IES) U.S.A., U.S.A.		7. DATES FROM: MO, DAY, YR TO: MO, DAY, YR 11/4/74 11/7/74	
8. ARE DATA PROPRIETARY? <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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?) <input type="checkbox"/> NO <input checked="" 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) Robert B. Starr			

# 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
<p>MESA REPORT IN PRESS WILL BE FORWARDED TO NODC</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

File header - byte 10 = "1"  
 Station header - byte 10 = "2"  
 DATA Record - byte 10 = "3"

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

According to STANDARD MESA  
 FORMAT FOR WATER PHYSICS  
 AND CHEMISTRY DATA. (Type "004")

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

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER

PAUL EISEN 516 751 7002

ADDRESS

MESA PROJECT OFFICE, STONY BROOK NY 11774

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input type="checkbox"/> _____</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> STANDARD</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME KEY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p>VOL = SER = PL6097, file 1</p> <p>4 Cruises</p>
<p>8. DENSITY</p> <p><input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI</p> <p><input type="checkbox"/> 556 BPI</p> <p><input checked="" type="checkbox"/> 800 BPI</p> <p><input type="checkbox"/> _____</p>	<p>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p>UNBLOCKED</p> <p>13. LENGTH OF BYTES IN BITS</p> <p>8</p>

76-0777

NODC User Tape Cruise I.D. "12 XXXX"

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

<p>5. RECORDING MODE</p> <p><input type="checkbox"/> BCD    <input type="checkbox"/> BINARY</p> <p><input type="checkbox"/> ASCII    <input checked="" type="checkbox"/> EBCDIC</p> <p><input type="checkbox"/> _____</p>	<p>9. LENGTH OF INTER-RECORD GAP (IF KNOWN) <input type="checkbox"/> 3/4 INCH</p> <p><input checked="" type="checkbox"/> .56</p>
<p>6. NUMBER OF TRACKS (CHANNELS)</p> <p><input type="checkbox"/> SEVEN</p> <p><input checked="" type="checkbox"/> NINE</p> <p><input type="checkbox"/> _____</p>	<p>10. END OF FILE MARK</p> <p><input type="checkbox"/> OCTAL 17</p> <p><input checked="" type="checkbox"/> EBCDIC</p>
<p>7. PARITY</p> <p><input checked="" type="checkbox"/> ODD</p> <p><input type="checkbox"/> EVEN</p>	<p>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME LAY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</p> <p><u>VOL = SEN - 13455</u></p> <p><u>12 CRUISES</u></p> <p><u>LABEL = (1, NL)</u></p>
<p>8. DENSITY</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>12. PHYSICAL BLOCK LENGTH IN BYTES</p> <p><u>4000</u></p> <p>13. LENGTH OF BYTES IN BITS</p> <p><u>8</u></p>

CRUISE	VESSEL	LOCATION	BEGIN-END DATES	COUNT	PARAMETER
--------	--------	----------	-----------------	-------	-----------

12	FERREL				
----	--------	--	--	--	--

		N4C+ W070+			
--	--	------------	--	--	--

004 750615

		0	CHLOROPHYLL
741104	741107	27	STATIONS
741104	741107	27	TEMPERATURE
741104	741107	27	SALINITY
741104	741107	27	SIGMA T
741104	741107	27	TRANSMISSIVITY
741104	741107	27	PH
741104	741107	27	EH
741104	741107	26	OXYGEN
		0	AMMONIA
741104	741107	27	NITRITE
741104	741107	27	NITRATE
741104	741107	27	SILICATE
741104	741107	27	INORGANIC PHOSPHATE
		0	SUSPENDED SOLIDS
		0	TURBIDITY

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>File Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"1" (File Header Record)
VESSEL	11	11	11A1	(left aligned)
CRUISE	22	6	6A1	Originator's cruise identifiers
CRUISE DATES	28	17	5(I2,A1), I2	XX/XX/XX-XX/XX/XX
				Beginning Month, Day, Year;
SENIOR SCIENTIST	45	19	19A1	ending Month, Day, Year.
INVESTIGATOR	64	17	17A1	(left aligned)
				Responsible Institution (left aligned)
<u>First Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy. of file generation
RECORD TYPE	10	1	A1	"2" (First Station Header Record)
SEQUENCE	11	3	I2	Sequence of this record type within
				Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier.
LATITUDE	19	6	3I2	Degrees, Minutes, Seconds
LATHEM	25	1	A1	Hemisphere "N" or "S"
LONGITUDE	26	7	I3,2I2	Degrees, Minutes, Seconds
LONHEM	33	1	A1	Hemisphere "W" or "E"
TIME	34	3	I3	GMT in hours to tenths
DATE	37	8	2(I2,A1),I2	XX/XX/XX Station date; Month, Day, Year
BOTTOM	45	5	I5	Water Depth, meters to tenths
NAVIGATION	50	2	I2	(See attached codes)
METHOD	52	1	I1	(See attached codes)
blank	53	28	28X	blank



14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN (e.g., bits, bytes)	16. LENGTH in bytes NUMBER	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
<u>Record Type "2" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Second Station Header Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"3" (Second Station Header Record)
SEQUENCE	11	3	I3	Sequence of this record type within
STATION	14	5	5A1	Station (Leading zeros or leading blanks)
BAROMETER	19	3	I3	Station identifier
DRY BULB	22	4	I4	Pressure in millibars to tenths
WET BULB	26	4	I4	Air temperature; degrees Celsius to tenths
WIND DIRECTION	30	2	I2	Air temperature; degrees Celsius to tenths
WIND SPEED	32	2	I2	WMO code 0877; tens of degrees
SEA DIRECTION	34	2	I2	Knots
SEA HEIGHT	36	1	A1	WMO code 0885; tens of degrees
SWELL DIRECTION	37	2	I2	WMO code 1555
SWELL HEIGHT	39	1	A1	WMO code 0885
WEATHER	40	1	I1	WMO code 1555
CLOUD TYPE	41	1	A1	WMO code 4501
CLOUD COVER	42	1	I1	WMO code 0500
VISIBILITY	43	1	I1	WMO code 2700
TRANSPARENCY	44	4	I4	WMO code 4300
TURBIDITY CODE	48	1	I1	SECCHI Disk Depth; meters to tenths
blank	49	37	B7X	(see attached codes)
				blank

Water Phsics and Chemistry (File Type "004")

3 3

14. FIELD NAME	15. POSITION FROM - 1 MEASURED IN  (e.g., bits, bytes)	16. LENGTH in bytes	17. ATTRIBUTES (FORTRAN)	18. USE AND MEANING
		NUMBER		
<u>Record Type "3" Terminator</u>				Optional for those who must re-read their files in FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Second Station Header Record"
SEQUENCE	11	3	A3	"998" (constant)
blank	14	67	67X	blank
<u>Data Record</u>				
FILE TYPE	1	3	A3	"004" (constant)
FILE DATE	4	6	3I2	Yr., Mo., Dy., of file generation
RECORD TYPE	10	1	A1	"4" (Data Record)
SEQUENCE	11	3	I3	Sequence of this record type within Station. (Leading zeros or leading blanks)
STATION	14	5	5A1	Station identifier
DEPTH	19	4	I4	Sample depth, meters to tenths
TEMPERATURE	23	5	I5	Water temp.; degrees Celsius to thousandths
SALINITY	28	5	I5	Salinity; parts per thousand to thousandths
SIGMA-T	33	4	I4	Sigma-t to hundredths
TRANSMISSIVITY	37	3	I3	Transmissivity; percent to tenths
PH	40	3	I3	pH to hundredths
EH	43	4	I4	Eh to hundredths
OXYGEN	47	4	I4	Dissolved; hundredths of ml./liter
AMMONIA	51	3	I3	Tenths of microgram (µg)-atoms/liter
NITRITE	54	3	I3	Hundredths of µg-atoms/liter
NITRATE	57	4	I4	Hundredths of µg-atoms/liter
SILICATE	61	4	I4	Hundredths of µg-atoms/liter
PHOSPHATE	65	3	I3	Inorganic; hundredths of µg-atoms/liter
SOLIDS	68	4	I4	Suspended solids in hundredths of mg./liter
TURBIDITY	72	4	I4	Turbidity; in hundredths of mg./liter
CHLOROPHYLL	76	5	I5	Chlorophyll; in hundredths of mg./meter <sup>3</sup>
<u>Record Type "4" Terminator</u>				Optional; for those who must re-read their file using FORTRAN.
IDENT	1	10	A3,3I2,A1	Same as "Data Record"
SEQUENCE	11	3	A3	"998" = end station. "999" = end file
blank	14	67	67X	blank

## Special Codes

### Water Physics and Chemistry

#### NAVIGATION

- 01 = Loran (mixed or unspecified)
- 02 = Radar and/or fixes
- 03 = Raydist without complications
- 04 = Raydist with errors, drifting, etc.
- 05 = Satellite
- 06 = Omega
- 07 = Loran A only
- 08 = Loran C only

#### TURBIDITY CODE

- 1 = Turbidometer; in JTU
- 2 = Transmissometer; in percent of light transmission over a 10 cm. path.
- 3 = Fluorometer; suspended solids calibration

#### METHOD CODE

- 1 = STD (Salinity, Temperature, and Depth recorder)
- 2 = XBT (Expendable Bathythermograph)
- 3 = Nansen Cast
- 4 = MBT (Mechanical Bathythermograph)

2-20-76

TABLE 21

## Present Weather

WMO Code 4501 for recording present weather

Code  
figure

- 0 Clear (no cloud at any level)
- 1 Partly cloudy (scattered or broken)
- 2 Continuous layer(s) of cloud(s)
- 3 Sandstorm, duststorm, or blowing snow
- 4 Fog, thick dust or haze
- 5 Drizzle
- 6 Rain
- 7 Snow, or rain and snow mixed
- 8 Shower(s)
- 9 Thunderstorm(s)

3-31-76

TABLE 27

## Visibility

WMO Code 4300 for recording visibility at surface

Code

- 0 Less than 50 metres (less than 55 yards)
- 1 50-200 metres (approx. 55-220 yards)
- 2 200-500 metres (approx. 220-550 yards)
- 3 500-1,000 metres (approx. 550 yards-5/8 n.m.)
- 4 1- 2 km (approx. 5/8-1 n.m.)
- 5 2- 4 km (approx. 1- 2 n.m.)
- 6 4-10 km (approx. 2- 6 n.m.)
- 7 10-20 km (approx. 6-12 n.m.)
- 8 20-50 km (approx. 12-30 n.m.)
- 9 50 km or more (30 n.m. or more)

TABLE 25

## Cloud Type (Genus)

WMO Code 0500 for recording cloud type (genus)

## Code

0	Cirrus . . . . .	Ci
1	Cirrocumulus . . . . .	Cc
2	Cirrostratus . . . . .	Cs
3	Alto cumulus . . . . .	Ac
4	Altostratus . . . . .	As
5	Nimbostratus . . . . .	Ns
6	Stratocumulus . . . . .	Sc
7	Stratus . . . . .	St
8	Cumulus . . . . .	Cu
9	Cumulonimbus . . . . .	Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena	

TABLE 26

## Cloud Amount

WMO Code 2700 for recording cloud amount

## Code

0	0	0
1	1 okta or less, but not zero	$\frac{1}{10}$ or less, but not zero
2	2 oktas	$\frac{2}{10} - \frac{3}{10}$
3	3 oktas	$\frac{4}{10}$
4	4 oktas	$\frac{5}{10}$
5	5 oktas	$\frac{6}{10}$
6	6 oktas	$\frac{7}{10} - \frac{8}{10}$
7	7 oktas or more, but not 8 oktas	$\frac{9}{10}$ or more, but not $\frac{10}{10}$
8	8 oktas	$\frac{10}{10}$
9	Sky obscured, or cloud amount cannot be estimated	

Password:

accNo	fleA	refNo	proj	inst	ship	startDate	cruise	catId
7600777	F004	TR0076	0065	311A	318L	1973/08/27	WCC-1	299060
7600777	F004	TR0077	0065	311A	318L	1973/09/16	WCC-2	299061
7600777	F004	TR0078	0065	311A	318L	1973/10/01	WCC-3	299062
7600777	F004	TR0079	0065	311A	318L	1973/11/05	WCC-4	299063
7600777	F004	TR0080	0065	311A	318L	1973/11/26	WCC-5	299064
7600777	F004	TR0081	0065	311A	318L	1974/04/16	WCC-6	299065
7600777	F004	TR0082	0065	311A	318L	1974/05/06	WCC-7	299066
7600777	F004	TR0083	0065	311A	318L	1974/06/10	WCC-8	299067
7600777	F004	TR0084	0065	311A	318L	1974/07/16	WCC-9	299068
7600777	F004	TR0085	0065	311A	318L	1974/08/21	WCC-10	299069
7600777	F004	TR0086	0065	311A	318L	1974/09/29	WCC-11	299070
7600777	F004	TR0087	0065	311A	318L	1974/11/04	WCC-12	299071

(12 rows affected)

Password:

accNo	fleA	refNo	ship	staCnt	recCnt	startDate	endDate
7600777	F004	TR0076	318L	25	607	Aug 27 1973	Aug 29 1973
7600777	F004	TR0077	318L	25	620	Sep 16 1973	Sep 20 1973
7600777	F004	TR0078	318L	25	125	Oct 1 1973	Oct 4 1973
7600777	F004	TR0079	318L	25	127	Nov 5 1973	Nov 9 1973
7600777	F004	TR0080	318L	25	585	Nov 26 1973	Nov 29 1973
7600777	F004	TR0081	318L	26	571	Apr 16 1974	Apr 20 1974
7600777	F004	TR0082	318L	22	486	May 6 1974	May 9 1974
7600777	F004	TR0083	318L	27	591	Jun 10 1974	Jun 13 1974
7600777	F004	TR0084	318L	26	586	Jul 16 1974	Jul 19 1974
7600777	F004	TR0085	318L	26	600	Aug 21 1974	Aug 24 1974
7600777	F004	TR0086	318L	27	592	Sep 29 1974	Oct 2 1974
7600777	F004	TR0087	318L	27	633	Nov 4 1974	Nov 7 1974

(12 rows affected)