

ACCESSION NO. 8600359 FILETYPE \_\_\_\_\_ TRACK NO. \_\_\_\_\_ PROJECT IDENTIFICATION \_\_\_\_\_

STEP	DATE	INIT.	TAPE OR DISK DSN	NO. FILES	RECL	BLK SIZE	NO. RECO
ORIG. TAPE	1/13/87	LAW	A00344	8	80	3200	553
DUPLICATE TAPE	2/5/87	LAW	W 07845	8	80	3200	553
REFORMATTED TAPE	3/10/87	RPS	<del>HAWOUT</del>				
REFORMATTED DISK			HAWOUT.				
FIRST MULCHEK							
FINAL MULCHEK							
MPD75 OR F022							
DATA SET FINALIZED							

ERRORS REPORTED TO PRINCIPAL INVESTIGATOR:

DNODCK 8600359-01

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

COMMENTS (TRACKS DELETED, FIELDS DELETED, ETC.)

## TRANSMITTAL AND RECEIPT RECORD

(Please sign and return carbon copy acknowledging receipt)

National Oceanographic Data Center  
Universal Building South  
1825 Connecticut Ave., NW  
Washington, DC 20235

REFER TO

ATTENTION

Anthony Picciolo

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

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

1 Magnetic tape ASCII, 9 track, ODD Parity, 8 Files,  
1 DDF (Facsimile)  
1 Cover letter (copy)

Containing:

Hawaii - Tahiti Shuttle (bottle data)  
R/V GYRE LEGS 1-5  
R/V WECOMA LEGS 7-15

Please acknowledge receipt of data and forward the assigned NODC reference numbers to Ms. Kristin Sanborn, SIO, PACODE, La Jolla, CA 92093.

Thank you.

NOTE: Please credit to:

NSF-OCE 78-20719 and DOE  
Contract DE-A503-76SF00034/  
DE-AT03-79EV - 10218.

cc: Kristen Sanborn, SIO

LEG 1 = 49  
" 2 = 38  
" 5 = 32  
" 7 = 94  
" 9 = 82  
" 11 = 90  
" 13 = 92  
" 15 = 37  
554

8600359  
A00344

#366-10/30/86

FORWARDED BY (Signature)

TITLE

DATE FORWARDED

Nelson C. Ross, Jr.

Liaison Officer

10/23/86

RECEIVED BY (Signature)

TITLE

DATE RECEIVED

10/30/86

ESS NUMBER	REF NUMBER	FILE TYPE	PROJ CODE	INST	PLAT	CRUISE NO	CRUISE START	CRUISE END	NUM STA	NUM REC
8600359	328667	C100	0177	3101	32BY 181,	LEG 1	02/07/79	02/25/79	1	681
8600359	328668	C100	0177	3101	32BY 183,	LEG 3	04/03/79	05/02/79	1	756
8600359	328669	C100	0177	3101	32WE 185,	LEG 5	06/18/79	07/14/79	1	671
8600359	328670	C100	0177	3101	32WE 187,	LEG 7	08/19/79	09/11/79	1	708
8600359	328671	C100	0177	3101	32WE 189,	LEG 9	11/01/79	11/24/79	1	778
8600359	328672	C100	0177	3101	32WE 191,	LEG 11	01/08/80	02/03/80	1	797
8600359	328673	C100	0177	3101	32WE 193,	LEG 13	03/18/80	04/10/80	1	773
8600359	328674	C100	0177	3101	32WE 195,	LEG 15	05/18/80	05/25/80	1	239
8600359	328675	C100	0177	3101	32WE 195,	LEG 15	06/06/80	06/14/80	1	273

PR NAME <b>WARNER</b>	PHONE # <b>673-5643</b>	ORG/TASK #	DATE SUBMITTED <b>2/5/87</b>	DATE DUE	BIN <b>03</b>
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Please Make W copy & Scan (SL)

INPUT MEDIUM PAPER CARD DISK <u>TAPE</u> DISKETTE OTHER(SPECIFY)	OUTPUT MEDIUM CARD DISK <u>PRINT</u> <u>TAPE</u> PLOT DISKETTE OTHER(SPECIFY)
------------------------------------------------------------------------	-------------------------------------------------------------------------------------

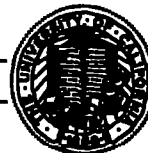
E/DISKETTE INFORMATION										
	(TAPE #/ DISKETTE)	SLOT #	TRK	DENSITY	PARITY	LABEL TYPE	RECORD TYPE	RECORD LENGTH	MAX. BLOCK SIZE	# OF FIL
PUT	<b>A00311</b>		0	800	0	<b>(11)</b>	FB	80	3200	8
	SECTOR SIZE	EXCHANGE TYPE	CODE: ASCII EBCDIC BCD SDF OTHER(SPECIFY)				DATA SET NAME			PUR DAT
	TAPE #/ DISKETTE	SLOT #	TRK	DENSITY	PARITY	LABEL TYPE	RECORD TYPE	RECORD LENGTH	MAX. BLOCK SIZE	# OF FIL
	SECTOR SIZE	EXCHANGE TYPE	CODE: ASCII EBCDIC BCD SDF OTHER(SPECIFY)				DATA SET NAME			PUR DAT
PUT	<b>W07845</b>		9	800	0	<b>(SL)</b>	FB	80	3200	5
	SECTOR SIZE	EXCHANGE TYPE	CODE: ASCII EBCDIC BCD SDF OTHER(SPECIFY)				DATA SET NAME			PUR DAT
	TAPE #/ DISKETTE	SLOT #	TRK	DENSITY	PARITY	LABEL TYPE	RECORD TYPE	RECORD LENGTH	MAX. BLOCK SIZE	# OF FIL
	SECTOR SIZE	EXCHANGE TYPE	CODE: ASCII EBCDIC BCD SDF OTHER(SPECIFY)				DATA SET NAME			PUR DAT

SPECIAL INSTRUCTIONS 	ESTIMATED EXECUTION TIME
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1 USE ONLY					
#	DATE JOB COMPLETED	START TIME	END TIME	PRIORITY	DEVICES USED, NUMBER OF TAPE MOUNTS, LINES PRINTED, DISKETTES USED, CARDS PUNCHED, CARDS KEYVERIFIED
2620502	2/9/87	11:15	11:20	C	COMPLETED BY JAMES

UNIVERSITY OF CALIFORNIA, SAN DIEGO

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

SCRIPPS INSTITUTION OF OCEANOGRAPHY  
STS/Physical & Chemical Oceanographic  
Data Facility A-014

LA JOLLA, CALIFORNIA 92093

23 October 1986

Mr. Nelson C. Ross, Jr.  
NODC Representative  
A-003  
SWFC (NMFS)

Dear Nelson:

Enclosed is the Hawaii-Tahiti Shuttle bottle data tapes with appropriate documentation.

The funding was by NSF, OCE 78-20719 to the University of Hawaii and DOE, Contract DE-AS03-76SF00034/DE-AT03-79EV-10218. The CTD data was submitted in 1981 and has accession number 8200065.

Sincerely,

*Kristin*  
Kristin M. Sanborn  
Data Requests & Releases

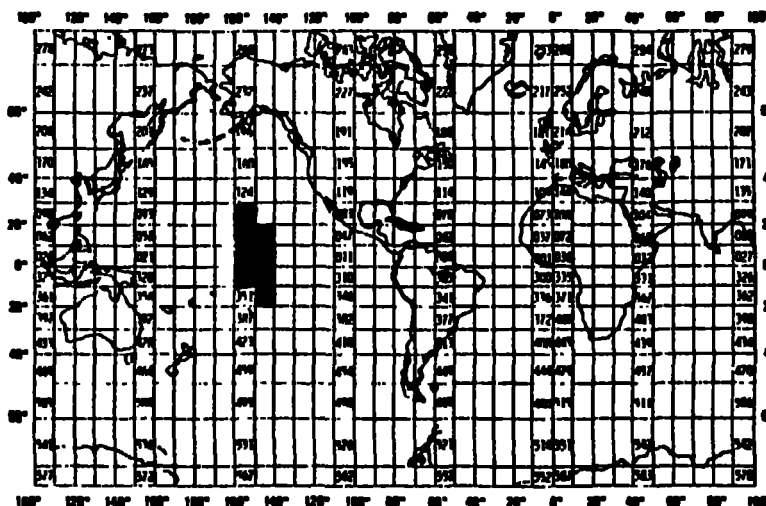
kms  
Enclosures  
cc: Robert T. Williams  
David Wirth

**A. ORIGINATOR IDENTIFICATION**

1. NAME AND ADDRESS OF INSTITUTION, LABORATORY WITH WHICH SUBMITTED DATA ARE ASSOCIATED:  
Physical and Chemical Oceanographic Data Facility  
Scripps Institution of Oceanography  
University of California, San Diego A-014  
La Jolla, CA 92093
2. EXPEDITION DURING WHICH DATA WERE COLLECTED:  
HAWAII-TAHITI SHUTTLE EXPERIMENT
3. CRUISE NUMBER USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT:  
181 = Leg 1  
183 = Leg 3  
185 = Leg 5  
187 = Leg 7  
189 = Leg 9  
191 = Leg 11  
193 = Leg 13  
195 = Leg 15
4. PLATFORM NAME:  
RV GYRE Legs 1 - 5  
RV VECOMA Legs 7 - 15
5. PLATFORM TYPE:  
Research Vessel
6. PLATFORM AND OPERATOR NATIONALITY:  
PLATFORM: U.S.A.  
OPERATOR: U.S.A.
7. DATES: MO/DA/YR  
LEG 1    LEG 3    LEG 5    LEG 7    LEG 9    LEG 11    LEG 13    LEG 15  
FROM: 02/04/79 04/03/79 06/17/79 08/19/79 10/31/79 01/08/80 03/18/80 05/17/80  
TO: 02/25/79 05/02/79 07/15/79 09/11/79 11/24/79 02/03/80 04/10/80 06/14/80
8. RELEASE DATE IF DATA PROPRIETARY:  
N.A.
9. ARE DATA DECLARED NATIONAL PROGRAM (DNP)?  
YES
10. PERSON TO WHOM INQUIRIES CONCERNING DATA SHOULD BE ADDRESSED:  
ADDRESS SAME AS # 1.  
Robert T. Williams  
or  
Kristin M. Sanborn  
(619) 534-4425  
or  
Dr. Klaus Wyrtki  
University of Hawaii  
Honolulu, HI 96822  
or  
Dr. Wallace S. Broecker  
Lamont-Doherty Geological Observatory  
of Columbia University  
Palisades, NY 10964

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

**GENERAL AREA**



\*\*\*\*B. SCIENTIFIC CONTENT

NAME OF DATA FIELD	REPORTING UNITS OR CODE	METHODS OF OBSERVATION AND INSTRUMENTS USED	ANALYTICAL METHODS (INCLUDING MODIFICATIONS) AND LABORATORY PROCEDURES	DATA PROCESSING TECHNIQUES WITH FILTERING AND AVERAGING
DEPTH	METERS	N. A.	N. A.	Calculated from pressure by integration of hydro- static equation by Saunders (1981).
TEMPERATURE	CELSIUS	Neil Brown Mark III CTD	N. A.	Averaged over 1 roll period of ship.
		Deep Sea Reversing Thermometers	N. A.	N. A.
SALINITY	PER MIL	Niskin Bottles	Duplicate measurements by Plessey inductive or Guildline Autosol laboratory salinometer	N. A.
		Neil Brown Mark III CTD	N. A.	SEE TEMPERATURE
OXYGEN	MILLILITERS/LITER	Niskin Bottles	WINKLER titration as revised by J. H. Carpenter (1965)	N. A.
PHOSPHATE	MICROGRAM-ATOMS/LITER	Niskin Bottles	Hydrazine reduction of phosphomolybdic acid Bernhardt & Wilhelms (1967) Technicon AutoAnalyzer	N. A.
SILICATE	MICROGRAM-ATOMS/LITER	Niskin Bottles	Stannous chloride reduction of silicomolybdic acid Armstrong et al. (1967) Technicon AutoAnalyzer	N. A.
NITRITE	MICROGRAM-ATOMS/LITER	Niskin Bottles	Diazotization and coupling to form dye. Method of Armstrong et al. (1967) Technicon AutoAnalyzer	N. A.
NITRATE	MICROGRAM-ATOMS/LITER	Niskin Bottles	Reduced by copperized cadmium; analyzed as Nitrite by method of Armstrong et al. (1967) Technicon AutoAnalyzer	N. A.

**C. DATA FORMAT**

**1. RECORD TYPES**

**MASTER INFORMATION** - IDENTIFIED BY A 1 IN  
LAST CHARACTER OF LOGICAL RECORD OF 80 CHARACTERS

**MASTER INFORMATION** - IDENTIFIED BY A 2 IN  
LAST CHARACTER OF LOGICAL RECORD OF 80 CHARACTERS

**DATA RECORD** - IDENTIFIED BY A 3  
IN LAST CHARACTER OF LOGICAL RECORD OF 80 CHARACTERS

**2. DESCRIPTION OF FILE ORGANIZATION**

LOGICAL RECORD LENGTH OF 80 CHARACTERS

PHYSICAL RECORD LENGTH OF 3200 CHARACTERS

FOR EACH STATION, TWO MASTER RECORD FOLLOWED BY A DATA RECORD FOR EACH  
LEVEL

EOF AT END OF LEG

**3. ATTRIBUTES AS EXPRESSED IN FORTRAN**

**4. LABEL**

SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL & CHEMICAL OCEANOGRAPHIC

DATA FACILITY TAPE #10

ASCII; 800BPI NRZI; 9-TRACK; PARITY ODD;

FILES=8; BLOCK=3200; RECORD LENGTH=80

PROJECT: HAWAII-TAHITI SHUTTLE EXPERIMENT (1984 SD FORMAT)

DATE: 14 October 1986

FILE 1 = Leg 1

FILE 2 = Leg 3

FILE 3 = Leg 5

FILE 4 = Leg 7

FILE 5 = Leg 9

FILE 6 = Leg 11

FILE 7 = Leg 13

FILE 8 = Leg 15



**D. INSTRUMENT CALIBRATION**

<b>INSTRUMENT TYPE</b>	<b>*DATE OF LAST * CALIBRATION</b>	<b>*INSTRUMENT CALIBRATED BY *</b>	<b>*INSTRUMENT IS CALIBRATED *</b>
NEIL BROWN MARK III CTD*	*	* PHYSICAL & CHEMICAL OCEANOGRAPHIC *	* BEFORE AND AFTER USE, AND
	*	* DATA FACILITY *	* BY COMPARISON AGAINST
	*	* SCRIPPS INSTITUTION OF OCEANOGRAPHY*	* BOTTLE DATA
	*	* UNIVERSITY OF CALIFORNIA, SAN DIEGO*	
REVERSING THERMOMETER *	*	* PHYSICAL & CHEMICAL OCEANOGRAPHIC *	* 1-2 YEAR INTERVALS, AS
	*	* DATA FACILITY *	* NEEDED.
	*	* SCRIPPS INSTITUTION OF OCEANOGRAPHY*	
	*	* UNIVERSITY OF CALIFORNIA, SAN DIEGO*	
SALINOMETER *	*	* PHYSICAL & CHEMICAL OCEANOGRAPHIC *	* WITH WORMLEY STANDARD
	*	* DATA FACILITY *	* SEA WATER BEFORE AND
	*	* SCRIPPS INSTITUTION OF OCEANOGRAPHY*	* AFTER EACH RUN
	*	* UNIVERSITY OF CALIFORNIA, SAN DIEGO*	

# MASTER RECORD 1:

\*\*\*\*\*

## START FORMAT ITEM

COLUMN

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```

** 1 I1 CONTINUATION INDICATOR
** 2 I1 BLANK
** 3 I2 NODC REFERENCE NUMBER - COUNTRY
** 5 I1 NODC REFERENCE NUMBER - FILE CODE always "5"
** 6 I4 NODC REFERENCE NUMBER - CRUISE NUMBER
** 10 I4 NODC CONSECUTIVE STATION NUMBER
** 14 I2 DATA TYPE
** 16 2X BLANK
** 18 I4 TEN-DEGREE SQUARE, WHO
** 22 I2 ONE-DEGREE SQUARE, WHO
** 24 I2 TWO-DEGREE SQUARE, WHO
** 26 I1 FIVE-DEGREE SQUARE, WHO
** 27 A1 N OR S HEMISPHERE OF LATITUDE
** 28 I2 DEGREES LATITUDE
** 30 I2 MINUTES LATITUDE
** 32 I1 MINUTES LATITUDE, TENTHS
** 33 A1 W OR E HEMISPHERE OF LONGITUDE
** 34 I3 DEGREES LONGITUDE
** 37 I2 MINUTES LONGITUDE
** 39 I1 MINUTES LONGITUDE, TENTHS
** 40 I1 QUARTER OF ONE-DEGREE SQUARE, WHO
** 41 I2 YEAR, GMT
** 43 I2 MONTH OF YEAR, GMT
** 45 I2 DAY OF MONTH, GMT
** 47 F3.1 STATION TIME, GMT HOURS TO TENTHS
** 50 I2 DATA ORIGIN - COUNTRY
** 52 I2 DATA ORIGIN - INSTITUTION
** 54 A2 DATA ORIGIN - PLATFORM
** 56 I5 BOTTOM DEPTH (WHOLE METERS)
** 61 I4 EFFECTIVE DEPTH (WHOLE METERS)
** 65 F3.1 CAST DURATION (HOURS TO TENTHS)
** 68 A1 CAST DIRECTION (U=UP, D=DOWN, A=AVERAGE OF UP & DOWN CASTS)
** 69 1X BLANK
** 70 I1 DATA USE CODE
** 71 I4 MINIMUM DEPTH
** 75 I4 MAXIMUM DEPTH
** 79 I1 ALWAYS 2 NEXT RECORD INDICATOR
** 80 I1 ALWAYS 1 RECORD INDICATOR

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\*\* FIELD DEFINED BY NODC, CALCULATION NOT DONE BY THIS FACILITY.

MASTER RECORD 2:

\*\*\*\*\*

START FORMAT ITEM

COLUMN

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1      I4      DEPTH DIFFERENCE (BOTTOM DEPTH - MAXIMUM DEPTH)
** 5     2X      SAMPLE INTERVAL
** 7     A1      % SALINITY OBSERVED(0=1-9%, 9=90-99%, - = 0)
** 8     A1      % OXYGEN OBSERVED(0=1-9%, 9=90-99%, - = 0)
** 9     A1      % PHOSPHATE OBSERVED(0=1-9%, 9=90-99%, - = 0)
** 10    A1      % TOTAL PHOSPHOROUS OBSERVED(0=1-9%, 9=90-99%, - = 0)
** 11    A1      % SILICATE OBSERVED(0=1-9%, 9=90-99%, - = 0)
** 12    A1      % NITRITE OBSERVED(0=1-9%, 9=90-99%, - = 0)
** 13    A1      % NITRATE OBSERVED(0=1-9%, 9=90-99%, - = 0)
** 14    A1      % PH OBSERVED(0=1-9%, 9=90-99%, - = 0)
15     A3      ORIGINATOR'S CRUISE IDENTIFIER
18     A9      ORIGINATOR'S STATION IDENTIFIER
** 27    I2      WATER COLOR FOREL-ULE SCALE
** 29    I2      WATER TRANSPARENCY SECCHI DEPTH (WHOLE METERS)
** 31    I2      WAVE DIRECTION
** 33    A1      WAVE HEIGHT
** 34    I1      SEA STATE
** 35    A2      WIND FORCE
** 37    I1      FILE UPDATE CODE
** 38    A1      WAVE PERIOD
** 39    I2      WIND DIRECTION
** 41    I2      WIND SPEED
** 43    F5.1    BAROMETRIC PRESSURE, MILLIBARS
** 48    F4.1    DRY BULB TEMPERATURE, CELSIUS
** 52    I1      DRY BULB TEMPERATURE, PRECISION (0=WHOLE DEG, 1=TENTHS, 9=BLANK)
** 53    F4.1    WET BULB TEMPERATURE, CELSIUS
** 57    I1      WET BULB TEMPERATURE, PRECISION (0=WHOLE DEG, 1=TENTHS, 9=BLANK)
** 58    A2      WEATHER (X IN COL. 58 INDICATES ONE DIGIT CODE)
** 60    I1      CLOUD TYPE
** 61    I1      CLOUD AMOUNT
** 62    I3      NUMBER OF OBSERVED DEPTHS
** 63    I2      NUMBER OF STANDARD DEPTH LEVELS
** 67    I3      NUMBER OF DETAIL DEPTHS
70     9X      BLANK
79     I1      NEXT RECORD INDICATOR
80     I1      ALWAYS 2 RECORD INDICATOR

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\*\* FIELD DEFINED BY NODC, DATA NOT SAMPLED OR  
CALCULATION NOT DONE BY THIS FACILITY.

# DATA RECORD:

\*\*\*\*\*

START FORMAT ITEM  
COLUMN

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1    I5    DEPTH, WHOLE METERS
6    I1    DEPTH QUALITY INDICATOR
7    A1    THERMOMETRIC DEPTH FLAG
8    F5.3  TEMPERATURE, CELSIUS
13   I1    TEMPERATURE, PRECISION (1,2, OR 3, 9=BLANK)
14   I1    TEMPERATURE QUALITY INDICATOR
15   F5.3  SALINITY, PRACTICAL SALINITY UNITS
20   I1    SALINITY PRECISION (1,2, OR 3, 9=BLANK)
21   I1    SALINITY QUALITY INDICATOR
** 22   I4    SIGMA-T
** 26   I1    SIGMA-T QUALITY INDICATOR
** 27   I5    SOUND SPEED (METERS/SECOND TO TENTHS)
** 32   I1    SOUND SPEED PRECISION
33   F4.2  OXYGEN, MILLILITERS/LITER
37   I1    OXYGEN PRECISION (1 OR 2, 9=BLANK)
38   I1    OXYGEN QUALITY INDICATOR
** 39   I1    DATA RANGE CHECK FLAGS 0=IN RANGE, 1=OUT OF RANGE;PHOSPHATE > 4.00
** 40   I1    TOTAL PHOSPHATE < PHOSPHATE
** 41   I1    SILICATE > 300.0
** 42   I1    NITRITE > 4.0
** 43   I1    NITRATE > 45.0
** 44   I1    PH < 7.40 OR > 8.50
45   F3.1  CAST START TIME OR MESSENGER RELEASE TIME
48   I1    CAST NUMBER
49   F4.2  INORGANIC PHOSPHATE (MICROGRAM-ATOMS/LITER)
53   I1    INORGANIC PHOSPHATE, PRECISION (1,2 OR 9=BLANK)
** 54   F4.2  TOTAL PHOSPHOROUS
** 58   I1    TOTAL PHOSPHOROUS, PRECISION (1, 2 OR 9=BLANK)
59   F4.1  SILICATE (MICROGRAM-ATOMS/LITER)
63   I1    SILICATE PRECISION (1 OR 9=BLANK)
64   F3.2  NITRITE (MICROGRAM-ATOMS/LITER)
67   I1    NITRITE PRECISION (1, 2 OR 9=BLANK)
68   F3.1  NITRATE (MICROGRAM-ATOMS/LITER)
71   I1    NITRATE PRECISION (1 OR 9=BLANK)
** 72   F3.2  PH
** 75   I1    PH, PRECISION
76   2X    BLANK
** 78   I1    DENSITY INVERSION FLAG
79   I1    NEXT RECORD TYPE
80   I1    RECORD TYPE

```

\*\* FIELD DEFINED BY NODC, NO DATA SAMPLED OR  
CALCULATION NOT DONE BY THIS FACILITY.

Password:

accNo	fleA	refNo	proj	inst	ship	startDate	cruise	catId
8600359	C100	328667	0177	3101	32GY	1979/02/08	181,	166176
8600359	C100	328668	0177	3101	32GY	1979/04/03	183,	166177
8600359	C100	328669	0177	3101	32WC	1979/06/18	185,	166178
8600359	C100	328670	0177	3101	32WC	1979/08/19	187,	166179
8600359	C100	328671	0177	3101	32WC	1979/11/01	189,	166180
8600359	C100	328672	0177	3101	32WC	1980/01/08	191,	166181
8600359	C100	328673	0177	3101	32WC	1980/03/18	193,	166182
8600359	C100	328674	0177	3101	32WC	1980/05/18	195,LEG1	166183
8600359	C100	328675	0177	3101	32WC	1980/06/06	195,	166184

(9 rows affected)

Password:

accNo	fileA	refNo	ship	staCnt	recCnt	startDate	endDate
8600359	C100	328667	32GY	47	3	79/02/08	79/02/25
8600359	C100	328668	32GY	38	43	79/04/03	79/05/02
8600359	C100	328669	32WC	47	47	79/06/18	79/07/14
8600359	C100	328670	32WC	50	50	79/08/19	79/09/11
8600359	C100	328671	32WC	60	60	79/11/01	79/11/24
8600359	C100	328672	32WC	64	2	80/01/08	80/02/03
8600359	C100	328673	32WC	56	56	80/03/18	80/04/10
8600359	C100	328674	32WC	17	17	80/05/18	80/05/25
8600359	C100	328675	32WC	18	18	80/06/06	80/06/14

(9 rows affected)