

Date of Entry: 10/23/91

Accession No.: 9100152      Reference No.: 323108  
Former Accession No.:      Former Reference No.: (Resub ONLY)

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

**Data Use Code (DUC): 3**

Number: Units:

```
Code 1: 26      Meaning: Gulf of Mexico
Code 2:         Meaning:
Code 3:         Meaning:
```

DINDB Transaction Date:

ACCESSION NO. 9100152 FILETYPE C100

TRACK NO. \_\_\_\_\_

PROJECT IDENTIFICATION \_\_\_\_\_

| STEP               | DATE    | INIT. | TAPE OR<br>DISK DSN | NO.<br>FILES | LRECL | BLK SIZE | NO.<br>RECORDS |
|--------------------|---------|-------|---------------------|--------------|-------|----------|----------------|
| ORIG. TAPE         | 8-18-91 | FJM   | *                   | 1            | 78    | 512      | 126            |
| DUPLICATE TAPE     | 8-23-91 | FJM   | **                  | 1            | 78    | 224      | <del>126</del> |
| REFORMATTED TAPE   |         |       |                     |              |       |          | 126            |
| REFORMATTED DISK   |         |       | 6003718             |              |       |          |                |
| FIRST MULCHEK      |         |       |                     |              |       |          |                |
| FINAL MULCHEK      |         |       |                     |              |       |          |                |
| MPD75 OR F022      |         |       |                     |              |       |          |                |
| DATA SET FINALIZED |         |       |                     |              |       |          |                |

ERRORS REPORTED TO PRINCIPAL INVESTIGATOR:

\* [MITCHELL. ORIGDATA. 9100152] GYRE. C100

\*\* DAMUS: DNOPC \* GYREC100.

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

COMMENTS (TRACKS DELETED, FIELDS DELETED, ETC.)

TEXAS A&M UNIVERSITY

COLLEGE OF GEOSCIENCES

COLLEGE STATION, TEXAS 77843-3146

Copy to  
Department of  
OCEANOGRAPHY

8 August 1991

Dr. Francis J. Mitchell  
NOAA/National Oceanographic Data Center  
Data Acquisition and Management Branch  
1825 Connecticut Avenue, NW  
Washington, DC 20235

Dear Dr. Mitchell:

Enclosed is a diskette copy of CTD data that were collected during ship-of-opportunity hydrographic work from R/V Powell and R/V Gyre in June 1991. In all, there are 30 data files on this 5 1/4 inch disk, to archive temperature and salinity versus depth for stations made over the continental shelf and upper slope of NW Gulf of Mexico. The CTD data from both the Powell and Gyre cruises have been 1 meter averaged; Bottle data from Gyre cruise 91G04 are also included.

Under Cooperative Agreement 14-35-0001-30501, TAMU is pleased to share these Hydrographic data with NODC and MMS. If you have any Questions regarding the data please call David Voegele at (409)-845-7214.

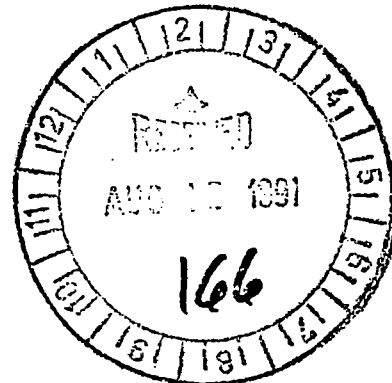
Sincerely,



David J. Voegele  
Research Assistant  
Technical Support Services Group  
TELEX 23 7401986 (TECH UC)  
OMNET/TELEMAIL = TAMU.TECHS

TEX A&M SAID  
That Vessel is  
J.W. POWELL  
CODE = 32UK

Copies: Dr. D.C. Biggs  
Dr. Murray Brown, MMS-COTR



# DATA DOCUMENTATION FORM

NOAA FORM 24-13  
(4-77)

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
WASHINGTON, DC 20236

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

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

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

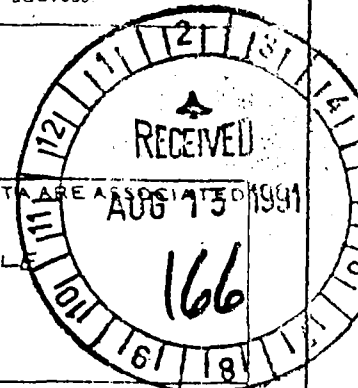
## A. ORIGINATOR IDENTIFICATION

THIS SECTION MUST BE COMPLETED BY DONOR FOR ALL DATA TRANSMITTALS

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

DEPARTMENT OF OCEANOGRAPHY  
TEXAS A&M UNIVERSITY  
COLLEGE STATION, TEXAS 77843

ATTN: DAVID VOEGELE



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

RV GYRE CRUISE 91G04  
V POWELL CRUISE

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

91G04 & POWELL

4. PLATFORM NAME(S)

RV GYRE  
RV POWELL

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

SHIP

6. PLATFORM AND OPERATOR  
NATIONALITY(IES)

PLATFORM

USA

OPERATOR

USA

7. DATES

FROM: MO/DAY/YR TO: MO/DAY/YR

6/10/91 6/18/91

8. ARE DATA PROPRIETARY?

☒ NO ☐ YES

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

9. ARE DATA DECLARED NATIONAL  
PROGRAM (ONP)?

(I.E., SHOULD THEY BE INCLUDED IN WORLD  
DATA CENTERS HOLDINGS FOR INTERNA-  
TIONAL EXCHANGE?)

☒ NO ☐ YES ☐ PART (SPECIFY BELOW)

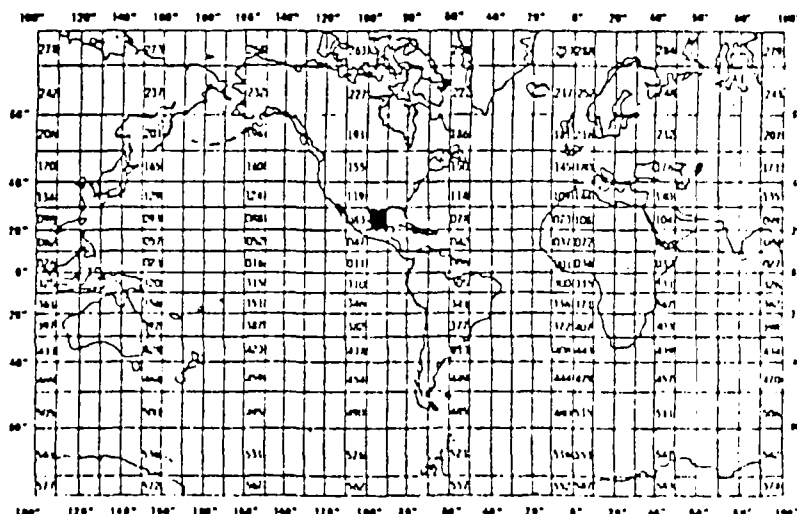
10. PERSON TO WHOM INQUIRIES CONCERNING  
DATA SHOULD BE ADDRESSED WITH TELE-  
PHONE NUMBER (AND ADDRESS IF OTHER  
THAN IN ITEM-1)

SAME AS ITEM - 1

409-845-7214

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

GENERAL AREA



# B. SCIENTIFIC

| 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 |
|--------------------|-------------------------|--|---|---|
| Temperature        | °C                      | Sea Bird CTD model SBE 9   | N/A   | Values averaged over 1 meter intervals                  |
|                    |                         | MODEL SBE 19 (POWELL)  | N/A   | none  |
| Salinity           | PSU                     | Sea Bird CTD model SBE 9 & model SBE 19 (POWELL)                     | N/A   | Values averaged over 1 meter intervals                  |
|                    |                         | Niskin Bottles   | Guildline Autosol   | Salinity calibrated to Lab Salinometer<br>N/A           |
| Oxygen             | ml/l                    | Niskin Bottles   | Winkler titration   | N/A   |
| NH <sub>4</sub>    | μM/l                    | Niskin Bottles   | K. Grasshot (1970) a simultaneous multiple channel system for nutrient analysis and digital record. Technician Quarterly 137-11       | N/A   |
| Ammonium           |                         |  | Slawyk L.R. and J.J. Mackinnon (1972) Comparison of two automated ammonium methods in a region of coastal upwelling. DSR, 19, 521-524 |   |
| PO <sub>4</sub>    | μM/l                    | Niskin Bottles   | E.L. Atlas et al (1971) a practical manual for use of the Technicon autoanalyser in seawater nutrient analysis                        | NA  |

Prostate  
3-4 FORM 14-13

Tech report 215 Part 3  
Ocean. DSA Corvallis, OR 97331

## B. SCIENTIFIC CONTENT

| NAME OF DATA FIELD  | REPORTING UNITS<br>OR CODE | METHODS OF OBSERVATION AND<br>INSTRUMENTS USED<br>(SPECIFY TYPE AND MODEL) | ANALYTICAL METHODS<br>(INCLUDING MODIFICATIONS;<br>AND LABORATORY PROCEDURES) | DATA PROCESSING<br>TECHNIQUES WITH FILTERING<br>AND AVERAGING |
|---|----------------------------|--|---|---|
| SiO <sub>4</sub><br>Silicate                              | μM/l                       | Niskin Bottles   | Same as PO <sub>4</sub><br>above  | N/A   |
| NO <sub>3</sub> + NO <sub>2</sub><br>Nitrate +<br>nitrite | μM/l                       | Niskin Bottles   | Same as PO <sub>4</sub><br>above  | N/A   |
| Chlorophyll   | μg/l                       | Niskin Bottles   | "Turner fluorometric<br>method"   | N/A   |

# 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

CTD - FILE NAMES BEGIN WITH A 1604 (R/V GYRE)  
CTD - FILE NAMES BEGIN WITH A SB (R/V POWELL)  
WATER SAMPLES COLLECTED AT DISCRETE DEPTHS,  
FILENAMES BEGIN WITH B

2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

CTD - ASCII, HEADER INFO AT TOP OF FILE

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

4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER DAVID VOEGELE 409-845-7217

ADDRESS \_\_\_\_\_

COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

|   |   |
|---|---|
| <b>5. RECORDING MODE</b><br><input type="checkbox"/> BCD <input type="checkbox"/> BINARY<br><input checked="" type="checkbox"/> ASCII <input type="checkbox"/> EBCDIC<br><input type="checkbox"/> _____ | <b>9. LENGTH OF INTER-RECORD GAP (IF KNOWN)</b> <input type="checkbox"/> 3/4 INCH<br><input type="checkbox"/> _____                                       |
| <b>6. NUMBER OF TRACKS (CHANNELS)</b><br><input type="checkbox"/> SEVEN<br><input type="checkbox"/> NINE<br><input type="checkbox"/> _____  | <b>10. END OF FILE MARK</b><br><input type="checkbox"/> OCTAL 17<br><input type="checkbox"/> _____  |
| <b>7. PARITY</b><br><input type="checkbox"/> ODD<br><input type="checkbox"/> EVEN   | <b>11. PASTE-ON-PAPER LABEL DESCRIPTION (INCLUDE ORIGINATOR NAME AND SOME KEY SPECIFICATIONS OF DATA TYPE, VOLUME NUMBER)</b><br><br><br><br><br><br><br> |
| <b>8. DENSITY</b><br><input type="checkbox"/> 200 BPI <input type="checkbox"/> 1600 BPI<br><input type="checkbox"/> 356 BPI<br><input type="checkbox"/> 800 BPI<br><input type="checkbox"/> _____       |   |
| <b>12. PHYSICAL BLOCK LENGTH IN BYTES</b><br><br><b>13. LENGTH OF BYTES IN BITS</b><br><br><div style="text-align: center; font-size: 2em;">8</div>   |   |

RECORD NAME

CTD FILE

| 14. FILE NAME                  | 15. POSITION FROM -1 MEASURED INCREMENT (m, ft, bits, bytes) | 16. LENGTH |       | 17. ATTRIBUTES | 18. USE AND MEANING         |
|--------------------------------|--|------------|-------|----------------|-----------------------------|
|                                |  | NUMBER     | UNITS |                |                             |
| CRUISE                         | 9  | 5          |       |                | CRUISE NUMBER               |
| DATE                           | 9  | 34         |       |                | GMT DATE                    |
| TIME                           | 9  | 8          |       |                | GMT TIME                    |
| LAT                            | 9  | 10         |       |                | LATITUDE OF STATION         |
| LONG                           | 9  | 10         |       |                | LONGITUDE OF STATION        |
| STN                            | 0  | 10         |       |                | STATION NUMBER              |
| BLANK LINE                     | 0  | 80         |       |                | SPACING LINE                |
| COLUMN HEADER                  | 0  | 80         |       |                | LABELS COLUMNS              |
| BLANK LINE                     | 0  | 80         |       |                | SPACING LINE                |
| DEPTH                          | 1  | 10         |       |                | CTD DEPTH                   |
| TEMP                           | 16   | 7          |       |                | CTD TEMP                    |
| SALINITY                       | 27   | 7          |       |                | CTD SALINITY                |
| SIGMATHETA                     | 38   | 7          |       |                | CTD DENSITY                 |
| *XSM VOLTS                     | 50   | 6          |       |                | CTD TRANSMISSOMETER VOLTAGE |
| *NOTE [ON R/V GYRE 91604 ONLY] |  |            |       |                |                             |



RECORD NAME Discrete water sample data

| 14. FIELD NAME  | 15. POSITION FROM -1 MEASURED IN bytes | 16. LENGTH | 17. ATTRIBUTES | 18. USE AND MEANING      |
|---|--|------------|----------------|--------------------------|
| label   | 0                                      | 53         |                | header label             |
| <div> <div>header</div> <div> NB<br/> cruise<br/> station<br/> date<br/> time<br/> lat<br/> lon </div> </div> | 0                                      | 2          |                | number of water samplers |
|   | 4                                      | 5          |                | cruise number            |
|   | 10                                     | 11         |                | station number           |
|   | 21                                     | 8          |                | GMT Date                 |
|   | 35                                     | 4          |                | GMT time                 |
|   | 44                                     | 7          |                | latitude                 |
|   | 54                                     | 7          |                | longitude                |
| label   | 0                                      | 77         |                | column label             |
| depth   | 0                                      | 5          |                | depth of sample          |
| thermometric depth  | 4                                      | 4          |                | thermometric depth       |
| temperature   | 13                                     | 6          |                | temperature              |
| chl   | 21                                     | 5          |                | Chlorophyll a            |
| unprotected temp  | 27                                     | 5          |                | unprotected temperature  |
| salinity  | 33                                     | 4          |                | salinity                 |

to 13

RECORD NAME discrete water sample data continued

| 14. FIELD NAME   | 15. POSITION<br>FROM - 1<br>MEASURED<br>IN<br>(e.g., btm, depth) | 16. LENGTH |       | 17. ATTRIBUTES | 18. USE AND MEANING |
|------------------|--|------------|-------|----------------|---------------------|
|                  |  | NUMBER     | UNITS |                |                     |
| data continued { | O2   | 40         | 6     |                | dissolved<br>Oxygen |
|                  | NH4  | 46         | 5     |                | Ammonium            |
|                  | PO4  | 52         | 5     |                | phosphate           |
|                  | Si   | 53         | 5     |                | Silica              |
|                  | NO3  | 64         | 5     |                | Nitrate             |
|                  | NO2  | 64         | 5     |                | Nitrite             |
|                  | Urea   | 74         | 5     |                | Urea                |

# D. INSTRUMENT CALIBRATION

This calibration information will be utilized by NOAA's National Oceanographic Instrumentation Center in their efforts to develop calibration standards for voluntary acceptance by the oceanographic community. Identify the instruments used by your organization to obtain the scientific content of the DDF (i.e., STD, temperature and pressure sensors, salinometers, oxygen meters, velocimeters, etc.) and furnish the calibration data requested by completing and/or checking (✓) the appropriate spaces. Add the interval time (i.e., 3 months, 6 months, 9 months, etc.) if the fixed interval calibration cycle is checked.

| INSTRUMENT TYPE<br>VER., MODEL NO. | DATE OF LAST<br>CALIBRATION | INSTRUMENT WAS CALIBRATED BY |                                      | CHECK ONE.<br>INSTRUMENT IS CALIBRATED |                                  |                                   |                                |                            | INSTRUMENT<br>IS<br>NOT<br>CALI-<br>BRATED |
|------------------------------------|-----------------------------|------------------------------|--------------------------------------|--|----------------------------------|-----------------------------------|--------------------------------|----------------------------|--|
|                                    |                             | YOUR<br>ORGANIZATION<br>(✓)  | OTHER<br>ORGANIZATION<br>(GIVE NAME) | AT FIXED<br>INTERVALS<br>(✓)           | BEFORE<br>OR<br>AFTER USE<br>(✓) | BEFORE<br>AND<br>AFTER USE<br>(✓) | ONLY<br>AFTER<br>REPAIR<br>(✓) | ONLY<br>WHEN<br>NEW<br>(✓) |  |
| SBE 9                              | 6/15/90                     | ✓                            | Sea Bird<br>INC                      | ✓                                      |                                  | ✓                                 |                                |                            |  |
| SBE 19                             | 1990                        | ✓                            | Sea Bird<br>INC                      | ✓                                      |                                  | ✓                                 |                                |                            |  |
| Auto Sal<br>8400                   |                             | ✓                            |                                      |  |                                  | ✓                                 |                                |                            |  |
| Technicon Auto<br>Tracer           |                             | ✓                            |                                      |  |                                  | ✓                                 |                                |                            |  |
| Winkler titrator                   |                             | ✓                            |                                      |  |                                  | ✓                                 |                                |                            |  |
|                                    |                             |                              |                                      |  |                                  |                                   |                                |                            |  |
|                                    |                             |                              |                                      |  |                                  |                                   |                                |                            |  |
|                                    |                             |                              |                                      |  |                                  |                                   |                                |                            |  |
|                                    |                             |                              |                                      |  |                                  |                                   |                                |                            |  |

Unique No.: 200144

Date of Entry: 10/23/91

DATA ENTRY INFORMATION SYSTEM  
(DATASET INVENTORY - DINDB)

Accession No.: 9100152      Reference No.: TW0392  
Former Accession No.:      Former Reference No.: (Resub ONLY)

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

Exchange Format:      E018 - STD/CTD (F022)

Processing Format:      F022 - CTD/STD

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

Country/Institute Code:      3124      Country/Platform Code: 32GY

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

Cruise Start Date: 06/15/91      Project Code:

Cruise End Date:    06/18/91      Data Use Code (DUC): 3

-----  
Number of Stations:      13      Number of Records:      639

    If stations/records not appropriate then:

    Number:      Units:

-----  
Ocean Area:

    Code 1: 26      Meaning: Gulf of Mexico  
    Code 2:      Meaning:  
    Code 3:      Meaning:

-----  
DINDB Transaction Date:

Unique No.: 200145

Date of Entry: 10/23/91

DATA ENTRY INFORMATION SYSTEM  
(DATASET INVENTORY - DINDB)

Accession No.: 9100152      Reference No.: TW0393  
Former Accession No.:      Former Reference No.:      (Resub ONLY)

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

Exchange Format:      E018 - STD/CTD (F022)

Processing Format:      F022 - CTD/STD

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

Country/Institute Code:      3124      Country/Platform Code: 32UK

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

Cruise Start Date: 06/10/91      Project Code:

Cruise End Date:    06/13/91      Data Use Code (DUC): 3

-----  
Number of Stations:      6      Number of Records:      42

                    If stations/records not appropriate then:

Number:      Units:

-----  
Ocean Area:

Code 1: 26      Meaning: Gulf of Mexico  
Code 2:      Meaning:  
Code 3:      Meaning:

-----  
DINDB Transaction Date:

ACCESSION NO. 9100152 FILETYPE F022

TRACK NO. TW0392-93 PROJECT IDENTIFICATION \_\_\_\_\_

| STEP               | DATE    | INIT. | TAPE OR<br>DISK DSN | NO.<br>FILES | RECL | BLK SIZE | NO.<br>RECORDS |
|--------------------|---------|-------|---------------------|--------------|------|----------|----------------|
| ORIG. TAPE         | 8-18-91 | FJM   | *                   | 2            | 48   | 512      | 3452           |
| DUPLICATE TAPE     | 8-23-91 | FJM   | * *                 | 2            | ↓    | ↓        | ↓              |
| REFORMATTED TAPE   |         |       |                     |              |      |          |                |
| REFORMATTED DISK   |         |       | W05158              |              |      |          |                |
| FIRST MULCHEK      |         |       |                     |              |      |          |                |
| FINAL MULCHEK      |         |       |                     |              |      |          |                |
| MPD75 OR F022      |         |       |                     |              |      |          |                |
| DATA SET FINALIZED |         |       |                     |              |      |          |                |

~~ERRORS REPORTED TO PRINCIPAL INVESTIGATOR~~ \*\* DAMUS;

DNODC \* POWELL F022.  
DNODC \* GYRE F022.

ADDITIONAL ERRORS/CORRECTIONS (NOT REPORTED TO P.I.)  
\* [MITCHELL. ORIGDATA. 9100152] POWELL. F022  
GYRE. F022

W05158 \* T EXASOUT.

COMMENTS (TRACKS DELETED, FIELDS DELETED, ETC.)

TEXAS A&M UNIVERSITY

COLLEGE OF GEOSCIENCES

COLLEGE STATION, TEXAS 77843-3146

Copy to  
Department of  
OCEANOGRAPHY

8 August 1991

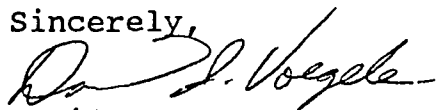
Dr. Francis J. Mitchell  
NOAA/National Oceanographic Data Center  
Data Acquisition and Management Branch  
1825 Connecticut Avenue, NW  
Washington, DC 20235

Dear Dr. Mitchell:

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Sincerely,



David J. Voegele  
Research Assistant  
Technical Support Services Group  
TELEX 23 7401986 (TECH UC)  
OMNET/TELEMAIL = TAMU.TECHS

TEXAS A&M 3124

SAID VESSEL

IS J. W. POWELL

CODE = 32 UK

Gyre 32GY

Copies: Dr. D.C. Biggs  
Dr. Murray Brown, MMS-COTR

9100152



## DATA DOCUMENTATION FORM

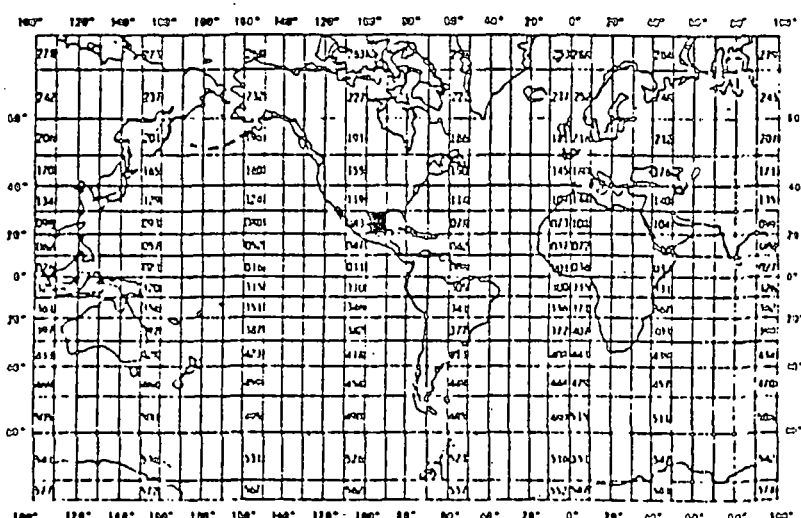
NOAA FORM 24-13  
10-771U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEANOGRAPHIC DATA CENTER  
RECORDS SECTION  
WASHINGTON, DC 20238FORM APPROVED  
O.M.B. No. 41-R7651  
EXPIRES 1-01

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

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## 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   |   |   |  |
| DEPARTMENT OF OCEANOGRAPHY<br>TEXAS A&M UNIVERSITY<br>COLLEGE STATION, TEXAS 77843<br>ATTN: DAVID VOEGELE  |   |   |  |
| 2. EXPEDITION, PROJECT, OR PROGRAM DURING WHICH DATA WERE COLLECTED  |   | 3. CRUISE NUMBER(S) USED BY ORIGINATOR TO IDENTIFY DATA IN THIS SHIPMENT  |  |
| RV GYRE CRUISE 91G04<br>RV POWELL CRUISE   |   | 91G04 & POWELL  |  |
| 4. PLATFORM NAME(S)  | 5. PLATFORM TYPE(S)<br>(E.G., SHIP, BUOY, ETC.) | 6. PLATFORM AND OPERATOR<br>NATIONALITY(IES)  | 7. DATES   |
| RV GYRE<br>RV POWELL   | SHIP  | USA<br>USA  | FROM: MO/DAY/YR TO: MO/DAY/YR<br>6/10/91 6/13/91 |
| 8. ARE DATA PROPRIETARY?<br><input checked="" type="checkbox"/> NO <input type="checkbox"/> YES<br>IF YES, WHEN CAN THEY BE RELEASED<br>FOR GENERAL USE? YEAR MONTH  |   | 11. PLEASE DARKEN ALL MARSDEN SQUARES IN WHICH ANY DATA<br>CONTAINED IN YOUR SUBMISSION WERE COLLECTED.<br>GENERAL AREA |  |
| 9. ARE DATA DECLARED NATIONAL<br>PROGRAM (DNP)?<br>(I.E., SHOULD THEY BE INCLUDED IN WORLD<br>DATA CENTERS HOLDINGS FOR INTERNA-<br>TIONAL EXCHANGE?)<br><input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> PART (SPECIFY BELOW) |   |                                     |  |
| 10. PERSON TO WHOM INQUIRIES CONCERNING<br>DATA SHOULD BE ADDRESSED WITH TELE-<br>PHONE NUMBER (AND ADDRESS IF OTHER<br>THAN IN ITEM-1)<br>SAME AS ITEM - 1<br>409-845-7214  |   |   |  |





# B. SCIENTIFIC

| 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 |
|--------------------|-------------------------|--|--|---|
| Temperature        | °C                      | Sea Bird CTD model SBE 9   | N/A  | Values averaged over 1 meter intervals                  |
|                    |                         | MODEL SBE 19 (POWELL)  | N/A  | none  |
| Salinity           | PSU                     | Sea Bird CTD model SBE 9 & model SBE 19 (POWELL)                     | N/A  | Values averaged over 1 meter intervals                  |
|                    |                         | Niskin Bottles   | Guildline Autosol  | Salinity calibrated to Lab Salinometer<br>N/A           |
| Oxygen             | ml/l                    | Niskin Bottles   | Winkler titration  | N/A   |
| NH <sub>4</sub>    | um/l                    | Niskin Bottles   | K. Grasshot (1970) a simultaneous multiple channel system for nutrient analysis and digital record. Technician Quarterly, 13 7-17  | N/A   |
| Ammonia            |                         |  | Slawyk L.R. and J.J. MacKase (1974) Comparison of two automated ammonia methods in a region of coastal upwelling. DSR, 19, 521-524 |   |
| PO <sub>4</sub>    | um/l                    | Niskin Bottles   | E.L. Atlas et al (1971) a practical manual for use of the Technicon auto analyzer in seawater nutrient analysis                    | NA  |

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## B. SCIENTIFIC CONTENT

| NAME OF DATA FIELD  | REPORTING UNITS<br>OR CODE | METHODS OF OBSERVATION AND<br>INSTRUMENTS USED<br>(SPECIFY TYPE AND MODEL) | ANALYTICAL METHODS<br>(INCLUDING MODIFICATIONS<br>AND LABORATORY PROCEDURES) | DATA PROCESSING<br>TECHNIQUES WITH FILTERING<br>AND AVERAGING |
|---|----------------------------|--|--|---|
| SiO <sub>4</sub><br>Silicate                              | μM/l                       | Niskin Bottle  | Same as PO <sub>4</sub><br>above   | N/A   |
| NO <sub>3</sub> + NO <sub>2</sub><br>Nitrate +<br>nitrite | μM/l                       | Niskin Bottles   | Same as PO <sub>4</sub><br>above   | N/A   |
| Chlorophyll   | μg/l                       | Niskin Bottles   | "Turner fluorometric<br>method"  | N/A   |

# 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

CTD - FILE NAMES BEGIN WITH A 1G04 (R/V GYRE)  
CTD - FILE NAMES BEGIN WITH A SB (R/V POWELL)  
WATER SAMPLES COLLECTED AT DISCRETE DEPTHS,  
FILENAMES BEGIN WITH B.

## 2. GIVE BRIEF DESCRIPTION OF FILE ORGANIZATION

CTD - ASCII, HEADER INFO AT TOP OF FILE

## 3. ATTRIBUTES AS EXPRESSED IN

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

## 4. RESPONSIBLE COMPUTER SPECIALIST:

NAME AND PHONE NUMBER DAVID VOEGELE 409-845-7214  
ADDRESS \_\_\_\_\_

## COMPLETE THIS SECTION IF DATA ARE ON MAGNETIC TAPE

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

# RECORD NAME CTD FILE

HEADER  
INFO

| 14. FILE NAME                  | 15. POSITION FROM -1 MEASURED IN CHARACTERS<br><small>(code, bits, bytes)</small> | 16. LENGTH |       | 17. ATTRIBUTES | 18. USE AND MEANING         |
|--------------------------------|---|------------|-------|----------------|-----------------------------|
|                                |   | NUMBER     | UNITS |                |                             |
| CRUISE                         | 9   | 5          |       |                | CRUISE NUMBER               |
| DATE                           | 9   | 34         |       |                | GMT DATE                    |
| TIME                           | 9   | 8          |       |                | GMT TIME                    |
| LAT                            | 9   | 10         |       |                | LATITUDE OF STATION         |
| LONG                           | 9   | 10         |       |                | LONGITUDE OF STATION        |
| STN                            | Ø   | 10         |       |                | STATION NUMBER              |
| BLANK LINE                     | Ø   | 80         |       |                | SPACING LINE                |
| COLUMN HEADER                  | Ø   | 80         |       |                | LABELS COLUMNS              |
| BLANK LINE                     | Ø   | 80         |       |                | SPACING LINE                |
| DEPTH                          | 1   | 10         |       |                | CTD DEPTH                   |
| TEMP                           | 16  | 7          |       |                | CTD TEMP                    |
| SALINITY                       | 27  | 7          |       |                | CTD SALINITY                |
| SIGMATHETA                     | 38  | 7          |       |                | CTD DENSITY                 |
| *XSM VOLTS                     | 50  | 6          |       |                | CTD TRANSMISSOMETER VOLTAGE |
| *NOTE [ON R/V GYRE 91604 ONLY] |   |            |       |                |                             |

RECORD NAME Discrete water sample data

| 14. FIELD NAME     | 15. POSITION FROM - 1 MEASURED IN <u>bytes</u><br><small>(in data bits, bytes)</small> | 16. LENGTH |       | 17. ATTRIBUTES | 18. USE AND MEANING     |
|--------------------|--|------------|-------|----------------|-------------------------|
|                    |  | NUMBER     | UNITS |                |                         |
| label              | 0  | 53         |       |                | header label            |
| NS                 | 0  | 2          |       |                | number of water         |
| cruise             | 4  | 5          |       |                | samplers                |
|                    |  |            |       |                | cruise number           |
| station            | 10   | 11         |       |                | station number          |
| date               | 24   | 8          |       |                | GMT Date                |
| time               | 35   | 4          |       |                | GMT time                |
| lat                | 44   | 7          |       |                | latitude                |
| lon                | 54   | 7          |       |                | longitude               |
| label              | 0  | 77         |       |                | column label            |
| depth              | 0  | 5          |       |                | depth of sample         |
| thermometric depth | 4  | 4          |       |                | thermometric depth      |
| temperature        | 13   | 4          |       |                | temperature             |
| chl                | 21   | 5          |       |                | Chlorophyll a           |
| unprotected temp   | 27   | 5          |       |                | unprotected temperature |
| salinity           | 33   | 4          |       |                | salinity                |

RECORD NAME discrete water sample data continued

| 14. FIELD NAME | 15. POSITION FROM - 1 MEASURED IN<br>(e.g., bbls, tyne) | 16. LENGTH |       | 17. ATTITUDE | 18. USE AND MEANING |
|----------------|---|------------|-------|--------------|---------------------|
|                |   | NUMBER     | UNITS |              |                     |
| 02             | 40  | 6          |       |              | dissolved oxygen    |
| NH4            | 46  | 5          |       |              | Ammonium            |
| PO4            | 52  | 5          |       |              | phosphate           |
| Si             | 58  | 5          |       |              | Silica              |
| NO3            | 64  | 5          |       |              | Nitrate             |
| NO2            | 64  | 5          |       |              | Nitrite             |
| Urea           | 74  | 5          |       |              | Urea                |

data continued

# D. INSTRUMENT CALIBRATION

This calibration information will be utilized by NOAA's National Oceanographic Instrumentation Center in their efforts to develop calibration standards for voluntary acceptance by the oceanographic community. Identify the instruments used by your organization to obtain the scientific content of the DDF (i.e., STD, temperature and pressure sensors, salinometers, oxygen meters, velocimeters, etc.) and furnish the calibration data requested by completing and/or checking (✓) the appropriate spaces. Add the interval time (i.e., 3 months, 6 months, 9 months, etc.) if the fixed interval calibration cycle is checked.

| INSTRUMENT TYPE<br>VER., MODEL NO. | DATE OF LAST<br>CALIBRATION | INSTRUMENT WAS CALIBRATED BY |                                      | CHECK ONE.<br>INSTRUMENT IS CALIBRATED |                                  |                                   |                                |                            | INSTRUMENT<br>IS<br>NOT<br>CALI-<br>BRATED |
|------------------------------------|-----------------------------|------------------------------|--------------------------------------|--|----------------------------------|-----------------------------------|--------------------------------|----------------------------|--|
|                                    |                             | YOUR<br>ORGANIZATION<br>(✓)  | OTHER<br>ORGANIZATION<br>(GIVE NAME) | AT FIXED<br>INTERVALS<br>(✓)           | BEFORE<br>OR<br>AFTER USE<br>(✓) | BEFORE<br>AND<br>AFTER USE<br>(✓) | ONLY<br>AFTER<br>REPAIR<br>(✓) | ONLY<br>WHEN<br>NEW<br>(✓) |  |
| SBE 9                              | 6/15/90                     | ✓                            | Sea Bird<br>inc                      | ✓                                      |                                  | ✓                                 |                                |                            |  |
| SBE 19                             | 1990                        | ✓                            | Sea Bird<br>inc                      | ✓                                      |                                  | ✓                                 |                                |                            |  |
| Auto Sal<br>8400                   |                             | ✓                            |                                      |  |                                  | ✓                                 |                                |                            |  |
| Technicon Auto<br>Traces           |                             | ✓                            |                                      |  |                                  | ✓                                 |                                |                            |  |
| Winkler titrator                   |                             | ✓                            |                                      |  |                                  | ✓                                 |                                |                            |  |
|                                    |                             |                              |                                      |  |                                  |                                   |                                |                            |  |
|                                    |                             |                              |                                      |  |                                  |                                   |                                |                            |  |
|                                    |                             |                              |                                      |  |                                  |                                   |                                |                            |  |
|                                    |                             |                              |                                      |  |                                  |                                   |                                |                            |  |

C100  
STATION  
11

GyRE F022  
13 STA.

POWELL F022  
6 STA

1  
2.9  
73  
126  
198  
303  
1201  
~~1201~~  
2153  
2263  
2647  
2952  
3160  
3210

OBE-DINH



Password:

| accNo   | fleA | refNo  | proj | inst | ship | startDate  | cruise | catId  |
|---------|------|--------|------|------|------|------------|--------|--------|
| 9100152 | C100 | 323108 | 0215 | 3124 | 32GY | 1991/06/15 | G04    | 201369 |
| 9100152 | C022 | 329648 | 9999 | 3124 | 32GY | 1991/06/15 | TW0392 | 201370 |
| 9100152 | F022 | TW0392 | 0215 | 3124 | 32GY | 1991/06/15 | NULL   | 201372 |
| 9100152 | C022 | 329649 | 9999 | 3124 | 32UK | 1991/06/10 | TW0393 | 201371 |
| 9100152 | F022 | TW0393 | 9999 | 3124 | 32UK | 1991/06/10 | NULL   | 201373 |

(5 rows affected)

Password:

| accNo   | fleA | refNo  | ship | staCnt | recCnt | startDate | endDate  |
|---------|------|--------|------|--------|--------|-----------|----------|
| 9100152 | C100 | 323108 | 32GY | 11     | 11     | 91/06/15  | 91/06/18 |
| 9100152 | C022 | 329648 | 32GY | 13     | 15     | 91/06/15  | 91/06/18 |
| 9100152 | F022 | TW0392 | 32GY | 13     | 637    | 91/06/15  | 91/06/18 |
| 9100152 | C022 | 329649 | 32UK | 6      | 6      | 91/06/10  | 91/06/13 |
| 9100152 | F022 | TW0393 | 32UK | 6      | 42     | 91/06/10  | 91/06/13 |

(5 rows affected)