

CRUISE  
NUMBER

99-16

DAILY LOG  
INSTITUTE OF OCEAN SCIENCES  
OCEAN PHYSICS

DATE

24 - 27 June, 1999

175

178

VESSEL

Tully

PROJECT

Georgia Strait.

Captain: BILL NOON First Officer: ANDY QUAYE  
Second Officer: SIMON DOCKILL Third Officer: PADDOX MURPHY  
Cruise Participants / Agencies: IOS

Scientific Personnel: Party Chief: DIANE MASSON 4-8 A

| Name                    | Watch       | Cabin              | Name | Watch | Cabin |
|-------------------------|-------------|--------------------|------|-------|-------|
| <u>BERNARD MINKLEY</u>  | <u>4-8</u>  | <u>E</u>           |      |       |       |
| <u>JOE LINGUANTI</u>    | <u>12-4</u> | <u>H</u>           |      |       |       |
| <u>ALLARD AGES</u>      | <u>8-12</u> | <u>Sign Office</u> |      |       |       |
| <u>STEVE MIHALY</u>     | <u>8-12</u> | <u>Fluc</u>        |      |       |       |
| <u>ISABELLE BEAUDET</u> | <u>12-4</u> | <u>C</u>           |      |       |       |
| <u>LINDA WHITE</u>      | <u>Nite</u> | <u>F</u>           |      |       |       |
| <u>BETH BORNHOLD</u>    | <u>0</u>    | <u>G</u>           |      |       |       |
| <u>STEVE ROMAINÉ</u>    | <u>12-4</u> | <u>D</u>           |      |       |       |

Second leg of cruise: Party Chief: \_\_\_\_\_

| Name | Watch | Cabin | Name  | Word Select | Watch | Cabin |
|------|-------|-------|-------|-------------|-------|-------|
|      |       |       | A     | B           | A     | B     |
|      |       |       | 2842  | 781         | 0     | 255   |
|      |       |       | 2903  | 312         | 1     | 80    |
|      |       |       | 33386 | 578         | 2     | 20500 |
|      |       |       | 2836  | 609         | 3     | 8000  |
|      |       |       | 2924  | 300         | 4     | 0010  |
|      |       |       | 4095  | 4095        | 5     | Blank |
|      |       |       | 4095  | 562         | 6     |       |
|      |       |       | 4095  | 4095        | 7     |       |
|      |       |       | 4095  | 4095        | 8     |       |
|      |       |       | 0     | 0           | 9     |       |

Data logging system: Unit no.: \_\_\_\_\_

Program Name: \_\_\_\_\_ Program version: \_\_\_\_\_

CTD deck unit make: \_\_\_\_\_ model: \_\_\_\_\_ serial no.: \_\_\_\_\_

Computer make: \_\_\_\_\_ model: \_\_\_\_\_ serial no.: \_\_\_\_\_

1st CTD make: Seabird model: 911 plus serial no.: 0437

Temperature sensor primaries model: 2062 serial no.: \_\_\_\_\_  
coefficients: temperature slope: \_\_\_\_\_ serial no.: \_\_\_\_\_  
coefficients: secondary slope: \_\_\_\_\_ offset: 2142

Conductivity sensor primaries model: \_\_\_\_\_ serial no.: 041748  
coefficients: conductivity slope: \_\_\_\_\_ serial no.: \_\_\_\_\_  
coefficients: secondary slope: \_\_\_\_\_ offset: \_\_\_\_\_

Pressure sensor range: \_\_\_\_\_ psi serial no.: \_\_\_\_\_  
coefficients: FSP: \_\_\_\_\_ dB offset: \_\_\_\_\_

Transmissometer model: \_\_\_\_\_ serial no.: 182D  
coefficients: slope: \_\_\_\_\_ offset: \_\_\_\_\_

Comments: Physing Wet Labs fluorometer s/n WS15-097 Vblank .055 scale .346

4BC Wet Labs fluorometer s/n WS35-417P  
PAR sensor m/n GSP-200L45 s/n 4475  
(Biogeochemical instruments inc)

2nd CTD make: \_\_\_\_\_ model: \_\_\_\_\_ serial no.: \_\_\_\_\_  
Temperature sensor model: \_\_\_\_\_ serial no.: \_\_\_\_\_  
coefficients: slope: \_\_\_\_\_ offset: \_\_\_\_\_  
Conductivity sensor model: \_\_\_\_\_ serial no.: \_\_\_\_\_  
coefficients: slope: \_\_\_\_\_ offset: \_\_\_\_\_  
Pressure sensor range: \_\_\_\_\_ psi serial no.: \_\_\_\_\_  
coefficients: FSP: \_\_\_\_\_ dB offset: \_\_\_\_\_  
Transmissometer model: \_\_\_\_\_ serial no.: \_\_\_\_\_  
coefficients: slope: \_\_\_\_\_ offset: \_\_\_\_\_  
Winches:

1. make: \_\_\_\_\_ model: \_\_\_\_\_ serial no.: \_\_\_\_\_ use: \_\_\_\_\_
2. make: \_\_\_\_\_ model: \_\_\_\_\_ serial no.: \_\_\_\_\_ use: \_\_\_\_\_
3. make: \_\_\_\_\_ model: \_\_\_\_\_ serial no.: \_\_\_\_\_ use: \_\_\_\_\_
4. make: \_\_\_\_\_ model: \_\_\_\_\_ serial no.: \_\_\_\_\_ use: \_\_\_\_\_
5. make: \_\_\_\_\_ model: \_\_\_\_\_ serial no.: \_\_\_\_\_ use: \_\_\_\_\_
6. make: \_\_\_\_\_ model: \_\_\_\_\_ serial no.: \_\_\_\_\_ use: \_\_\_\_\_
7. make: \_\_\_\_\_ model: \_\_\_\_\_ serial no.: \_\_\_\_\_ use: \_\_\_\_\_

Salinometer: make: \_\_\_\_\_ model: \_\_\_\_\_ serial no.: \_\_\_\_\_  
SAIL System:

Program version: \_\_\_\_\_ Time zone: \_\_\_\_\_  
Sampling interval: \_\_\_\_\_ sec

CTF module no.: \_\_\_\_\_ serial no.: \_\_\_\_\_

Remote temperature model: \_\_\_\_\_ serial no.: \_\_\_\_\_  
Flow sensor model: \_\_\_\_\_ serial no.: \_\_\_\_\_

Other sensors: (special for this cruise)

Name: \_\_\_\_\_ module ID: \_\_\_\_\_ serial no.: \_\_\_\_\_  
Name: \_\_\_\_\_ module ID: \_\_\_\_\_ serial no.: \_\_\_\_\_  
Name: \_\_\_\_\_ module ID: \_\_\_\_\_ serial no.: \_\_\_\_\_  
Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ADCP Setup:

Program version: \_\_\_\_\_ number of depth bins: \_\_\_\_\_  
Time zone: \_\_\_\_\_ bin length (2x): \_\_\_\_\_  
Sampling interval: \_\_\_\_\_ sec pulse length: \_\_\_\_\_  
Blank beyond transmit: \_\_\_\_\_ pings per ensemble: \_\_\_\_\_  
Pulse cycle time: \_\_\_\_\_  
% pings good threshold: \_\_\_\_\_

Comments: CTD 2443

To 2023 T, 2106

C, 1729 C, 1764



Remene

Temperature: Sample  
Salinity: CTD  
Dissolved Oxygen: mass

T090

T190

Sal0

Sal1

OXI

Sal casts

2 ✓

2

5 ✓

5

8 ✓

8

11 ✓

11

12 ✓

12

15 ✓

15

19 ✓

28

22 ✓

38

28 ✓

51 ✓

45

33 ✓

52 ✓

51

38 ✓

58 ✓

52

41 ✓

61 ✓

64

45 ✓

64 ✓

66

66 ✓

68 ✓



4916

## DAILY LOG

## OCEAN PHYSICS

## INSTITUTE OF OCEAN SCIENCES

| YEAR                                                                                                                    |            |           | MONTH      |           |                    | SHIP     |           |               | CRUISE           |                        |                 | PAGE         |            | OF       |                          |
|-------------------------------------------------------------------------------------------------------------------------|------------|-----------|------------|-----------|--------------------|----------|-----------|---------------|------------------|------------------------|-----------------|--------------|------------|----------|--------------------------|
| 1999                                                                                                                    |            |           | June       |           |                    | Tully    |           |               | 9910/9916        |                        |                 |              |            |          |                          |
| DAY (UTC)                                                                                                               | STATION ID | CAST TYPE | TIME (UTC) | TIME CODE | STD/HYDRO CONSEC # | LATITUDE | LONGITUDE | POSITION CODE | BOTTOM DEPTH (m) | MAX SAMPLING DEPTH (m) | CONSEC SAMPLE # | # OF BOTTLES | INSTRUMENT | COMMENTS |                          |
| 24                                                                                                                      | 103        | CTD       | 0029       | BE        | 1 (63)             | 48 32.98 | 124 43.02 |               | 124              |                        |                 |              |            |          |                          |
| 24                                                                                                                      | 103        | CTD       | 0031       | BO        | 1 (63)             |          | 124 43.02 |               |                  | 110                    |                 |              |            |          | 0049<br>Labeled wrong in |
| 24                                                                                                                      | 103        | CTD       | 0033       | EN        | 1 (63)             | 48 32.17 | 124 43.02 |               |                  |                        |                 |              |            |          | CISAVE File is #63       |
| 24                                                                                                                      | 102        | ROS       | 0106       | BE        | 2 64               | 48 29 91 | 124 44 14 | X             | 260              |                        |                 |              |            |          | AND 9910? Loops Taken    |
| 24                                                                                                                      | 102        | ROS       | 0112       | BO        | 2 64               | 48 29 88 | 124 44 16 |               |                  | 250                    | 1-14            | 14           |            |          | Loops Taken              |
| 24                                                                                                                      | 102        | ROS       | 0127       | EN        | 2 64               | 48 29 87 | 124 44 15 |               |                  |                        |                 |              |            |          |                          |
| 24                                                                                                                      | 101        | CTD       | 0217       | BE        | 3                  | 48 25 44 | 124 45 14 |               | 243              |                        |                 |              |            |          |                          |
| 24                                                                                                                      | 101        | CTD       | 0221       | BO        | 3                  | 48 25 43 | 124 45 23 |               |                  | 240                    |                 |              |            |          | Loops Taken              |
| 24                                                                                                                      | 101        | CTD       | 0225       | EN        | 3                  | 48 25 44 | 124 45 31 |               |                  |                        |                 |              |            |          |                          |
| 24                                                                                                                      | 74         | CTD       | 0315       | BE        | 4                  | 48 25.01 | 124 35.54 |               |                  | 180                    |                 |              |            |          |                          |
| 24                                                                                                                      | 74         | CTD       | 0322       | BO        | 4                  | 48 25.01 | 124 35.0  |               |                  |                        |                 |              |            |          |                          |
| 24                                                                                                                      | 74         | CTD       | 0325       | EN        | 4                  | 48 25.00 | 124 35.42 |               |                  |                        |                 |              |            |          | Loops taken              |
| 24                                                                                                                      | 75         | ROS       | 0359       | BE        | 5                  | 48 28.30 | 124 32.81 | ✓             |                  | 226                    | 15-28           | 14           |            |          | Loops taken 04:10        |
| 24                                                                                                                      | 75         | ROS       | 0407       | BO        | 5                  | 48 28.43 | 124 32.72 |               |                  |                        |                 |              |            |          |                          |
| 24                                                                                                                      | 75         | ROS       | 0425       | EN        | 5                  | 48 28.23 | 124 32.61 |               |                  |                        |                 |              |            |          |                          |
| 24                                                                                                                      | 76         | CTD       | 0512       | BE        | 6                  | 48 31 44 | 124 29 97 |               | 94               |                        |                 |              | 9.7        |          | Loops taken              |
| 24                                                                                                                      | 76         | CTD       | 0518       | BO        | 6                  | 48 31 44 | 124 29 73 |               |                  | 80                     |                 |              |            |          |                          |
| 24                                                                                                                      | 76         | CTD       |            | EN        | 6                  | 48 31 44 | 124 29 70 |               |                  |                        |                 |              |            |          |                          |
| CAST TYPE - BOT - CTD - bottle cast ROS - rosette net haul USW - sea water loop TIME CODE - BE - beginning time of cast |            |           |            |           |                    |          |           |               |                  |                        |                 |              |            |          |                          |

CAST TYPE - BOT - bottle cast  
CTD - ctd  
MOR - mooring

ROS - rosette  
NET - net haul  
DRF - drifter

USW - sea water loop

TIME CODE - BE - beginning time of cast  
BO - bottom time of cast  
EN - end of cast

DE - deployment time  
MR - messenger release  
RE - recover mooring

POSITION CODE - RAD - RADAR  
GPS - GLOBAL  
LOR - LORAN



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| YEAR      |            | MONTH     |            | SHIP      |                    | CRUISE   |           | PAGE          |                  | OF                     |                 |              |      |             |
|-----------|------------|-----------|------------|-----------|--------------------|----------|-----------|---------------|------------------|------------------------|-----------------|--------------|------|-------------|
| 99        |            | June      |            | Tully     |                    | 9916     |           |               |                  |                        |                 |              |      |             |
| DAY (UTC) | STATION ID | CAST TYPE | TIME (UTC) | TIME CODE | STD/HYDRO CONSEC # | LATITUDE | LONGITUDE | POSITION CODE | BOTTOM DEPTH (m) | MAX SAMPLING DEPTH (m) | CONSEC SAMPLE # | # OF BOTTLES | INIT | COMMENTS    |
| 24        | Sombra     | NET       | 6:27       | BE        | (circled)          | 48 28.68 | 124 18.78 |               | 110              |                        |                 |              |      | VNH         |
| 24        | 71         | CTD       | 0809       | BE        | 7                  | 48 22.16 | 123 59.42 |               | 112              |                        | 29-41           |              |      |             |
| 24        | 71         | CTD       | 0811       | BO        | 7                  | 48 22.15 | 123 59.40 |               |                  |                        |                 |              |      |             |
| 24        | 71         | CTD       | 0813       | EN        | 7                  | 48 22.16 | 123 59.39 |               |                  |                        |                 |              |      |             |
| 24        | 72         | ROS       | 0909       | BE        | 8                  | 48 18.66 | 124 04.19 | ✓             | 190              |                        | 29-41           | 13           |      |             |
| 24        | 72         | ROS       | 0911       | BO        | 8                  | 48 18.69 | 124 04.27 |               |                  |                        |                 |              |      |             |
| 24        | 72         | ROS       | 0926       | EN        | 8                  | 48 18.74 | 124 04.52 |               |                  |                        |                 |              |      |             |
| 24        | 73         | CTD       | 1010       | BE        | 9                  | 48 15.00 | 124 06.57 |               | 163              |                        |                 |              |      |             |
| 24        | 73         | CTD       | 1012       | BO        | 9                  | 48 14.99 | 124 06.53 |               |                  |                        |                 |              |      |             |
| 24        | 73         | CTD       | 1015       | EN        | 9                  | 48 14.99 | 124 06.51 |               |                  |                        |                 |              |      |             |
| 24        | 68         | CTD       | 1219       | BO        | 10                 | 48 12.15 | 123 43.11 |               | 139              |                        |                 |              |      | Loops TAKEN |
| 24        | 68         | CTD       | 1222       | BO        | 10                 | 48 12.17 | 123 43.14 |               |                  | 124                    |                 |              |      |             |
| 24        | 68         | CTD       | 1227       | EN        | 10                 | 48 12.19 | 123 43.18 |               |                  |                        |                 |              |      |             |
| 24        | 69         | ROS       | 1300       | BE        | 11                 | 48 15.14 | 123 43.33 |               | 182              |                        |                 |              |      | Loops TAKEN |
| 24        | 69         | ROS       | 1304       | BO        | 11                 | 48 16.04 | 123 43.35 |               |                  |                        | 42-53           | 1/2          |      |             |
| 24        | 69         | ROS       | 1314       | EN        | 11                 | 48 16.26 | 123 43.54 |               |                  |                        |                 |              |      |             |
|           |            |           |            |           |                    |          |           |               |                  |                        |                 |              |      |             |
|           |            |           |            |           |                    |          |           |               |                  |                        |                 |              |      |             |

CAST TYPE -  
CTD -  
MOR -

bottle cast  
ctd  
mooring

ROS -  
NET -  
DRF -

rosette  
net haul  
drifter

USW - sea water loop

TIME CODE -

BE -  
BO -  
EN -

beginning time of cast  
bottom time of cast  
end of cast

DE -  
MR -  
RE -

deployment time  
messenger release  
recover mooring

POSITION CODE -

RAD -  
GPS -  
LOR -

RADAR  
GLOBAL  
LORAN



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|-----------|------------|-----------|------------|-----------|--------------------|----------|-----------|-----------|--|---------------|------------------|------------------------|-----------------|--------------|------|---------------------|--|----|--|
| 99        |            | June      |            | Tolly     |                    | 9916     |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
| DAY (UTC) | STATION ID | CAST TYPE | TIME (UTC) | TIME CODE | STD/HYDRO CONSEC # | LATITUDE |           | LONGITUDE |  | POSITION CODE | BOTTOM DEPTH (m) | MAX SAMPLING DEPTH (m) | CONSEC SAMPLE # | # OF BOTTLES | INIT | COMMENTS            |  |    |  |
| 24        | 70         | ROS       | 1352       | BE        | 12                 | 48 19 30 | 123 43 59 |           |  |               | 148              |                        | 54-64           | 11           |      |                     |  |    |  |
| 24        | 70         | ROS       | 1355       | BO        | 12                 | 48 19 32 | 123 43 76 |           |  |               |                  |                        |                 |              |      | Loops Taken         |  |    |  |
| 24        | 70         | ROS       | 1411       | EN        | 12                 | 48 19 43 | 123 44.59 |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
| 24        | 70         | NET       |            |           | 13                 |          |           |           |  |               |                  |                        |                 |              |      | BONGO               |  |    |  |
| 24        | 105        | CTD       | 1709       | BE        | 14                 | 48 10 86 | 123 19 34 |           |  | 90            |                  |                        |                 |              |      | CTD                 |  |    |  |
| 24        | 105        | CTD       | 1712       | BO        | 14                 | 48 10 81 | 123 19 43 |           |  |               | 80               |                        |                 |              |      |                     |  |    |  |
| 24        | 105        | CTD       | 1714       | EN        | 14                 | 48 10 78 | 123 19 47 |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
| 24        | ADCP       | ROS       | 1756       | BE        | 15                 | 48 15 26 | 123 17 96 |           |  |               |                  |                        | 65-73           | 9            |      | 10.32°C Loops Taken |  |    |  |
| 24        | ADCP       | ROS       | 1758       | BO        | 15                 | 48 15 20 | 123 18 03 |           |  | 90            |                  |                        |                 |              |      | 9.96°C              |  |    |  |
| 24        | ADCP       | ROS       | 1808       | EN        | 15                 | 48 15 12 | 123 18 10 |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
| 24        | 104        | CTD       | 1851       | BE        | 16                 | 48 20 13 | 123 16 12 |           |  | 71            |                  |                        |                 |              |      | 10.0°C              |  |    |  |
| 24        | 104        | CTD       | 1853       | BO        | 16                 | 48 20 16 | 123 16 14 |           |  |               | 59               |                        |                 |              |      | Loops taken         |  |    |  |
| 24        | 104        | CTD       | 1855       | EN        | 16                 | 48 20 18 | 123 16 16 |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
| 25        | 67         | CTD       | 02:20      | BE        | 17                 | 48 24.14 | 123 19.1  |           |  |               |                  |                        |                 |              |      | To Victoria         |  |    |  |
|           | 67         | CTD       | 2:25       | BO        | 17                 | 48 24.09 | 123 19.1  |           |  | 110           | 105              |                        |                 |              |      |                     |  |    |  |
|           | 67         | CTD       | 2:30       | EN        | 17                 | 48 24.06 | 123 19.28 |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
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|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
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|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              |      |                     |  |    |  |
|           |            |           |            |           |                    |          |           |           |  |               |                  |                        |                 |              | </   |                     |  |    |  |

CAST TYPE -

BOT -  
CTD -  
MOR -bottle cast  
ctd  
mooringROS -  
NET -  
DRF -rosette  
net haul  
drifter

USW - sea water loop

TIME CODE -

BE -  
BO -  
EN -beginning time of cast  
bottom time of cast  
end of castDE -  
MR -  
RE -deployment time  
messenger release  
recover mooring

POSITION CODE -

RAD -  
GPS -  
LOR -RADAR  
GLOBAL  
LORAN



## DAILY LOG

## OCEAN PHYSICS

## INSTITUTE OF OCEAN SCIENCES

| YEAR      |            | MONTH     |            | SHIP      |                    | CRUISE   |           | PAGE          |                  | OF                     |                 |              |      |          |
|-----------|------------|-----------|------------|-----------|--------------------|----------|-----------|---------------|------------------|------------------------|-----------------|--------------|------|----------|
| 99        |            | June      |            | Tully     |                    | 9916     |           |               |                  |                        |                 |              |      |          |
| DAY (UTC) | STATION ID | CAST TYPE | TIME (UTC) | TIME CODE | STD/HYDRO CONSEC # | LATITUDE | LONGITUDE | POSITION CODE | BOTTOM DEPTH (m) | MAX SAMPLING DEPTH (m) | CONSEC SAMPLE # | # OF BOTTLES | INIT | COMMENTS |
| 25        | 66         | CTD       | 3:05       | BE        | 18                 | 48 19.32 | 123 14.20 |               | 105              | 100                    |                 |              |      |          |
|           | 66         | CTD       | 3:07       | BO        | 18                 | 48 19.20 | 123 14.21 |               |                  |                        |                 |              |      |          |
|           | 66         | CTD       | 3:11       | EN        | 18                 | 48 19.9  | 123 14.5  |               |                  |                        |                 |              |      |          |
| 25        | 65         | ROS       | 3:45       | BE        | 19                 | 48 15.7  | 123 10.7  |               | 121              |                        | 74-83           | 10.          |      |          |
|           | 65         | ROS       | 3:46       | BO        | 19                 | 48 15.85 | 123 9.9   |               |                  |                        |                 |              |      |          |
|           | 65         | ROS       | 3:57       | EN        | 19                 | 48 15.79 | 123 9.95  |               |                  |                        |                 |              |      |          |
| 25        | 64         | CTD       | 4:49       | BE        | 20                 | 48 12.8  | 123 6.08  |               | 115              | 110                    |                 |              |      |          |
|           | 64         | CTD       | 4:52       | BO        | 20                 | 48 12.87 | 123 6.12  |               |                  |                        |                 |              |      |          |
|           | 64         | CTD       | 4:56       | EN        | 20                 | 48 13.0  | 123 5.8   |               |                  |                        |                 |              |      |          |
| 25        | 63         | CTD       | 5:39       | BE        | 21                 | 48 14.54 | 122 58.59 |               | 150              | 145                    |                 |              |      |          |
|           | 63         | CTD       | 5:41       | BO        | 21                 | 48 14.53 | 122 58.61 |               |                  |                        |                 |              |      |          |
|           | 63         | CTD       | 5:         | EN        | 21                 | 48 14.54 | 122 58.65 |               |                  |                        |                 |              |      |          |
| 25        | 62         | ROS       | 7:11       | BE        | 22                 | 48 22.85 | 123 2.85  |               |                  |                        | 84-94           | 11.          |      |          |
|           | 62         | ROS       | 7:15       | BO        | 22                 | 48 22.88 | 123 2.66  |               |                  |                        |                 |              |      |          |
|           | 62         | ROS       | 7:24       | EN        | 22                 | 48 22.96 | 123 2.67  |               |                  |                        |                 |              |      |          |
|           | 61         | CTD       | 08:20      | BE        | 23                 | 48 29.21 | 123 9.28  |               | 288              |                        |                 |              |      |          |
|           | 61         | CTD       | 08:25      | BO        | 23                 | 48 29.25 | 123 9.39  |               |                  |                        |                 |              |      |          |
|           | 61         | CTD       | 08:29      | EN        | 23                 | 48 29.26 | 123 9.46  |               |                  |                        |                 |              |      |          |

CAST TYPE -

BOT - bottle cast  
CTD - ctd  
MOR - mooringROS - rosette  
NET - net haul  
DRF - drifter

USW - sea water loop

TIME CODE -

BE - beginning time of cast  
BO - bottom time of cast  
EN - end of castDE - deployment time  
MR - messenger release  
RE - recover mooring

POSITION CODE -

RAD - RADAR  
GPS - GLOBAL  
LOR - LORAN



DAILY LOG

ANOTHER UNNUMBERED EVENT  
OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

| YEAR      |            | 1999      |            |           |                    | MONTH    |       | June      |       | SHIP          |                  | Tolly                  |                 | CRUISE       |      |          |  | 99-16 |  | PAGE |  | OF |  |
|-----------|------------|-----------|------------|-----------|--------------------|----------|-------|-----------|-------|---------------|------------------|------------------------|-----------------|--------------|------|----------|--|-------|--|------|--|----|--|
| DAY (UTC) | STATION ID | CAST TYPE | TIME (UTC) | TIME CODE | STD/HYDRO CONSEC # | LATITUDE |       | LONGITUDE |       | POSITION CODE | BOTTOM DEPTH (m) | MAX SAMPLING DEPTH (m) | CONSEC SAMPLE # | # OF BOTTLES | INIT | COMMENTS |  |       |  |      |  |    |  |
| 25        | 60         | CTD       | 09:19      | BE        | 24                 | 48       | 33.88 | 123       | 12.77 |               | 294              |                        |                 |              |      |          |  |       |  |      |  |    |  |
|           | 60         | CTD       | 09:25      | BO        | 24                 | 48       | 33.84 | 123       | 12.77 |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
|           | 60         | CTD       | 09:29      | EN        | 24                 | 48       | 33.80 | 123       | 12.80 |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
|           | 60         | NET       | 0954       |           | 24                 | 48       | 33.89 | 123       | 12.86 |               | 298              | 250                    |                 |              |      |          |  |       |  |      |  |    |  |
| 25        | 59         | CTD       | 10:42      | BE        | 25                 | 48       | 32.74 | 123       | 14.60 |               | 230              |                        |                 |              |      |          |  |       |  |      |  |    |  |
|           | 59         | CTD       | 10:47      | BO        | 25                 | 48       | 32.75 | 123       | 14.62 |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
|           | 59         | CTD       | 10:51      | EN        | 25                 | 48       | 32.76 | 123       | 14.62 |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
| 25        | 58         | CTD       | 11:38      | BE        | 26                 | 48       | 43.02 | 123       | 14.24 |               | 338              | 323                    |                 |              |      |          |  |       |  |      |  |    |  |
|           | 58         | CTD       | 11:44      | BO        | 26                 | 48       | 42.94 | 123       | 14.3  |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
|           | 58         | CTD       | 11:49      | EN        | 26                 | 48       | 42.93 | 123       | 14.4  |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
| 25        | 57         | CTD       | 12:33      | BE        | 27                 | 48       | 43.91 | 123       | 8.28  |               | 166              | 163                    |                 |              |      |          |  |       |  |      |  |    |  |
|           | 57         | CTD       | 12:35      | BO        | 27                 | 48       | 43.90 | 123       | 8.28  |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
|           | 57         | CTD       | 12:38      | EN        | 27                 | 48       | 43.89 | 123       | 8.27  |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
| 25        | 56         | RDS       | 13:29      | BE        | 28                 | 48       | 46.34 | 123       | 01.61 |               | 222.             |                        | 94-107          | 14.          |      |          |  |       |  |      |  |    |  |
|           | 56         | RDS       | 13:34      | BO        | 28                 | 48       | 46.34 | 123       | 01.63 |               |                  | 213                    |                 |              |      |          |  |       |  |      |  |    |  |
|           | 56         | RDS       | 13:        | EN        | 28                 |          |       |           |       |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
|           |            |           |            |           |                    |          |       |           |       |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
|           |            |           |            |           |                    |          |       |           |       |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
|           |            |           |            |           |                    |          |       |           |       |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |
|           |            |           |            |           |                    |          |       |           |       |               |                  |                        |                 |              |      |          |  |       |  |      |  |    |  |

CAST TYPE - BOT - bottle cast  
CTD - ctd  
MOR - mooring

ROS - rosette  
NET - net haul  
DRF - drifter

USW - sea water loop

TIME CODE - BE - beginning time of cast  
BO - bottom time of cast  
EN - end of cast

DE - deployment time  
MR - messenger release  
RE - recover mooring

POSITION CODE - RAD - RADAR  
GPS - GLOBAL  
LOR - LORAN



5 gallons, 42 sec. = new pump

25 June 99

12:40 installed floor. s/n W515-097.



## DAILY LOG

## OCEAN PHYSICS

## INSTITUTE OF OCEAN SCIENCES

| YEAR      |            | MONTH     |            | SHIP      |                    | CRUISE   |           | PAGE          |                  | OF                     |                 |              |      |                     |
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| 1999      |            | June      |            | Tully     |                    | 9916     |           |               |                  |                        |                 |              |      |                     |
| DAY (UTC) | STATION ID | CAST TYPE | TIME (UTC) | TIME CODE | STD-HYDRO CONSEC # | LATITUDE | LONGITUDE | POSITION CODE | BOTTOM DEPTH (m) | MAX SAMPLING DEPTH (m) | CONSEC SAMPLE # | # OF BOTTLES | INIT | COMMENTS            |
| 25        | 51         | CTD       | 14:47      | BE        | 29                 | 48 46.66 | 122 51.49 |               | 158              |                        |                 |              |      |                     |
|           | 51         | CTD       | 14:50      | BO        | 29                 | 48 46.67 | 122 51.46 |               |                  | 145.                   |                 |              |      |                     |
|           | 51         | CTD       | 14:53      | EN        | 29                 | 48 46.66 | 122 51.42 |               |                  |                        |                 |              |      |                     |
| 25        | 49         | CTD       | 16:14      | BE        | 30                 | 48 54.90 | 122 59.55 |               | 132              |                        |                 |              |      |                     |
|           | 49         | CTD       | 16:15      | BO        | 30                 | 48 54.86 | 122 59.51 |               |                  | 122                    |                 |              |      |                     |
|           | 49         | CTD       | 16:18      | EN        | 30                 | 48 54.83 | 122 59.48 |               |                  |                        |                 |              |      |                     |
| 25        | 48         | CTD       | 17:05      | BE        | 31                 | 48 51.71 | 123 3.02  |               | 215              |                        |                 | 1            | 5m   | OVERCAST, DRIZZLY   |
|           | 48         | CTD       | 17:09      | BO        | 31                 | 48 51.70 | 123 2.95  |               |                  | 207                    |                 |              |      | UN SUMMER LIKE      |
|           | 48         | CTD       | 17:11      | EN        | 31                 | 48 51.68 | 123 2.90  |               |                  |                        |                 |              |      | WEATHER             |
| 25        | 47         | CTD       | 17:41      | BE        | 32                 | 48 49.37 | 123 6.10  |               | 189              |                        |                 |              |      | 5m                  |
|           | 47         | CTD       | 17:42      | BO        | 32                 | 48 49.34 | 123 6.08  |               |                  | 180                    |                 |              |      |                     |
|           | 47         | CTD       | 17:46      | EN        | 32                 | 48 50.42 | 122 54.89 |               |                  |                        |                 |              |      | PUT UBC FLUORO ON   |
| 25        | 46         | ROS       | 18:24      | BE        | 33                 | 48 51.31 | 123 10.72 |               | 183              |                        | 108-119         |              |      | 5m                  |
|           | 46         | ROS       | 18:26      | BO        | 33                 | 48 51.31 | 123 10.74 |               |                  | 177                    |                 |              |      |                     |
|           | 46         | ROS       | 18:40      | EN        | 33                 | 48 51.28 | 123 10.83 |               |                  |                        |                 |              |      |                     |
|           | 45         | CTD       | 19:40      | BE        | 34                 | 48 54.01 | 123 8.32  |               | 129              |                        |                 |              |      | changed fluorometer |
|           | 45         | CTD       | 19:43      | BO        | 34                 | 48 54.04 | 123 8.31  |               |                  |                        |                 |              |      | 5m                  |
|           | 45         | CTD       | 19:45      | EN        | 34                 | 48 54.12 | 123 8.27  |               |                  |                        |                 |              |      |                     |

CAST TYPE -

BOT -  
CTD -  
MOR -bottle cast  
ctd  
mooringROS -  
NET -  
DRF -rosette  
net haul  
drifter

USW - sea water loop

TIME CODE -

BE -  
BO -  
EN -beginning time of cast  
bottom time of cast  
end of castDE -  
MR -  
RE -deployment time  
messenger release  
recover mooring

POSITION CODE -

RAD -  
GPS -  
LOR -RADAR  
GLOBAL  
LORAN



## DAILY LOG

## OCEAN PHYSICS

## INSTITUTE OF OCEAN SCIENCES

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| 1999         |               | June         |               |              |                       | Tully    |        |           |        | 99-16            |                     |                           |                    |                 |      |                     |  |
| DAY<br>(UTC) | STATION<br>ID | CAST<br>TYPE | TIME<br>(UTC) | TIME<br>CODE | STD+HYDRO<br>CONSEC # | LATITUDE |        | LONGITUDE |        | POSITION<br>CODE | BOTTOM<br>DEPTH (m) | MAX SAMPLING<br>DEPTH (m) | CONSEC<br>SAMPLE # | # OF<br>BOTTLES | INIT | COMMENTS            |  |
| 25           | 44            | CTD          | 21.18         | BE           | 35                    | 48       | 56.81  | 123       | 6.15   |                  | 12                  |                           |                    |                 |      | hit bottom          |  |
|              | 44            | CTD          | 21.20         | BO           | 35                    | 48       | 56.81  | 123       | 6.19   |                  |                     |                           |                    |                 |      | 10 m                |  |
|              | 44            | CTD          | 21.22         | EN           | 35                    | 48       | 56.81  | 123       | 6.22   |                  |                     |                           |                    |                 |      |                     |  |
|              | 44            | NET          | 21.39         |              | 36                    | 48       | 56.9   | 123       | 6.62   |                  | 118                 | 112                       |                    |                 |      |                     |  |
|              | 41            | CTD          | 22.58         | BE           | 37                    | 49       | 3.20   | 123       | 22.37  |                  | 247                 |                           |                    |                 |      |                     |  |
|              | 41            | CTD          | 23.03         | BO           | 37                    | 49       | 3.15   | 123       | 22.41  |                  |                     |                           |                    |                 |      |                     |  |
|              | 41            | CTD          | 23.08         | EN           | 37                    | 49       | 3.13   | 123       | 22.45  |                  |                     |                           |                    |                 |      |                     |  |
|              | 42            | ROS          | 2332          | BE           | 38                    | 49       | 01.75  | 123       | 26.25  |                  | 324                 |                           | 120-135            | 16              |      | cleaned Trans lens. |  |
|              | 42            | ROS          | 2338          | BO           | 38                    |          |        |           |        |                  |                     |                           |                    |                 |      |                     |  |
| 25           | 42            | ROS          | 2357          | EN           | 38                    | 49       | 00.17  | 123       | 30.07  |                  |                     |                           |                    |                 |      |                     |  |
| 26           | 43            | CTD          | 0039          | BE           | 39                    | 49       | 00.18  | 123       | 30.07  |                  | 203                 |                           |                    |                 |      |                     |  |
|              | 43            | CTD          | 0043          | BO           | 39                    | 49       | 00.18  | 123       | 30.08  |                  |                     |                           |                    |                 |      |                     |  |
|              | 43            | CTD          | 0047          | EN           | 39                    | 49       | 00.18  | 123       | 30.09  |                  |                     |                           |                    |                 |      |                     |  |
| 26           | 40            | CTD          | 0149          | BE           | 40                    | 49       | 08.56  | 123       | 36.71  |                  | 162                 |                           |                    |                 |      |                     |  |
|              | 40            | CTD          | 0152          | BO           | 40                    | 49       | 08.59  | 123       | 36.69  |                  |                     | 147                       |                    |                 |      |                     |  |
|              | 40            | CTD          | 0156          | EN           | 40                    | 49       | 08.693 | 123       | 36.692 |                  |                     |                           |                    |                 |      |                     |  |
| 26           | 39            | ROS          | 02.23         |              | 41                    | 49       | 09.83  | 123       | 32.98  |                  | 370                 |                           | 136-151            | 16              |      |                     |  |
|              | 39            |              | 02.30         |              |                       |          | 09.87  | 123       | 33.00  |                  |                     | 373                       |                    |                 |      |                     |  |

CAST TYPE -

BOT -  
CTD -  
MOR -bottle cast  
ctd  
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DRF -rosette  
net haul  
drifter

USW -

sea water loop

TIME CODE -

BE -  
BO -  
EN -beginning time of cast  
bottom time of cast  
end of castDE -  
MR -  
RE -deployment time  
messenger release  
recover mooring

POSITION CODE -

RAD -  
GPS -  
LOR -RADAR  
GLOBAL  
LORAN



## DAILY LOG

## OCEAN PHYSICS

## INSTITUTE OF OCEAN SCIENCES

| YEAR                                                                                |            | MONTH     |            | SHIP      |                    | CRUISE     |             | PAGE          |                  | OF                     |                 |              |      |                                                                                                                                  |
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| 1999.                                                                               |            | June      |            | Tully     |                    | 99-16      |             |               |                  |                        |                 |              |      |                                                                                                                                  |
| DAY (UTC)                                                                           | STATION ID | CAST TYPE | TIME (UTC) | TIME CODE | STD/HYDRO CONSEC # | LATITUDE   | LONGITUDE   | POSITION CODE | BOTTOM DEPTH (m) | MAX SAMPLING DEPTH (m) | CONSEC SAMPLE # | # OF BOTTLES | INIT | COMMENTS                                                                                                                         |
| 26                                                                                  | 39         | ROS       | 02:48      | EN        | 41                 | 49 09.87   | 123 33.08   |               |                  |                        | 136-151         | 16           |      |                                                                                                                                  |
| 26                                                                                  | 38         | CTD       |            | BE        | 42                 |            |             |               | 302              |                        |                 |              |      |                                                                                                                                  |
|                                                                                     |            |           |            | BO        | 42                 | 49° 15.649 | 123° 20.742 |               |                  | 290                    |                 |              |      |                                                                                                                                  |
|                                                                                     |            |           |            | EN        | 42                 |            |             |               |                  |                        |                 |              |      |                                                                                                                                  |
| 26                                                                                  | 37         | CTD       | 04:12      | BE        | 43                 | 49 13.756  | 123 20.751  |               | 223              |                        |                 |              |      | DUSK, CALM                                                                                                                       |
|                                                                                     |            |           |            | BO        | 43                 | 49 13.73   | 123 20.98   |               |                  | 211                    |                 |              |      | AIN'T RAINING                                                                                                                    |
|                                                                                     |            |           | 04:22      | EN        | 43                 | 49 12.668  | 123 *       |               |                  |                        |                 |              |      | * THESE LAT AND LONGS ARE SUSPECT; THEY WERE TAKEN OFF THE ECDIS DISPLAY, WHICH GIVES THE POSITION OF THE CURSOR. IT IS POSSIBLE |
| 26                                                                                  | 28         | CTD       | 06:31      | BE        | 44                 | 49° 24.08  | 123° 45.28  |               | 141              |                        |                 |              |      | THAT OTHER LAT/LONGS ARE SUSPECT                                                                                                 |
|                                                                                     |            |           | 06:34      | BO        |                    | 49 24.09   | 123 45.30   |               |                  | 132                    |                 |              |      |                                                                                                                                  |
|                                                                                     |            |           | 06:37      | EN        |                    |            |             |               |                  |                        |                 |              |      |                                                                                                                                  |
|                                                                                     | 27         | ROS       | 07:20      | BE        | 45                 | 49 19.05   | 123 47.94   |               | 357              |                        | 152-167         |              |      |                                                                                                                                  |
|                                                                                     |            | ROS       | 07:26      | BO        | 45                 | 49 19.05   | 123 47.94   |               |                  |                        |                 |              |      |                                                                                                                                  |
|                                                                                     |            | ROS       | 07:46      | EN        | 45                 | 49 19:09   | 123 47.92   |               |                  |                        |                 |              |      |                                                                                                                                  |
|                                                                                     | 26         | CTD       | 08:36      | BE        | 46                 | 49 14:30   | 123 50.75   |               | 258              |                        |                 |              |      |                                                                                                                                  |
|                                                                                     | 26         | CTD       | 08:41      | BO        | 46                 | 49 14:32   | 123 50.77   |               |                  |                        |                 |              |      |                                                                                                                                  |
|                                                                                     | 26         | CTD       | 08:45      | EW        | 46                 | 49 14:33   | 123 50.78   |               |                  |                        |                 |              |      |                                                                                                                                  |
|  |            |           |            |           |                    |            |             |               |                  |                        |                 |              |      |                                                                                                                                  |

CAST TYPE - BOT - bottle cast  
CTD - ctd  
MOR - mooring

ROS - rosette  
NET - net haul  
DRF - drifter

USW - sea water loop

TIME CODE -

BE - beginning time of cast  
BO - bottom time of cast  
EN - end of cast

DE - deployment time  
MR - messenger release  
RE - recover mooring

POSITION CODE -

RAD - RADAR  
GPS - GLOBAL  
LOR - LORAN



## DAILY LOG

## OCEAN PHYSICS

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| 99            |               | June           |               | Tully         |                       | 9916     |       |           |       |                  |                     |                           |                    |                 |      |          |  |    |  |
| DAY<br>(UTC)  | STATION<br>ID | CAST<br>TYPE   | TIME<br>(UTC) | TIME<br>CODE  | STD/HYDRO<br>CONSEC # | LATITUDE |       | LONGITUDE |       | POSITION<br>CODE | BOTTOM<br>DEPTH (m) | MAX SAMPLING<br>DEPTH (m) | CONSEC<br>SAMPLE # | # OF<br>BOTTLES | INIT | COMMENTS |  |    |  |
| 26            | CPF1          | CTD            | 10:11         | BE            | 47                    | 49       | 21.10 | 124       | 7.06  |                  | 410                 |                           |                    |                 |      |          |  |    |  |
|               | CPF1          | CTD            | 10:19         | BO            | 47                    | 49       | 21.08 | 124       | 7.15  |                  |                     |                           |                    |                 |      |          |  |    |  |
|               | CPF1          | CTD            | 10:24         | EN            | 47                    | 49       | 21.08 | 124       | 7.18  |                  |                     |                           |                    |                 |      |          |  |    |  |
|               | CPF1          | NET            | 10:39         |               | 48                    | 49       | 21.08 | 124       | 7.27  |                  | 415                 | 250                       |                    |                 |      |          |  |    |  |
|               | CPF1          | NET            | 10:57         |               | 49                    | 124      | 21.13 | 124       | 7.36  |                  | 415                 | 250                       |                    |                 |      |          |  |    |  |
|               | 1             | CTD            | 11:37         | BE            | 50                    | 49       | 20.31 | 124       | 12.11 |                  | 247                 |                           |                    |                 |      |          |  |    |  |
|               | 1             | CTD            | 11:42         | BO            | 50                    | 49       | 20.31 | 124       | 12.13 |                  |                     | 236                       |                    |                 |      |          |  |    |  |
|               | 1             | CTD            | 11:47         | EN            | 50                    | 49       | 20.32 | 124       | 12.13 |                  |                     |                           |                    |                 |      |          |  |    |  |
|               | 2             | ROS            | 12:20         | BE            | 51                    | 49       | 24.12 | 124       | 9.30  |                  |                     | 286                       |                    |                 |      |          |  |    |  |
|               | 2             | ROS            | 12:23         | BO            | 51                    | 49       | 24.16 | 124       | 9.66  |                  |                     |                           | 160-182            | 15              |      |          |  |    |  |
|               | 2             | ROS            | 12:40         | EN            | 51                    | 49       |       | 124       |       |                  |                     |                           |                    |                 |      |          |  |    |  |
| 26            | 3             | ROS            | 13:35         | BE            | 52                    | 49       | 26.63 | 124       | 20.29 |                  | 327                 | 320                       | 183-196            | 14              |      |          |  |    |  |
|               | 3             | ROS            | 13:41         | BO            | 52                    | 49       |       | 124       |       |                  |                     |                           |                    |                 |      |          |  |    |  |
|               | 3             | ROS            | 13:59         | EN            | 52                    | 49       |       | 124       |       |                  |                     |                           |                    |                 |      |          |  |    |  |
|               | 4             | CTD            | 14:30         | BE            | 53                    | 49       | 24.52 | 124       | 22.05 |                  | 345                 |                           |                    |                 |      |          |  |    |  |
|               | 4             | CTD            | 14:38         | BO            | 53                    |          |       |           |       |                  |                     |                           |                    |                 |      |          |  |    |  |
| 26            | 4             |                |               | EN            | 53                    |          |       |           |       |                  |                     |                           |                    |                 |      |          |  |    |  |
| <del>26</del> | <del>5</del>  | <del>CTD</del> |               | <del>BE</del> | <del>54</del>         |          |       |           |       |                  |                     |                           |                    |                 |      |          |  |    |  |

CAST TYPE -

BOT -  
CTD -  
MOR -bottle cast  
ctd  
mooringROS -  
NET -  
DRF -rosette  
net haul  
drifter

USW - sea water loop

TIME CODE -

BE -  
BO -  
EN -beginning time of cast  
bottom time of cast  
end of castDE -  
MR -  
RE -deployment time  
messenger release  
recover mooring

POSITION CODE -

RAD -  
GPS -  
LOR -RADAR  
GLOBAL  
LORAN



## DAILY LOG

## OCEAN PHYSICS

## INSTITUTE OF OCEAN SCIENCES

| YEAR 1999 |            |           | MONTH June |           |                    | SHIP Tully |            |               | CRUISE 9916      |                        |                 | PAGE OF      |      |                        |
|-----------|------------|-----------|------------|-----------|--------------------|------------|------------|---------------|------------------|------------------------|-----------------|--------------|------|------------------------|
| DAY (UTC) | STATION ID | CAST TYPE | TIME (UTC) | TIME CODE | STD/HYDRO CONSEC # | LATITUDE   | LONGITUDE  | POSITION CODE | BOTTOM DEPTH (m) | MAX SAMPLING DEPTH (m) | CONSEC SAMPLE # | # OF BOTTLES | INIT | COMMENTS               |
| 26        | 5          | CTD       | 1542       | BE        | 54                 | 48 27.29   | 124 30.67  |               | 316              |                        |                 |              |      | Seasave program failed |
|           |            |           | 1542       | BO        |                    | 48 27.23   | 124 30.67  |               |                  | 311                    |                 |              |      | 1st time               |
|           |            |           | 1547       | EN        |                    | 48 27.12   | 124 30.67  |               |                  |                        |                 |              |      |                        |
|           | CPF2       | CTD       | 1609       | BE        | 55                 | 49 27.87   | 124 30.47  |               | 328              | 327                    |                 |              |      |                        |
|           |            |           | 1616       | BO        |                    | 49 27.72   | 124 30.59  |               |                  |                        |                 |              |      |                        |
|           |            |           | 1620       | EN        |                    | 49 27.65   | 124 30.55  |               |                  |                        |                 |              |      |                        |
|           | CPF2       | NET       | 1636       |           | 56                 | 49 27.65   | 124 30.59  |               | 328              | 250                    |                 |              |      |                        |
|           | CPF2       | NET       | 1654       |           | 57                 | " "        | " "        |               | "                | "                      |                 |              |      |                        |
| 26        | 6          | ROS       | 1738       | BE        | 58                 | 49 30.65   | 124 27.80  |               | 194              |                        | 197-209         |              |      | Seasave program failed |
|           |            |           | 1743       | BO        | 58                 | 49 30.69   | 124 20.83  |               |                  | 187                    |                 |              |      | 1st time               |
|           |            |           | 1800       | EN        | 58                 | 49 30.82   | 124 20.94  |               |                  |                        |                 |              |      |                        |
| 26        | 7          | CTD       | 1834       | BE        | 59                 | 49 34.52   | 124 24.34  |               | 352              |                        |                 |              |      |                        |
|           |            |           | 1843       | BO        | 59                 | 49 34.60   | 124 24.42  |               |                  | 347                    |                 |              |      |                        |
|           |            |           | 1848       | EN        | 59                 | 49 34.65   | 124 24.472 |               |                  |                        |                 |              |      |                        |
| 26        | 8          | CTD       | 19:39      | BE        | 60                 | 49 39.37   | 124 33.12  |               | 345              |                        |                 |              |      |                        |
|           | 8          | CTD       | 19:46      | BO        | 60                 | 49 39.40   | 124 33.24  |               |                  |                        |                 |              |      |                        |
|           | 8          | CTD       | 19:52      | EN        | 60                 | 49 39.41   | 124 33.30  |               |                  |                        |                 |              |      |                        |

CAST TYPE -

BOT -  
CTD -  
MOR -bottle cast  
ctd  
mooringROS -  
NET -  
DRF -rosette  
net haul  
drifter

USW - sea water loop

TIME CODE -

BE -  
BO -  
EN -beginning time of cast  
bottom time of cast  
end of castDE -  
MR -  
RE -deployment time  
messenger release  
recover mooring

POSITION CODE -

RAD -  
GPS -  
LOR -RADAR  
GLOBAL  
LORAN



49 35.5 124 38.3

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

| YEAR         |               |              | MONTH         |              |                       | SHIP     |       |           | CRUISE |                  |                     | PAGE                      |                    | OF              |      |          |
|--------------|---------------|--------------|---------------|--------------|-----------------------|----------|-------|-----------|--------|------------------|---------------------|---------------------------|--------------------|-----------------|------|----------|
| 1999         |               |              | June          |              |                       | Tully    |       |           | 99-16  |                  |                     |                           |                    |                 |      |          |
| DAY<br>(UTC) | STATION<br>ID | CAST<br>TYPE | TIME<br>(UTC) | TIME<br>CODE | STD/HYDRO<br>CONSEC # | LATITUDE |       | LONGITUDE |        | POSITION<br>CODE | BOTTOM<br>DEPTH (m) | MAX SAMPLING<br>DEPTH (m) | CONSEC<br>SAMPLE # | # OF<br>BOTTLES | INIT | COMMENTS |
| 26           | 9             | ROS          | 20:41         | BE           | 61                    | 49       | 35.59 | 124       | 38.32  |                  | 170                 |                           | 210-221            | 12              |      |          |
|              | 9             | ROS          | 20:46         | BO           | 61                    | 49       | 35.64 | 124       | 38.31  |                  |                     |                           |                    |                 |      |          |
|              | 9             | ROS          | 20:50         | EN           | 61                    | 49       | 35.73 | 124       | 38.29  |                  |                     |                           |                    |                 |      |          |
|              | 10            | CTD          | 21:50         | BE           | 62                    | 49       | 40.71 | 124       | 47.29  |                  | 96                  |                           |                    |                 |      |          |
|              | 10            | CTD          | 21:52         | BO           | 62                    | 49       | 40.72 | 124       | 47.27  |                  |                     |                           |                    |                 |      |          |
|              | 10            | CTD          | 21:54         | EN           | 62                    | 49       | 40.74 | 124       | 47.25  |                  |                     |                           |                    |                 |      |          |
|              | 11            | CTD          | 22:19         | BE           | 63                    | 49       | 42.41 | 124       | 43.34  |                  | 303                 |                           |                    |                 |      |          |
|              | 11            | CTD          | 22:25         | BO           | 63                    | 49       | 42.40 | 124       | 43.34  |                  |                     |                           |                    |                 |      |          |
|              | 11            | CTD          | 22:30         | EN           | 63                    | 49       | 42.39 | 124       | 43.32  |                  |                     |                           |                    |                 |      |          |
|              | 12            | ROS          | 22:51         | BE           | 64                    | 49       | 43.59 | 124       | 40.78  |                  | 358                 |                           | 222-237            | 16              |      |          |
|              | 12            | ROS          | 22:57         | BO           | 64                    | 49       | 43.55 | 124       | 40.79  |                  |                     |                           |                    |                 |      |          |
|              | 12            | ROS          | 23:14         | EN           | 64                    | 49       | 43.39 | 124       | 40.81  |                  |                     |                           |                    |                 |      |          |
| 27           | 13            | CTD          | 00:51         | BE           | 65                    | 49       | 55.26 | 124       | 55.23  |                  | 236                 |                           |                    |                 |      |          |
|              | 13            | CTD          | 00:56         | BO           | 65                    | 49       | 55.23 | 124       | 55.27  |                  |                     | 227                       |                    |                 |      |          |
|              | 13            | CTD          | 01:00         | EN           | 65                    |          |       |           |        |                  |                     |                           |                    |                 |      |          |
|              | 14            | ROS          | 01:33         | BE           | 66                    | 49       | 53.14 | 124       | 59.70  |                  | 318                 |                           | 238-253            | 16              |      |          |
|              | 14            | ROS          | 01:38         | BO           | 66                    | 49       | 53.24 | 124       | 59.71  |                  |                     | 311                       |                    |                 |      |          |
|              | 14            | ROS          |               | EN           | 66                    |          |       |           |        |                  |                     |                           |                    |                 |      |          |

CAST TYPE -

BOT -

CTD -

MOR -

bottle cast

ctd

mooring

ROS -

NET -

DRF -

rosette

net haul

drifter

USW - sea water loop

TIME CODE -

BE -

BO -

EN -

beginning time of cast

bottom time of cast

end of cast

DE -

MR -

RE -

deployment time

messenger release

recover mooring

POSITION CODE -

RAD -

GPS -

LOR -

RADAR

GLOBAL

LORAN



## DAILY LOG

## OCEAN PHYSICS

## INSTITUTE OF OCEAN SCIENCES

| YEAR      |            | MONTH           |            |           |                    | SHIP     |           | CRUISE        |                  |                        |                 | PAGE         |      | OF       |  |
|-----------|------------|-----------------|------------|-----------|--------------------|----------|-----------|---------------|------------------|------------------------|-----------------|--------------|------|----------|--|
| 99        |            | June            |            |           |                    | Tully    |           | 9916          |                  |                        |                 |              |      |          |  |
| DAY (UTC) | STATION ID | CAST TYPE       | TIME (UTC) | TIME CODE | STD/HYDRO CONSEC # | LATITUDE | LONGITUDE | POSITION CODE | BOTTOM DEPTH (m) | MAX SAMPLING DEPTH (m) | CONSEC SAMPLE # | # OF BOTTLES | INIT | COMMENTS |  |
| 27        | 15         | CTD             | 2:39       | BE        | 67                 | 49 51.65 | 125 1.64  |               |                  |                        |                 |              |      |          |  |
|           | 15         | CTD             | 2:41       | BO        | 67                 | 49 51.66 | 125 1.69  |               | 129              | 122                    |                 |              |      |          |  |
|           | 15         | CTD             | 2:44       | EN        | 67                 | 49.57.68 | 125.      |               |                  |                        |                 |              |      |          |  |
| 27        | 16         | R <sub>2</sub>  | 3:38       | BE        | 68                 | 49.57.68 | 125.8.68  |               |                  |                        | 254-264         | 11           |      |          |  |
|           | 16         | R <sub>10</sub> | 3:41       | BO        |                    | 49.57.68 | 125 8.69  |               | 160              |                        |                 |              |      |          |  |
|           | 16         | R <sub>11</sub> | 3:58       | EN        | 68                 |          |           |               |                  | 147                    |                 |              |      |          |  |
| 27        | 17         | CTD             | 4:25       | BE        | 69                 | 49.58.82 | 125.4.25  |               | 265              |                        |                 |              |      |          |  |
|           | 17         | CTD             | 4:30       | BO        | 69                 | 49.58.85 | 125.4.25  |               |                  |                        |                 |              |      |          |  |
|           | 17         | CTD             | 4:33       | EN        | 69                 | 49.58.85 | 125.04.25 |               |                  |                        |                 |              |      |          |  |
| 27        | 18         | CTD             | 5:11       | BE        | 70                 | 49.59.21 | 124 58.86 |               | 145              | 137                    |                 |              |      |          |  |
|           | 18         | CTD             | 5:14       | BO        | 70                 | 49.59.21 | 124 58.91 |               |                  |                        |                 |              |      |          |  |
|           | 18         | CTD             | 5:16       | EN        | 70                 | 49.59.22 | 124 58.90 |               |                  |                        |                 |              |      |          |  |
| 27        | 19         | CTD             | 05:57      | BE        | 71                 | 50 1.23  | 124 52.96 |               |                  |                        |                 |              |      |          |  |
|           | 19         | CTD             | 06:02      | BO        | 71                 | 50 1.23  | 124 53.07 |               | 286              |                        |                 |              |      |          |  |
|           | 19         | CTD             | 06:07      | EN        | 71                 | 50 1.21  | 124 53.16 |               |                  |                        |                 |              |      |          |  |
| 27        | 20         | CTD             | 08:07      | BE        | 72                 | 49 47.14 | 124 32.26 |               | 319              |                        |                 |              |      |          |  |
|           | 20         | CTD             | 08:12      | BO        | 72                 | 49 47.13 | 124 32.24 |               |                  |                        |                 |              |      |          |  |
|           | 20         | CTD             | 08:16      | EN        | 72                 | 49 47.13 | 124 32.23 |               |                  |                        |                 |              |      |          |  |

CAST TYPE -

BOT -  
CTD -  
MOR -bottle cast  
cld  
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net haul  
drifter

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sea water loop

TIME CODE -

BE -  
BO -  
EN -beginning time of cast  
bottom time of cast  
end of castDE -  
MR -  
RE -deployment time  
messenger release  
recover mooring

POSITION CODE -

RAD -  
GPS -  
LOR -RADAR  
GLOBAL  
LORAN



## DAILY LOG

## OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

[illegible]

CAST TYPE -

BOT -  
CTD -  
MOR -

bottle cast  
ctd  
mooring

|       |          |
|-------|----------|
| ROS - | rosette  |
| NET - | net haul |
| DAF - | drifter  |

USW - sea water loop

TIME CODE -

|      |                        |
|------|------------------------|
| BE - | beginning time of cast |
| BO - | bottom time of cast    |
| EN-  | end of cast            |

|    |                   |
|----|-------------------|
| DE | deployment time   |
| MR | messenger release |
| RE | recover mooring   |

POSITION CODE -

|     |        |
|-----|--------|
| RAD | RADAR  |
| GPS | GLOBAL |
| LOR | LORAN  |