

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EF13

UTC DATE y/m/d: 00/07/29  
CAST NUMBER: 22

SHIP: Tully

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |   |     |  |     |  |     |  |  |  | m/L   | Dosage |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|---|-----|--|-----|--|-----|--|--|--|-------|--------|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |   | NUT |  | ALK |  | TCO |  |  |  |       |        |
| 1          | 1          | 1258       |            | Bottom-3     | 100               | ✓                  | ✓             | ✓ |     |  |     |  |     |  |  |  | 1.677 | .322   |
| 2          | 2          | 1260       |            | 90           |                   | ✓                  |               |   |     |  |     |  |     |  |  |  | 1.774 | .329   |
| 3          | 3          | 1261       |            | 80           |                   | ✓                  |               |   |     |  |     |  |     |  |  |  | 2.054 | .385   |
| 4          | 4          | 1264       |            | 70           |                   | ✓                  |               |   |     |  |     |  |     |  |  |  | 2.523 | .467   |
| 5          | 5          | 1267       |            | 50           |                   | ✓                  |               |   |     |  |     |  |     |  |  |  | 4.173 | .772   |
| 6          | 6          | 1268       |            | 30           |                   | ✓                  |               |   |     |  |     |  |     |  |  |  | 5.890 | 1.067  |
| 7          | 7          | 1270       |            | 20           |                   | ✓                  |               |   |     |  |     |  |     |  |  |  | 6.099 | 1.047  |
| 8          | 8          | 1271       |            | 0            |                   | ✓                  |               | ✓ |     |  |     |  |     |  |  |  | 6.859 | 1.139  |
| 9          |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 10         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 11         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 12         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 13         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 14         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 15         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 16         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 17         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 18         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 19         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 20         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 21         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 22         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 23         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 24         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 105

Cast # down:  
Cast # up: ✓

Time LOC UTC  
Begin: 0350  
Bottom:  
End:

START POSITION (GPS)  
LAT: 48°56.400'  
LONG: 125°10.732'

BOTTOM POSITION (GPS)  
LAT:  
LONG:

END POSITION (GPS)  
LAT:  
LONG:

Comments:

F5.0, F8.1, F11.3, F10.3, F6.0, F10.2, F11.3, F11.3

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EF12

UTC DATE y/m/d: 00/07/29  
CAST NUMBER: 23

SHIP:

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |   |     |  |     |  |     |  |  |  | ml/L  | Dosage |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|---|-----|--|-----|--|-----|--|--|--|-------|--------|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |   | NUT |  | ALK |  | TCO |  |  |  |       |        |
| 1          | 9          | 1272       |            | Bottom-2     | 90                | ✓                  |               | ✓ |     |  |     |  |     |  |  |  | 2.190 | .382   |
| 2          | 10         | 1273       |            |              | 80                | ✓                  |               |   |     |  |     |  |     |  |  |  | 2.484 | .433   |
| 3          | 11         | 1274       |            |              | 70                | ✓                  |               |   |     |  |     |  |     |  |  |  | 2.723 | .467   |
| 4          | 12         | 1275       |            |              | 50                | ✓                  |               |   |     |  |     |  |     |  |  |  | 3.554 | .617   |
| 5          | 13         | 1276       |            |              | 30                | ✓                  |               |   |     |  |     |  |     |  |  |  | 5.583 | .928   |
| 6          | 14         | 1277       |            |              | 20                | ✓                  |               |   |     |  |     |  |     |  |  |  | 6.148 | 1.030  |
| 7          | 15         | 1278       |            |              | 0                 | ✓                  |               | ✓ |     |  |     |  |     |  |  |  | 6.927 | 1.152  |
| 8          |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 9          |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 10         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 11         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 12         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 13         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 14         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 15         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 16         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 17         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 18         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 19         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 20         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 21         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 22         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 23         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |
| 24         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |        |

ENTERED BY:  
CHECKED BY:

Bottom Depth:

Cast # down:  
Cast # up: ✓

Time LOC UTC  
Begin: 0441  
Bottom:  
End:

START POSITION (GPS)  
LAT: 48 57.995  
LONG: 125 10.519

BOTTOM POSITION (GPS)  
LAT:  
LONG:

END POSITION (GPS)  
LAT:  
LONG:

Comments:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EFF 11

UTC DATE y/m/d: 00/07/29  
CAST NUMBER: 24

SHIP: Tully

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |  |     |  |     |  |     |  |  |  | m/L   | Dosage |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|--|-----|--|-----|--|-----|--|--|--|-------|--------|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |  | NUT |  | ALK |  | TCO |  |  |  |       |        |
| 1          |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  | 2.241 | .389   |
| 2          | 16         | 1279       |            | 80           | ✓                 |                    |               |  |     |  |     |  |     |  |  |  | 2.397 | .425   |
| 3          | 17         | 1280       |            | 70           | ✓                 |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 4          | 18         | 1281       |            | 50           | ✓                 |                    |               |  |     |  |     |  |     |  |  |  | 4.244 | .711   |
| 5          | 19         | 1282       |            | 30           | ✓                 |                    |               |  |     |  |     |  |     |  |  |  | 5.859 | 1.066  |
| 6          | 20         | 1283       |            | 20           | ✓                 |                    |               |  |     |  |     |  |     |  |  |  | 6.179 | 1.124  |
| 7          | 21         | 1284       |            | 0            | ✓                 |                    |               |  |     |  |     |  |     |  |  |  | 6.848 | 1.250  |
| 8          |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 9          |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 10         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 11         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 12         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 13         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 14         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 15         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 16         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 17         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 18         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 19         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 20         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 21         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 22         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 23         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |
| 24         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |       |        |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 85

Cast # down:  
Cast # up: ✓

Time LOC UTC  
Begin: 0520  
Bottom:  
End:

START POSITION (GPS)  
LAT: 48 59.102  
LONG: 125 11.007

BOTTOM POSITION (GPS)  
LAT:  
LONG:

END POSITION (GPS)  
LAT:  
LONG:

Comments:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EFF10

UTC DATE y/m/d: 00/07/29  
CAST NUMBER: 25

SHIP: Tully

| Niskin<br>No. | Sample<br>No. | OXY.<br>Flask | OXY.<br>Temp. | Sample<br>Depth | ROSETTE OPERATION |                       | Samples taken |     |     |     |     |     |     |  |  |  |  |       | ml/L  | Dosage |
|---------------|---------------|---------------|---------------|-----------------|-------------------|-----------------------|---------------|-----|-----|-----|-----|-----|-----|--|--|--|--|-------|-------|--------|
|               |               |               |               |                 | Trip<br>pressure  | Confirmed<br>Salinity | SAL           |     | NUT |     | ALK |     | TCO |  |  |  |  |       |       |        |
|               |               |               |               |                 |                   |                       |               | OXY |     | CHL |     | CI3 |     |  |  |  |  |       |       |        |
| 1             | —             |               |               | —               |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 2             | 22            | 1285          |               | 9.8             | ✓                 |                       |               |     |     |     |     |     |     |  |  |  |  | 1.845 | .348  |        |
| 3             | 23            | 1286          |               | 90              | ✓                 |                       |               |     |     |     |     |     |     |  |  |  |  | 2.009 | .373  |        |
| 4             | 24            | 1287          |               | 80              | ✓                 |                       |               |     |     |     |     |     |     |  |  |  |  | 2.162 | .407  |        |
| 5             | 25            | 1288          |               | 70              | ✓                 |                       |               |     |     |     |     |     |     |  |  |  |  | 2.443 | .450  |        |
| 6             | 26            | 1290          |               | 50              | ✓                 |                       |               |     |     |     |     |     |     |  |  |  |  | 4.151 | .757  |        |
| 7             | 27            | 1291          |               | 30              | ✓                 |                       |               |     |     |     |     |     |     |  |  |  |  | 5.709 | 1.016 |        |
| 8             | 28            | 1292          |               | 20              | ✓                 |                       |               |     |     |     |     |     |     |  |  |  |  | 6.208 | 1.100 |        |
| 9             | 29            | 1293          |               | 0               | ✓                 |                       |               |     |     |     |     |     |     |  |  |  |  | 6.842 | 1.222 |        |
| 10            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 11            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 12            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 13            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 14            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 15            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 16            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 17            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 18            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 19            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 20            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 21            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 22            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 23            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |
| 24            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |       |       |        |

Comments:

ENTERED BY:  
CHECKED BY:

Bottom Depth: 103

Cast # down:  
Cast # up: ✓

Time LOC UTC  
Begin: 0549  
Bottom:  
End:

START POSITION (GPS)  
LAT: 48 59.831  
LONG: 125 11.229

BOTTOM POSITION (GPS)  
LAT:  
LONG:

END POSITION (GPS)  
LAT:  
LONG:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EFF09

UTC DATE y/m/d: 00/07/29  
CAST NUMBER: 26

SHIP: Tully

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |     |     |     |     |     |     |  |  |  |       |        |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|-----|-----|-----|-----|-----|-----|--|--|--|-------|--------|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |     | NUT |     | ALK |     | TCO |  |  |  |       |        |
|            |            |            |            |              |                   |                    |               | OXY |     | CHL |     | C13 |     |  |  |  | ml/L  | Dosage |
| 1          | —          |            |            | —            |                   |                    |               |     |     |     |     |     |     |  |  |  | —     | —      |
| 2          | 30         | 1294       |            | 62           | ✓                 |                    |               |     |     |     |     |     |     |  |  |  | 2.389 | .405   |
| 3          | 31         | 84         |            | 50           | ✓                 |                    |               |     |     |     |     |     |     |  |  |  | 3.433 | .630   |
| 4          | 32         | 255        |            | 40           | ✓                 |                    |               |     |     |     |     |     |     |  |  |  | 5.058 | .908   |
| 5          | 33         | 337        |            | 30           | ✓                 |                    |               |     |     |     |     |     |     |  |  |  | 5.607 | 1.007  |
| 6          | 34         | 364        |            | 20           | ✓                 |                    |               |     |     |     |     |     |     |  |  |  | 6.022 | 1.083  |
| 7          | 35         | 392        |            | 10           | ✓                 |                    |               |     |     |     |     |     |     |  |  |  | 6.365 | 1.167  |
| 8          | 36         | 443        |            | 0            | ✓                 |                    |               |     |     |     |     |     |     |  |  |  | 6.927 | 1.280  |
| 9          |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 10         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 11         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 12         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 13         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 14         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 15         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 16         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 17         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 18         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 19         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 20         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 21         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 22         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 23         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |
| 24         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |       |        |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 63

Cast # down:  
Cast # up: ✓

Time LOC UTC  
Begin: 0619  
Bottom:  
End:

START POSITION (GPS)  
LAT: 49 00.092  
LONG: 125 10.860

BOTTOM POSITION (GPS)  
LAT:  
LONG:

END POSITION (GPS)  
LAT:  
LONG:

Comments:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EFF08

UTC DATE y/m/d: 00/07/29  
CAST NUMBER: 27

SHIP: Tully

| Niskin<br>No. | Sample<br>No. | OXY.<br>Flask | OXY.<br>Temp. | Sample<br>Depth | ROSETTE OPERATION |                       | Samples taken |  |     |  |     |  |     |  |  |  | m/L   | Dosage |
|---------------|---------------|---------------|---------------|-----------------|-------------------|-----------------------|---------------|--|-----|--|-----|--|-----|--|--|--|-------|--------|
|               |               |               |               |                 | Trip<br>pressure  | Confirmed<br>Salinity | SAL           |  | NUT |  | ALK |  | TCO |  |  |  |       |        |
| 1             | —             |               |               | —               |                   |                       |               |  |     |  |     |  |     |  |  |  | —     | —      |
| 2             | 37            | 486           |               | 78              | ✓                 |                       |               |  |     |  |     |  |     |  |  |  | 2.012 | .382   |
| 3             | 38            | 534           |               | 70              | ✓                 |                       |               |  |     |  |     |  |     |  |  |  | 2.115 | .369   |
| 4             | 39            | 535           |               | 50              | ✓                 |                       |               |  |     |  |     |  |     |  |  |  | 2.957 | 0.563  |
| 5             | 40            | 572           |               | 30              | ✓                 |                       |               |  |     |  |     |  |     |  |  |  | 5.127 | 0.950  |
| 6             | 41            | 588           |               | 20              | ✓                 |                       |               |  |     |  |     |  |     |  |  |  | 6.225 | 1.153  |
| 7             | 42            | 632           |               | 0               | ✓                 |                       |               |  |     |  |     |  |     |  |  |  | 7.036 | 1.294  |
| 8             |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 9             |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 10            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 11            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 12            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 13            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 14            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 15            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 16            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 17            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 18            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 19            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 20            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 21            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 22            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 23            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |
| 24            |               |               |               |                 |                   |                       |               |  |     |  |     |  |     |  |  |  |       |        |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 88

Cast # down:  
Cast # up: ✓

Time LOC UTC  
Begin: 0646  
Bottom:  
End:

START POSITION (GPS)  
LAT: 49 00.641  
LONG: 125 10.262

BOTTOM POSITION (GPS)  
LAT:  
LONG:

END POSITION (GPS)  
LAT:  
LONG:

Comments:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EFF07A

UTC DATE y/m/d: 00/07/29  
CAST NUMBER: 28

SHIP: Tully

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |   |     |  |     |  |     |  |  |  | ml/l  | Dage  |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|---|-----|--|-----|--|-----|--|--|--|-------|-------|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |   | NUT |  | ALK |  | TCO |  |  |  |       |       |
| 1          |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 2          | 44         | 641        |            | B-5          | 126               |                    |               | ✓ |     |  |     |  |     |  |  |  | 1.787 | 0.346 |
| 3          | 45         | 650        |            | 120          | 119               |                    |               | ✓ |     |  |     |  |     |  |  |  | 1.762 | 0.333 |
| 4          | 46         | 657        |            | 110          | 109               |                    |               | ✓ |     |  |     |  |     |  |  |  | 1.858 | 0.354 |
| 5          | 47         | 695        |            | 100          | 99                |                    |               | ✓ |     |  |     |  |     |  |  |  | 1.974 | 0.363 |
| 6          | 48         | 697        |            | 90           | 89                |                    |               | ✓ |     |  |     |  |     |  |  |  | 2.046 | 0.375 |
| 7          | 49         | 707        |            | 80           | 79                |                    |               | ✓ |     |  |     |  |     |  |  |  | 2.058 | 0.364 |
| 8          | 50         | 708        |            | 70           | 69                |                    |               | ✓ |     |  |     |  |     |  |  |  | 2.167 | 0.384 |
| 9          | 51         | 709        |            | 50           | 50                |                    |               | ✓ |     |  |     |  |     |  |  |  | 3.025 | 0.527 |
| 10         | 52         | 712        |            | 30           | 30                |                    |               | ✓ |     |  |     |  |     |  |  |  | 5.417 | 0.948 |
| 11         | 53         | 715        |            | 20           | 20                |                    |               | ✓ |     |  |     |  |     |  |  |  | 6.284 | 1.107 |
| 12         | 54         | 727        |            | 0            | 0                 |                    |               | ✓ |     |  |     |  |     |  |  |  | 6.895 | 1.193 |
| 13         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 14         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 15         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 16         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 17         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 18         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 19         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 20         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 21         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 22         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 23         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |
| 24         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |       |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 137

Cast # down:  
Cast # up:

| Time    | LOC | UTC |
|---------|-----|-----|
| Begin:  |     |     |
| Bottom: |     |     |
| End:    |     |     |

START POSITION (GPS)  
LAT: 49.00.885  
LONG: 125 09.822

BOTTOM POSITION (GPS)  
LAT:  
LONG:

END POSITION (GPS)  
LAT:  
LONG:

Comments: The first part of the cast (44-47) done as cast #28 (Tried to titrate water sample. Program did not 2nd part 48 #99928 like this)

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EFF07

UTC DATE y/m/d: 2000/07/29  
CAST NUMBER: 29

SHIP: TULLY

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |   |     |  |     |  |     |  |  |  | ml/L  | Passage |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|---|-----|--|-----|--|-----|--|--|--|-------|---------|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |   | NUT |  | ALK |  | TCO |  |  |  |       |         |
| 1          |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 2          | 55         | 730        |            | 110          | 110               |                    |               | ✓ |     |  |     |  |     |  |  |  | 2.106 | .377    |
| 3          | 56         | 1105       |            | 100          | 100               |                    |               | ✓ |     |  |     |  |     |  |  |  | 2.027 | 0.338   |
| 4          | 57         | 1106       |            | 90           | 90                |                    |               | ✓ |     |  |     |  |     |  |  |  | 2.097 | 0.352   |
| 5          | 58         | 1110       |            | 80           | 80                |                    |               | ✓ |     |  |     |  |     |  |  |  | 2.121 | 0.352   |
| 6          | 59         | 1126       |            | 70           | 70                |                    |               | ✓ |     |  |     |  |     |  |  |  | 2.191 | 0.363   |
| 7          | 60         | 1128       |            | 50           | 50                |                    |               | ✓ |     |  |     |  |     |  |  |  | 2.919 | 0.479   |
| 8          | 61         | 1130       |            | 30           | 30                |                    |               | ✓ |     |  |     |  |     |  |  |  | 4.768 | 0.789   |
| 9          | 62         | 1134       |            | 20           | 20                |                    |               | ✓ |     |  |     |  |     |  |  |  | 6.224 | 1.025   |
| 10         | 63         | 1135       |            | 0            | 0                 |                    |               | ✓ |     |  |     |  |     |  |  |  | 7.246 | 1.170   |
| 11         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 12         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 13         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 14         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 15         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 16         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 17         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 18         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 19         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 20         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 21         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 22         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 23         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |
| 24         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |       |         |

Comments:

ENTERED BY:  
CHECKED BY:

Bottom Depth: 120

Cast # down:  
Cast # up: ✓

Time LOC UTC  
Begin: 0747  
Bottom:  
End:

START POSITION (GPS)  
LAT: 49° 01.235  
LONG: 125° 09.486

BOTTOM POSITION (GPS)  
LAT:  
LONG:

END POSITION (GPS)  
LAT:  
LONG:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EF06

UTC DATE y/m/d: 2000/07/29  
CAST NUMBER: 30

SHIP: Tully

| Niskin<br>No. | Sample<br>No. | OXY.<br>Flask | OXY.<br>Temp. | Sample<br>Depth | ROSETTE OPERATION |                       | Samples taken |   |     |  |     |  |     |  |  |  | ml/L  | Dosage |
|---------------|---------------|---------------|---------------|-----------------|-------------------|-----------------------|---------------|---|-----|--|-----|--|-----|--|--|--|-------|--------|
|               |               |               |               |                 | Trip<br>pressure  | Confirmed<br>Salinity | SAL           |   | NUT |  | ALK |  | TCO |  |  |  |       |        |
| 1             |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 2             | 64            | 1136          |               | 30-5m           | 143               |                       |               | ✓ |     |  |     |  |     |  |  |  | 1.396 | 0.240  |
| 3             | 65            | 1137          |               | 140             | 140               |                       |               | ✓ |     |  |     |  |     |  |  |  | 1.125 | 0.195  |
| 4             | 66            | 1138          |               | 130             | 130               |                       |               | ✓ |     |  |     |  |     |  |  |  | 1.491 | 0.263  |
| 5             | 67            | 1141          |               | 110             | 110               |                       |               | ✓ |     |  |     |  |     |  |  |  | 2.273 | 0.374  |
| 6             | 68            | 1142          |               | 90              | 89                |                       |               | ✓ |     |  |     |  |     |  |  |  | 2.164 | 0.373  |
| 7             | 69            | 1146          |               | 70              | 70                |                       |               | ✓ |     |  |     |  |     |  |  |  | 2.136 | 0.351  |
| 8             | 70            | 1148          |               | 50              | 50                |                       |               | ✓ |     |  |     |  |     |  |  |  | 2.954 | 0.481  |
| 9             | 71            | 1153          |               | 30              | 30                |                       |               | ✓ |     |  |     |  |     |  |  |  | 4.913 | 0.800  |
| 10            | 72            | 1158          |               | 20              | 20                |                       |               | ✓ |     |  |     |  |     |  |  |  | 6.416 | 1.056  |
| 11            | 73            | 1171          |               | 0               | 0                 |                       |               | ✓ |     |  |     |  |     |  |  |  | 7.120 | 1.259  |
| 12            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 13            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 14            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 15            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 16            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 17            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 18            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 19            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 20            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 21            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 22            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 23            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |
| 24            |               |               |               |                 |                   |                       |               |   |     |  |     |  |     |  |  |  |       |        |

Comments:

ENTERED BY:  
CHECKED BY:

Bottom Depth: 150

Cast # down:  
Cast # up: ✓

Time LOC UTC  
Begin: 0816  
Bottom:  
End:

START POSITION (GPS)  
LAT: 49° 01.760  
LONG: 125° 09.183

BOTTOM POSITION (GPS)  
LAT:  
LONG:

END POSITION (GPS)  
LAT:  
LONG:

ROSETTE LOG

MISSION ID: 2000-024  
STATION NAME: EF5A

UTC DATE y/m/d: 2000/07/29  
CAST NUMBER: 31

SHIP: Tully

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |   |                              |  |     |  |     |  |  |  | ml/l  | Dosage |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|---|------------------------------|--|-----|--|-----|--|--|--|-------|--------|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |   | NUT                          |  | ALK |  | TCO |  |  |  |       |        |
| 1          |            |            |            |              |                   |                    |               |   |                              |  |     |  |     |  |  |  |       |        |
| 2          | 74         | 1174       |            | 185          | 185               |                    |               | ✓ |                              |  |     |  |     |  |  |  | 0.109 | 0.034  |
| 3          | 75         | 1175       |            | 180          | 180               |                    |               | ✓ |                              |  |     |  |     |  |  |  | 0.131 | 0.038  |
| 4          | 76         | 1176       |            | 175          | 175               |                    |               | ✓ |                              |  |     |  |     |  |  |  | 0.153 | 0.038  |
| 5          | 77         | 1177       |            | 170          | 170               |                    |               | ✓ |                              |  |     |  |     |  |  |  | 0.165 | 0.044  |
| 6          | 78         | 1180       |            | 160          | 160               |                    |               | ✓ |                              |  |     |  |     |  |  |  | 0.176 | 0.046  |
| 7          | 79         | 1188       |            | 150          | 150               |                    |               | ✓ |                              |  |     |  |     |  |  |  | 0.269 | 0.059  |
| 8          | 80         | 1189       |            | 140          | 140               |                    |               | ✓ |                              |  |     |  |     |  |  |  | 0.615 | 0.122  |
| 9          | 81         | 1191       |            | 130          | 130               |                    |               | ✓ |                              |  |     |  |     |  |  |  | 1.324 | 0.254  |
| 10         | 82         | 1192       |            | 110          | 110               |                    |               | ✓ |                              |  |     |  |     |  |  |  | 2.071 | 0.387  |
| 11         | 83         | 1193       |            | 90           | 90                |                    |               | ✓ |                              |  |     |  |     |  |  |  | 2.094 | 0.394  |
| 12         | 84         | 1194       |            | 70           | 70                |                    |               | ✓ |                              |  |     |  |     |  |  |  | 2.093 | 0.394  |
| 13         | 85         | 1195       |            | 50           | 50                |                    |               | ✓ |                              |  |     |  |     |  |  |  | 3.078 | 0.573  |
| 14         | 86         | 1197       |            | 30           | 30                |                    |               | ✓ |                              |  |     |  |     |  |  |  | 5.892 | 1.080  |
| 15         | 87         | 1198       |            | 20           | 20                |                    |               | ✓ |                              |  |     |  |     |  |  |  | 7.494 | 1.355  |
| 16         | 88         | —          |            | 0            | 0                 |                    |               | ✓ | Sample Lost - Fouled lanyard |  |     |  |     |  |  |  |       |        |
| 17         |            |            |            |              |                   |                    |               |   |                              |  |     |  |     |  |  |  |       |        |
| 18         |            |            |            |              |                   |                    |               |   |                              |  |     |  |     |  |  |  |       |        |
| 19         |            |            |            |              |                   |                    |               |   |                              |  |     |  |     |  |  |  |       |        |
| 20         |            |            |            |              |                   |                    |               |   |                              |  |     |  |     |  |  |  |       |        |
| 21         |            |            |            |              |                   |                    |               |   |                              |  |     |  |     |  |  |  |       |        |
| 22         |            |            |            |              |                   |                    |               |   |                              |  |     |  |     |  |  |  |       |        |
| 23         |            |            |            |              |                   |                    |               |   |                              |  |     |  |     |  |  |  |       |        |
| 24         |            |            |            |              |                   |                    |               |   |                              |  |     |  |     |  |  |  |       |        |

Comments:

ENTERED BY:  
CHECKED BY:

Bottom Depth: 193

Cast # down:  
Cast # up: ✓

Time LOC UTC  
Begin: 8.57  
Bottom:  
End:

START POSITION (GPS)  
LAT: 49°02.191  
LONG: 125°09.163

BOTTOM POSITION (GPS)  
LAT:  
LONG:

END POSITION (GPS)  
LAT:  
LONG:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EF05

UTC DATE y/m/d: 2000/07/29  
CAST NUMBER: 32

SHIP: Tully

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |   |     |  |     |  |     |         |      |   |  |  | m/l/l | Dosage |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|---|-----|--|-----|--|-----|---------|------|---|--|--|-------|--------|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |   | NUT |  | ALK |  | TCO |         |      |   |  |  |       |        |
| 1          |            |            |            |              |                   |                    |               |   |     |  |     |  |     |         |      |   |  |  |       |        |
| 2          | 89         | 1202       |            | Bottom       | 196.4             |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 0.118 | 0.030  |
| 3          | 90         | 1203       |            | 195          | 195               |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 0.098 | 0.032  |
| 4          | 91         | 1206       |            | 190          | 190               |                    |               | ✓ |     |  |     |  |     | In File | 0032 |   |  |  | 0.086 | 0.030  |
| 5          | 92         | 1209       |            | 185          | 185               |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 0.118 | 0.046  |
| 6          | 93         | 1210       |            | 180          | 180               |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 0.202 | 0.051  |
| 7          | 94         | 1212       |            | 170          | 170               |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 0.202 | 0.051  |
| 8          | 95         | 1215       |            | 160          | 160               |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 0.245 | 0.059  |
| 9          | 96         | 1216       |            | 150          | 150               |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 0.333 | 0.074  |
| 10         | 97         | 1218       |            | 140          | 140               |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 0.462 | 0.109  |
| 11         | 98         | 1219       |            | 120          | 120               |                    |               | ✓ |     |  |     |  |     |         |      | * |  |  | 1.676 | 0.335  |
| 12         | 99         | 1222       |            | 100          | 100               |                    |               | ✓ |     |  |     |  |     |         |      | * |  |  | 2.075 | 0.389  |
| 13         | 100        | 1223       |            | 90           | 90                |                    |               | ✓ |     |  |     |  |     |         |      | * |  |  | 2.126 | 0.390  |
| 14         | 101        | 1224       |            | 80           | 80                |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 2.228 |        |
| 15         | 102        | 1225       |            | 70           | 70                |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 2.854 |        |
| 16         | 103        | 1228       | poor       | 60           | 60                | too high           |               | ✓ |     |  |     |  |     |         |      |   |  |  | 3.355 |        |
| 17         | 104        | 1230       | ✓          | 50           | 50                |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 2.996 |        |
| 18         | 105        | 1231       |            | 30           | 29                |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 5.395 |        |
| 19         | 106        | 1233       |            | 20           | 20                |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 6.450 |        |
| 20         | 107        | 1234       |            | 0            | 0                 |                    |               | ✓ |     |  |     |  |     |         |      |   |  |  | 7.522 |        |
| 21         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |         |      |   |  |  |       |        |
| 22         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |         |      |   |  |  |       |        |
| 23         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |         |      |   |  |  |       |        |
| 24         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |         |      |   |  |  |       |        |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 202

Cast # down:  
Cast # up: ✓

| Time    | LOC | UTC  |
|---------|-----|------|
| Begin:  |     | 9.35 |
| Bottom: |     |      |
| End:    |     |      |

START POSITION (GPS)  
LAT: 49°02.520  
LONG: 125°09.153

BOTTOM POSITION (GPS)  
LAT:  
LONG:

END POSITION (GPS)  
LAT:  
LONG:

265-308

Comments:

colorimeter gave invalid numbers - had to reset  
Blanks changed also at this point

\* alternate blanks + standards

004, 005, 005  
718, 717, 717  
717333

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EF 4A

UTC DATE y/m/d: 2000/07/29  
CAST NUMBER: 34

SHIP: Tully

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |   |     |  |     |  |     |  |  |  |  |  |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|---|-----|--|-----|--|-----|--|--|--|--|--|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |   | NUT |  | ALK |  | TCO |  |  |  |  |  |
| 1          |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |  |  |
| 2          | 108        |            |            | Bottom       | 185               |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 3          | 109        |            |            | 195          | 185               |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 4          | 110        |            |            | 190          | 180               |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 5          | 111        |            |            | 180          | 175               |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 6          | 112        |            |            | 170          | 170               |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 7          | 113        |            |            | 160          | 159               |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 8          | 114        |            |            | 150          | 150               |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 9          | 115        |            |            | 140          | 139               |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 10         | 116        |            |            | 130          | 130               |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 11         | 117        |            |            | 110          | 109               |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 12         | 118        |            |            | 90           | 89                |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 13         | 119        |            |            | 70           | 70                |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 14         | 120        |            |            | 50           | 50                |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 15         | 121        |            |            | 30           | 30                |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 16         | 122        | 1295       |            | 20           | 20                |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 17         | 123        | no sample  |            | 0            | 0                 |                    |               | ✓ |     |  |     |  |     |  |  |  |  |  |
| 18         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |  |  |
| 19         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |  |  |
| 20         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |  |  |
| 21         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |  |  |
| 22         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |  |  |
| 23         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |  |  |
| 24         |            |            |            |              |                   |                    |               |   |     |  |     |  |     |  |  |  |  |  |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 190

Cast # down:  
Cast # up:

| Time    | LOC | UTC  |
|---------|-----|------|
| Begin:  |     | 1047 |
| Bottom: |     | 1055 |
| End:    |     |      |

START POSITION (GPS)  
LAT:  
LONG:

BOTTOM POSITION (GPS)  
LAT: 4902.882  
LONG: 12509.145

END POSITION (GPS)  
LAT:  
LONG:

Comments:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EFF04

UTC DATE y/m/d: 2000/07/29  
CAST NUMBER: 35

SHIP:

| Niskin<br>No. | Sample<br>No. | OXY.<br>Flask | OXY.<br>Temp. | Sample<br>Depth | ROSETTE OPERATION |                       | Samples taken |     |     |     |     |     |     |  |  |  |  |  |
|---------------|---------------|---------------|---------------|-----------------|-------------------|-----------------------|---------------|-----|-----|-----|-----|-----|-----|--|--|--|--|--|
|               |               |               |               |                 | Trip<br>pressure  | Confirmed<br>Salinity | SAL           |     | NUT |     | ALK |     | TCO |  |  |  |  |  |
|               |               |               |               |                 |                   |                       |               | OXY |     | CHL |     | C13 |     |  |  |  |  |  |
| 1             | 12            |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 2             | 124           | 1297          | poor          | 55              | 55                | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 3             | 125           |               |               | 50              | 50                | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 4             | 126           |               |               | 30              | 30                | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 5             | 127           |               |               | 20              | 20                | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 6             | 128           | 1301          |               | 10              | 10                | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 7             | 129           |               | poor          | 0               | 0                 | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 8             |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 9             |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 10            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 11            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 12            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 13            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 14            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 15            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 16            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 17            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 18            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 19            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 20            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 21            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 22            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 23            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 24            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 64

Cast # down:  
Cast # up:

|         |      |     |
|---------|------|-----|
| Time    | LOC  | UTC |
| Begin:  |      |     |
| Bottom: | 1140 |     |
| End:    |      |     |

START POSITION (GPS)  
LAT:  
LONG:

BOTTOM POSITION (GPS)  
LAT: 4903.107  
LONG: 125 08.576

END POSITION (GPS)  
LAT:  
LONG:

Comments:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EF03A

UTC DATE y/m/d: JULY 29  
CAST NUMBER: 36

SHIP: TULLY

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |  |     |  |     |  |     |  |  |  |  |  |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|--|-----|--|-----|--|-----|--|--|--|--|--|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |  | NUT |  | ALK |  | TCO |  |  |  |  |  |
| 1          |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 2          | 130        |            |            | 82           | 82                | ✓                  |               |  |     |  |     |  |     |  |  |  |  |  |
| 3          | 131        |            |            | 80           | 80                | ✓                  |               |  |     |  |     |  |     |  |  |  |  |  |
| 4          | 132        |            |            | 70           | 70                | ✓                  |               |  |     |  |     |  |     |  |  |  |  |  |
| 5          | 133        |            |            | 60           | 60                | ✓                  |               |  |     |  |     |  |     |  |  |  |  |  |
| 6          | 134        |            |            | 50           | 50                | ✓                  |               |  |     |  |     |  |     |  |  |  |  |  |
| 7          | 135        |            |            | 30           | 30                | ✓                  |               |  |     |  |     |  |     |  |  |  |  |  |
| 8          | 136        |            |            | 20           | 20                | ✓                  |               |  |     |  |     |  |     |  |  |  |  |  |
| 9          | 137        | no sample  |            | 0            | 0                 | ✓                  |               |  |     |  |     |  |     |  |  |  |  |  |
| 10         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 11         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 12         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 13         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 14         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 15         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 16         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 17         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 18         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 19         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 20         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 21         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 22         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 23         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |
| 24         |            |            |            |              |                   |                    |               |  |     |  |     |  |     |  |  |  |  |  |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 85

Cast # down:  
Cast # up:

Time LOC UTC  
Begin:  
Bottom: 1207  
End:

START POSITION (GPS)  
LAT:  
LONG:

BOTTOM POSITION (GPS)  
LAT: 49 03.799  
LONG: 125 09.081

END POSITION (GPS)  
LAT:  
LONG:

Comments:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EF03

UTC DATE y/m/d: 29 JULY  
CAST NUMBER: 37

SHIP: TULLY

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |     |     |     |     |     |     |  |  |  |                  |  |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|-----|-----|-----|-----|-----|-----|--|--|--|------------------|--|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |     | NUT |     | ALK |     | TCO |  |  |  |                  |  |
|            |            |            |            |              |                   |                    |               | OXY |     | CHL |     | C13 |     |  |  |  |                  |  |
| 1          |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |                  |  |
| 2          | 138        | 1311       | Ø          | Bottom       | 115               | ✓                  |               |     |     |     |     |     |     |  |  |  | H <sub>2</sub> S |  |
| 3          | 139        | 1312       | Ø          | 113          | 113               | ✓                  |               |     |     |     |     |     |     |  |  |  | H <sub>2</sub> S |  |
| 4          | 140        | 1313       | Ø          | 105          | 110               | ✓                  |               |     |     |     |     |     |     |  |  |  | H <sub>2</sub> S |  |
| 5          | 141        | 1314       | Ø          | 100          | 105               | ✓                  |               |     |     |     |     |     |     |  |  |  | H <sub>2</sub> S |  |
| 6          | 142        | 1315       | 114        |              | 100               | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 7          | 143        | 1316       | Ø          |              | 95                | ✓                  |               |     |     |     |     |     |     |  |  |  | H <sub>2</sub> S |  |
| 8          | 144        | 1317       | .464       |              | 90                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 9          | 145        | 1318       | .059       |              | 80                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 10         | 146        | 1319       | .938       |              | 70                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 11         | 147        | 1320       | 1.917      |              | 61                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 12         | 148        |            | 2.479      |              | 50                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 13         | 149        |            |            |              | 30                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 14         | 150        |            |            |              | 20                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 15         | 151        |            |            |              | 0                 | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 16         |            |            |            |              | 40                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 17         |            |            |            |              | 40                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 18         |            |            |            |              | 40                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 19         |            |            |            |              | 20                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 20         |            |            |            |              | 20                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 21         |            |            |            |              | 20                | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 22         |            |            |            |              | 0                 | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 23         |            |            |            |              | 0                 | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |
| 24         |            |            |            |              | 0                 | ✓                  |               |     |     |     |     |     |     |  |  |  |                  |  |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 119

Cast # down:  
Cast # up:

| Time    | LOC   | UTC |
|---------|-------|-----|
| Begin:  |       |     |
| Bottom: | 12:33 |     |
| End:    |       |     |

START POSITION (GPS)  
LAT:  
LONG:

BOTTOM POSITION (GPS)  
LAT: 49 04.234  
LONG: 125 09.375

END POSITION (GPS)  
LAT:  
LONG:

Comments:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EF02A

UTC DATE y/m/d: 29 JULY  
CAST NUMBER: 38

SHIP: TULY

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |     |     |     |     |     |     |  |  |  |  |  |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|-----|-----|-----|-----|-----|-----|--|--|--|--|--|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |     | NUT |     | ALK |     | TCO |  |  |  |  |  |
|            |            |            |            |              |                   |                    |               | OXY |     | CHL |     | C13 |     |  |  |  |  |  |
| 1          |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 2          | 152        | 1325       | .106       | Bottom       | 93                | /                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 3          | 153        |            |            | 100          | 96                | /                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 4          | 154        |            | .047       | 95           | 94                | /                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 5          | 155        |            | Ø          | 90           | 90                | /                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 6          | 156        | 1329       | .169       | 80           | 80                | /                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 7          | 157        |            | .978       | 70           | 70                | /                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 8          | 158        |            |            | 60           | 60                | /                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 9          | 159        |            |            | 50           | 50                | /                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 10         | 160        |            |            | 30           | 30                | /                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 11         | 161        |            |            | 20           | 20                | /                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 12         | 162        |            | poor       | 0            |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 13         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 14         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 15         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 16         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 17         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 18         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 19         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 20         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 21         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 22         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 23         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 24         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 99

Cast # down:  
Cast # up:

| Time    | LOC  | UTC |
|---------|------|-----|
| Begin:  |      |     |
| Bottom: | 1318 |     |
| End:    |      |     |

START POSITION (GPS)  
LAT:  
LONG:

BOTTOM POSITION (GPS)  
LAT: 49 04.507  
LONG: 125 09.767

END POSITION (GPS)  
LAT:  
LONG:

Comments:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EF02

UTC DATE y/m/d: 29 JULY 00  
CAST NUMBER: 39

SHIP: TULLY

| Niskin<br>No. | Sample<br>No. | OXY.<br>Flask | OXY.<br>Temp. | Sample<br>Depth | ROSETTE OPERATION |                       | Samples taken |     |     |     |     |     |     |  |  |  |  |  |
|---------------|---------------|---------------|---------------|-----------------|-------------------|-----------------------|---------------|-----|-----|-----|-----|-----|-----|--|--|--|--|--|
|               |               |               |               |                 | Trip<br>pressure  | Confirmed<br>Salinity | SAL           |     | NUT |     | ALK |     | TCO |  |  |  |  |  |
|               |               |               |               |                 |                   |                       |               | OXY |     | CHL |     | CI3 |     |  |  |  |  |  |
| 1             |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 2             | 163           |               | Bottom        | 66              |                   | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 3             | 164           |               | 60            |                 |                   | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 4             | 165           |               | 50            |                 |                   | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 5             | 166           |               | 40            |                 |                   | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 6             | 167           |               | 30            |                 |                   | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 7             | 168           |               | 20            |                 |                   | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 8             | 169           |               | 10            |                 |                   | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 9             | 170           |               | 0             |                 |                   | ✓                     |               |     |     |     |     |     |     |  |  |  |  |  |
| 10            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 11            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 12            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 13            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 14            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 15            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 16            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 17            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 18            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 19            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 20            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 21            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 22            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 23            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |
| 24            |               |               |               |                 |                   |                       |               |     |     |     |     |     |     |  |  |  |  |  |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 69

Cast # down:  
Cast # up:

|         |       |     |
|---------|-------|-----|
| Time    | LOC   | UTC |
| Begin:  |       |     |
| Bottom: | 13:45 |     |
| End:    |       |     |

START POSITION (GPS)  
LAT:  
LONG:

BOTTOM POSITION (GPS)  
LAT: 4905.002  
LONG: 125 10.314

END POSITION (GPS)  
LAT:  
LONG:

Comments:

ROSETTE LOG

MISSION ID: 2000-24  
STATION NAME: EF01

UTC DATE y/m/d: 29 JULY 00  
CAST NUMBER: 40

SHIP: TULLY

| Niskin No. | Sample No. | OXY. Flask | OXY. Temp. | Sample Depth | ROSETTE OPERATION |                    | Samples taken |     |     |     |     |     |     |  |  |  |  |  |
|------------|------------|------------|------------|--------------|-------------------|--------------------|---------------|-----|-----|-----|-----|-----|-----|--|--|--|--|--|
|            |            |            |            |              | Trip pressure     | Confirmed Salinity | SAL           |     | NUT |     | ALK |     | TCO |  |  |  |  |  |
|            |            |            |            |              |                   |                    |               | OXY |     | CHL |     | C13 |     |  |  |  |  |  |
| 1          |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 2          | 171        |            |            | Bottom       | 30                | ✓                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 3          | 172        |            | poor       | 20           | 20                | ✓                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 4          | 173        |            |            | 10           |                   | ✓                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 5          | 174        |            |            | 0            |                   | ✓                  |               |     |     |     |     |     |     |  |  |  |  |  |
| 6          | 175        |            |            | 0            |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 7          |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 8          |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 9          |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 10         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 11         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 12         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 13         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 14         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 15         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 16         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 17         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 18         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 19         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 20         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 21         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 22         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 23         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |
| 24         |            |            |            |              |                   |                    |               |     |     |     |     |     |     |  |  |  |  |  |

ENTERED BY:  
CHECKED BY:

Bottom Depth: 35

Cast # down:  
Cast # up:

|         |      |     |
|---------|------|-----|
| Time    | LOC  | UTC |
| Begin:  |      |     |
| Bottom: | 1417 |     |
| End:    |      |     |

START POSITION (GPS)  
LAT:  
LONG:

BOTTOM POSITION (GPS)  
LAT: 49 05.534  
LONG: 125 11.594

END POSITION (GPS)  
LAT:  
LONG:

Comments: