

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: SI Event #: 1 Ship: Tully UTC Date (dd|mmm|yyyy): 21 | 06 | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                                                        | Samples Taken                       |                                     |                                     |                                     |                                     |      |  |  |  |  | Comments      |
|----------|----------|-------------------|----------------------------|-------------------|--------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------|--|--|--|--|---------------|
|          |          | Flask Serial #    | Value mL · L <sup>-1</sup> | Target Pressure   | Confirmed <input checked="" type="checkbox"/> Pressure | Oxy                                 | Nut                                 | Sal                                 | Chl a                               | <del>HT</del> HPLC                  | T    |  |  |  |  |               |
| 1        | 1        | 2068              | 2.273                      | 100               | <input checked="" type="checkbox"/>                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |                                     |                                     | 8.8  |  |  |  |  |               |
| 2        | 2        | 1144              | 3.075                      | 75                | <input checked="" type="checkbox"/>                    |                                     |                                     | <input checked="" type="checkbox"/> |                                     |                                     | 8.6  |  |  |  |  |               |
| 3        | 3        | 631               | 4.400                      | 50                | <input checked="" type="checkbox"/>                    |                                     | <input checked="" type="checkbox"/> |                                     |                                     |                                     | 8.9  |  |  |  |  |               |
| 4        | 4        | 468               | 4.717                      | 40                | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     |                                     |                                     | 9.0  |  |  |  |  |               |
| 5        | 5        | 1475              | 5.067                      | 30                | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     |                                     |                                     | 9.1  |  |  |  |  |               |
| 6        | 6        | 1245              | 5.221                      | 20                | <input checked="" type="checkbox"/>                    | <input checked="" type="checkbox"/> |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 9.5  |  |  |  |  | 3028 dupl 9.7 |
| 7        | 7        | 1397              | 5.364                      | 10                | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 10.1 |  |  |  |  | Δ = 5.253     |
| 8        | 8        | 1373              | 6.266                      | 5                 | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     |                                     |                                     | 11.2 |  |  |  |  |               |
| 9        | 9        | 3151              | 7.188                      | surf              | <input checked="" type="checkbox"/>                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 13.3 |  |  |  |  |               |
| 10       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 11       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 12       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 13       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 14       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 15       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 16       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 17       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 18       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 19       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 20       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 21       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 22       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 23       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |
| 24       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |      |  |  |  |  |               |

Watchkeeper(s): everyone

Bottom Depth: 179 m

Transmisso Cleaned: Y / N

|        | Time | UTC  | Local |
|--------|------|------|-------|
| Start  |      | 0145 | 1945  |
| Bottom |      | 0148 |       |
| End    |      |      |       |

**Positional Information**

Start

Lat: 48 ° 39.57 N

Lon: 123 ° 30.24 W

Bottom

Lat: 48 ° 39.59 N

Lon: 123 ° 30.24 W

End

Lat: ° N

Lon: ° W

**Oxygen Info For This Cast**

Blank Value: 0.00257 mL · L<sup>-1</sup>

Std Value: 0.7063 mL · L<sup>-1</sup>

\*Date Run: 22 | 6 | 11

Analyst: D.M.

\* Oxygen blanks and standards should be run daily, if possible

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 59 Event #: 3 Ship: TULLY UTC Date (dd|mmm|yyyy): 22 | 6 | 11

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                                                        | Samples Taken                       |                                     |                                     |                                     |                                     |                                     |  |     | Comments                |
|----------|----------|-------------------|----------------------------|-------------------|--------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--|-----|-------------------------|
|          |          | Flask Serial #    | Value mL · L <sup>-1</sup> | Target Pressure   | Confirmed <input checked="" type="checkbox"/> Pressure | Oxy                                 | Nut                                 | Sal                                 | Chl a                               | NH <sub>4</sub> HRU                 | DOC                                 |  | T   |                         |
| 1        | 10       | 1298              | 3.347                      | 185               | <input checked="" type="checkbox"/> 228                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |                                     |                                     | <input checked="" type="checkbox"/> |  | 8.2 |                         |
| 2        | 11       | 2014              | 3.386                      | 200               | <input checked="" type="checkbox"/>                    |                                     |                                     | <input checked="" type="checkbox"/> |                                     |                                     |                                     |  | 8.1 | FLASK Lid Loose/NO GOOD |
| 3        | 12       | 1408              | 3.373                      | 175               | <input checked="" type="checkbox"/> 3.396              | <input checked="" type="checkbox"/> |                                     |                                     | CALLED 175 ~                        |                                     |                                     |  | 8.2 | ← * 1307 8.2            |
| 4        | 13       | 3206              | 3.401                      | 150               | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     |                                     |                                     | <input checked="" type="checkbox"/> |  | 8.2 |                         |
| 5        | 14       | 1392              | 3.792                      | 125               | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     |                                     |                                     |                                     |  | 8.5 |                         |
| 6        | 15       | 3090              | 3.987                      | 100               | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     |                                     |                                     |                                     |  | 8.7 |                         |
| 7        | 16       | 1404              | 4.134                      | 75                | <input checked="" type="checkbox"/>                    |                                     | <input checked="" type="checkbox"/> |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |  | 8.8 |                         |
| 8        | 17       | 3126              | 4.381                      | 50                | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     |                                     |                                     |                                     |  | 9.1 |                         |
| 9        | 18       | 1378              | 4.407                      | 40                | <input checked="" type="checkbox"/>                    | <input checked="" type="checkbox"/> |                                     |                                     |                                     |                                     |                                     |  | 9.2 | 4.437 6+17 9.2          |
| 10       | 19       | 3157              | 4.531                      | 30                | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     |                                     | <input checked="" type="checkbox"/> |                                     |  | 9.2 |                         |
| 11       | 20       | 621               | 4.727                      | 20                | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |  | 9.4 |                         |
| 12       | 21       | 1261              | 4.868                      | 10                | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |  | 9.5 |                         |
| 13       | 22       | 1146              | 4.932                      | 5                 | <input checked="" type="checkbox"/>                    |                                     |                                     |                                     |                                     |                                     |                                     |  | 9.5 |                         |
| 14       | 23       | 528               | 5.004                      | 80                | <input checked="" type="checkbox"/>                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |  | 9.5 |                         |
| 15       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |                                     |  |     |                         |
| 16       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |                                     |  |     |                         |
| 17       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |                                     |  |     |                         |
| 18       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |                                     |  |     |                         |
| 19       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |                                     |  |     |                         |
| 20       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |                                     |  |     |                         |
| 21       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |                                     |  |     |                         |
| 22       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |                                     |  |     |                         |
| 23       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |                                     |  |     |                         |
| 24       |          |                   |                            |                   |                                                        |                                     |                                     |                                     |                                     |                                     |                                     |  |     |                         |

Watchkeeper(s): A.A.

Bottom Depth: 234 m

Transmisso Cleaned: ☒ Y ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 0440 | 2140  |
| Bottom | 0445 |       |
| End    | 0500 |       |

## Positional Information

Start  
Lat: 48 ° 37.84 N  
Lon: 123 ° 14.59 W

Bottom  
Lat: 48 ° 37.88 N  
Lon: 123 ° 14.63 W

End  
Lat: 48 ° 38.13 N  
Lon: 123 ° 14.60 W

## Oxygen Info For This Cast

Blank Value: 0.00257 mL · L<sup>-1</sup>  
Std Value: 0.7063 mL · L<sup>-1</sup>  
\*Date Run: 22 | 6 | 11  
Analyst: A.A.

\* Oxygen blanks and standards should be run daily, if possible

## Water Properties Group

## Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

WHITE/BLUE

Cruise ID: 2011-09 Station: 102 Event #: 2 Ship: TULLY UTC Date (dd|mmm|yyyy): 22 June 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                    | Samples Taken |     |     |       |                 |   |     |  |  |  |  | Comments            |
|----------|----------|-------------------|----------------------------|-------------------|--------------------|---------------|-----|-----|-------|-----------------|---|-----|--|--|--|--|---------------------|
|          |          | Flask Serial #    | Value mL • L <sup>-1</sup> | Target Pressure   | Confirmed Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> | T |     |  |  |  |  |                     |
| 1        | 24       | 371               | 1.753                      | 6-5               | ✓ 250              | ✓             | ✓   |     |       |                 |   | 6.7 |  |  |  |  | same depth          |
| 2        | 25       | 196               | 1.732                      | 250               | ✓ 250              |               |     | ✓   |       |                 |   | 6.7 |  |  |  |  |                     |
| 3        | 26       | 569               | 1.748                      | 200               | ✓ 200              |               |     |     |       |                 |   | 6.8 |  |  |  |  |                     |
| 4        | 27       | 3182              | 1.636                      | 175               | ✓ 175              | ✓             |     |     |       |                 |   | 6.9 |  |  |  |  | duplicate 1374 6.98 |
| 5        | 28       | 1402              | 2.208                      | 150               | ✓ 150              |               |     |     |       |                 |   | 7.1 |  |  |  |  |                     |
| 6        | 29       | 3196              | 2.416                      | 125               | ✓ 125              |               |     |     |       |                 |   | 7.2 |  |  |  |  |                     |
| 7        | 30       | 1393              | 2.958                      | 100               | ✓ 100              |               | ✓   |     |       |                 |   | 7.4 |  |  |  |  | BAD CURVE           |
| 8        | 31       | 1318              | 2.869                      | 75                | ✓ 75               |               |     |     |       |                 |   | 7.5 |  |  |  |  |                     |
| 9        | 32       | 745               | 3.080                      | 50                | ✓ 50               |               |     |     |       |                 |   | 7.8 |  |  |  |  |                     |
| 10       | 33       | 2020              | 3.516                      | 40                | ✓ 40               |               |     |     |       |                 |   | 8.1 |  |  |  |  |                     |
| 11       | 34       | 1300              | 3.797                      | 30                | ✓ 30               |               |     |     |       |                 |   | 8.3 |  |  |  |  |                     |
| 12       | 35       | 1395              | 3.978                      | 20                | ✓ 20               | ✓             |     |     | ✓     | ✓               |   | 8.5 |  |  |  |  | duplicate 1321 8.5° |
| 13       | 36       | 1406              | 4.508                      | 10                | ✓ 10               |               |     |     | ✓     | ✓               |   | 8.9 |  |  |  |  |                     |
| 14       | 37       | 1407              | 5.205                      | 5                 | ✓ 5                |               |     |     |       |                 |   | 9.6 |  |  |  |  |                     |
| 15       | 38       | 1476              | 5.190                      | sfc               | ✓ 0                | ✓             | ✓   |     | ✓     | ✓               |   | 9.6 |  |  |  |  |                     |
| 16       |          |                   |                            |                   |                    |               |     |     |       |                 |   |     |  |  |  |  |                     |
| 17       |          |                   |                            |                   |                    |               |     |     |       |                 |   |     |  |  |  |  |                     |
| 18       |          |                   |                            |                   |                    |               |     |     |       |                 |   |     |  |  |  |  |                     |
| 19       | 27       | 1374              | 1.638                      |                   |                    |               |     |     |       |                 |   |     |  |  |  |  |                     |
| 20       | 35       | 1321              | 3.974                      |                   |                    |               |     |     |       |                 |   |     |  |  |  |  |                     |
| 21       |          |                   |                            |                   |                    |               |     |     |       |                 |   |     |  |  |  |  |                     |
| 22       |          |                   |                            |                   |                    |               |     |     |       |                 |   |     |  |  |  |  |                     |
| 23       |          |                   |                            |                   |                    |               |     |     |       |                 |   |     |  |  |  |  |                     |
| 24       |          |                   |                            |                   |                    |               |     |     |       |                 |   |     |  |  |  |  |                     |

Watchkeeper(s):  
snBottom Depth: 286 mTransmisso Cleaned: ☒ Y / ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 1445 |       |
| Bottom | 1454 |       |
| End    | 1511 |       |

## Positional Information

Start  
Lat: 48 ° 30.032 N  
Lon: 124 ° 44.020 WBottom  
Lat: 48 ° 30.049 N  
Lon: 124 ° 44.033 WEnd  
Lat: 48 ° 30.155 N  
Lon: 124 ° 44.077 W

## Oxygen Info For This Cast

Blank Value: 2.00257 mL • L<sup>-1</sup>Std Value: 0.7063 mL • L<sup>-1</sup>\*Date Run: 22 | 6 | 11Analyst: H.M.

\* Oxygen blanks and standards should be run daily, if possible

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 75 Event #: 10 Ship: Tully UTC Date (dd|mmm|yyyy): 22 | June | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                      | Samples Taken |     |     |       |                              |             |  |  | Temp | Comments        |
|----------|----------|-------------------|----------------------------|-------------------|----------------------|---------------|-----|-----|-------|------------------------------|-------------|--|--|------|-----------------|
|          |          | Flask Serial #    | Value mL · L <sup>-1</sup> | Target Pressure   | Confirmed √ Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> <sup>+</sup> | Fluorophyll |  |  |      |                 |
| 1        | 39       | 1921              | 1.837                      | 5-5               | ✓ 25                 | 1             | 1   |     |       |                              |             |  |  | 6.8  |                 |
| 2        | 40       | 708               | 2.214                      | 150               | ✓ 150                | 1             | 1   | X   |       |                              |             |  |  | 7.1  | BAD CURVE       |
| 3        | 41       | 1488              | 2.307                      | 125               | ✓ 125                | 1             | 1   |     |       |                              |             |  |  | 7.2  |                 |
| 4        | 42       | 3181              | 2.522                      | 100               | ✓ 100                | 2             | 2   |     |       |                              |             |  |  | 7.3  | 1322 dupl 7.3°C |
| 5        | 43       | 3137              | 2.652                      | 75                | ✓ 75                 | 1             | 1   |     |       |                              |             |  |  | 7.4  |                 |
| 6        | 44       | 1481              | 3.263                      | 50                | ✓ 50                 | 1             | 1   |     |       |                              |             |  |  | 7.9  |                 |
| 7        | 45       | 2084              | 3.917                      | 40                | ✓ 40                 | 1             | 1   |     |       |                              |             |  |  | 8.4  |                 |
| 8        | 46       | 1400              | 4.232                      | 30                | ✓ 30                 | 1             | 1   |     |       |                              |             |  |  | 8.6  |                 |
| 9        | 47       | 3007              | 4.191                      | 20                | ✓ 20                 | 1             | 1   |     | 2     | 2                            |             |  |  | 8.7  |                 |
| 10       | 48       | 1311              | 4.950                      | 10                | ✓ 10                 | 1             | 1   |     | 2     | 2                            |             |  |  | 9.3  |                 |
| 11       | 49       | 2033              | 5.187                      | 5                 | ✓ 5                  | 1             | 1   |     |       |                              |             |  |  | 9.4  |                 |
| 12       | 50       | 3055              | 5.203                      | 0                 | ✓ 0                  | 1             | 1   |     | 2     | 2                            | XXX         |  |  | 9.4  |                 |
| 13       |          |                   |                            |                   |                      |               |     |     |       |                              |             |  |  |      |                 |
| 14       |          |                   |                            |                   |                      |               |     |     |       |                              |             |  |  |      |                 |
| 15       |          |                   |                            |                   |                      |               |     |     |       |                              |             |  |  |      |                 |
| 16       |          |                   |                            |                   |                      |               |     |     |       |                              |             |  |  |      |                 |
| 17       | 42       | 1322              | 2.506                      |                   |                      |               |     |     |       |                              |             |  |  |      |                 |
| 18       |          |                   |                            |                   |                      |               |     |     |       |                              |             |  |  |      |                 |
| 19       |          |                   |                            |                   |                      |               |     |     |       |                              |             |  |  |      |                 |
| 20       |          |                   |                            |                   |                      |               |     |     |       |                              |             |  |  |      |                 |
| 21       |          |                   |                            |                   |                      |               |     |     |       |                              |             |  |  |      |                 |
| 22       |          |                   |                            |                   |                      |               |     |     |       |                              |             |  |  |      |                 |
| 23       |          |                   |                            |                   |                      |               |     |     |       |                              |             |  |  |      |                 |
| 24       |          |                   |                            |                   |                      |               |     |     |       |                              |             |  |  |      |                 |

Note bottom depth given for this station ~187m, not 221, hence issue with missing 200, 175m bottles.

Watchkeeper(s): SM

Bottom Depth: 221 m

Transmisso Cleaned: Y N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 1719 |       |
| Bottom | 1733 |       |
| End    | 1747 |       |

Positional Information

Start

Lat: 48 ° 28.236 N

Lon: 124 ° 32.762 W

Bottom

Lat: 48 ° 28.253 N

Lon: 124 ° 32.832 W

End

Lat: 48 ° 28.254 N

Lon: 124 ° 32.701 W

Oxygen Info For This Cast

Blank Value: 0.00257 mL · L<sup>-1</sup>

Std Value: 0.7063 mL · L<sup>-1</sup>

\*Date Run: 22 | 6 | 11

Analyst: H.M.

\* Oxygen blanks and standards should be run daily, if possible

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 72 Event #: 13 Ship: Tully UTC Date (dd|mmm|yyyy): 22 | Jun | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                    | Samples Taken |     |     |       |                      |     |    |                | Comments |                      |
|----------|----------|-------------------|----------------------------|-------------------|--------------------|---------------|-----|-----|-------|----------------------|-----|----|----------------|----------|----------------------|
|          |          | Flask Serial #    | Value mL · L <sup>-1</sup> | Target Pressure   | Confirmed Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> HPLC | DIC | pH | T <sub>e</sub> |          |                      |
| 1        | 51       | 2056              | 1.979                      | 6-5               | ✓                  | 182           | 1   | 1   |       |                      |     | X  | X              | 6.9      |                      |
| 2        | 52       | 1327              | 1.960                      | 175               | ✓                  | 175           | 2   | 2   | X     |                      |     |    |                | 6.9      |                      |
| 3        | 53       | 3178              | —                          | 150               | ✓                  | 150           | X   | X   |       |                      | X   | X  |                |          | bottle did not close |
| 4        | 54       | 1201              | 1.956                      | 125               | ✓                  | 125           |     |     |       |                      | X   | X  |                | 6.9      |                      |
| 5        | 55       | 1414              | 2.313                      | 100               | ✓                  | 100           |     |     |       |                      |     |    |                | 7.2      |                      |
| 6        | 56       | 570               | 3.140                      | 75                | ✓                  | 75            |     |     |       |                      | X   | X  |                | 7.8      |                      |
| 7        | 57       | 1386              | 3.629                      | 50                | ✓                  | 50            |     |     |       |                      |     |    |                | 8.3      |                      |
| 8        | 58       | 3107              | 3.816                      | 40                | ✓                  | 40            |     |     |       |                      |     |    |                | 8.5      |                      |
| 9        | 59       | 1335              | 4.121                      | 30                | ✓                  | 30            |     |     |       |                      | X   | X  |                | 8.7      |                      |
| 10       | 60       | 1134              | 4.556                      | 20                | ✓                  | 20            |     |     | 2     | 2                    |     |    |                | 9.1      |                      |
| 11       | 61       | 3118              | 4.694                      | 10                | ✓                  | 10            | 2   | 2   | 2     | 2                    | X   | X  |                | 9.2      |                      |
| 12       | 62       | 3135              | 4.737                      | 5                 | ✓                  | 5             | X   | X   |       |                      |     |    |                | 9.3      |                      |
| 13       | 63       | 1459              | 4.713                      | 0                 | ✓                  | 2.1           | 1   | 1   | 2     | 2                    | X   | X  |                | 9.3      |                      |
| 14       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |                |          |                      |
| 15       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |                |          |                      |
| 16       | 52       | 3061              | 1.976                      |                   |                    |               |     |     |       |                      |     |    |                |          |                      |
| 17       | 61       | 2060              | 4.665                      |                   |                    |               |     |     |       |                      |     |    |                |          |                      |
| 18       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |                |          |                      |
| 19       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |                |          |                      |
| 20       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |                |          |                      |
| 21       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |                |          |                      |
| 22       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |                |          |                      |
| 23       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |                |          |                      |
| 24       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |                |          |                      |

Watchkeeper(s): SR PD

Bottom Depth: 185 m

Transmisso Cleaned: Y / N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 2142 | 1442  |
| Bottom | 2147 | 1447  |
| End    | 2200 | 1500  |

## Positional Information

Start  
 Lat: 48 ° 18.71 N  
 Lon: 124 ° 3.92 W

Bottom  
 Lat: 48 ° 18.46 N  
 Lon: 124 ° 3.98 W

End  
 Lat: 48 ° 18.51 N  
 Lon: 124 ° 3.88 W

## Oxygen Info For This Cast

Blank Value: 0.0257 mL · L<sup>-1</sup>  
 Std Value: 0.7063 mL · L<sup>-1</sup>  
 \*Date Run: 22 | 6 | 11  
 Analyst: H.R.

\* Oxygen blanks and standards should be run daily, if possible

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 69 Event #: 15 Ship: Tully UTC Date (dd|mmm|yyyy): 23 | 06 | 11

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                      | Samples Taken |     |     |       |                      |  |  | Temp |     |  | Comments                    |
|----------|----------|-------------------|----------------------------|-------------------|----------------------|---------------|-----|-----|-------|----------------------|--|--|------|-----|--|-----------------------------|
|          |          | Flask Serial #    | Value mL • L <sup>-1</sup> | Target Pressure   | Confirmed ✓ Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> HPLC |  |  |      |     |  |                             |
| 1        | 64       | 559               | 2.031                      | 65                | ✓ 173                |               |     |     |       |                      |  |  | 7.1  |     |  |                             |
| 2        | 65       | 2088              | 2.093                      | 150               | ✓                    |               |     | x   |       |                      |  |  | 6.9  |     |  |                             |
| 3        | 66       | 1491              | 2.052                      | 125               | ✓                    |               | x   |     |       |                      |  |  | 7.0  |     |  |                             |
| 4        | 67       | 2015              | 2.469                      | 100               | ✓                    | x             |     |     |       |                      |  |  | 7.3  |     |  | DUP 1487 (3024) AIR BUBBLES |
| 5        | 68       | 1465              | 3.091                      | 75                | ✓                    |               |     |     |       |                      |  |  | 7.9  |     |  |                             |
| 6        | 69       | 632               | 3.833                      | 50                | ✓                    | x             |     |     |       |                      |  |  | 8.5  |     |  | TRAPPED TWICE               |
| 7        | 70       | 1175              | 3.900                      | 40                | ✓ 8.                 |               |     |     |       |                      |  |  | 8.5  | 8.5 |  |                             |
| 8        | 71       | 1496              | 3.951                      | 30                | ✓ 9.                 |               | x   |     |       |                      |  |  | 8.5  | 8.5 |  |                             |
| 9        | 72       | 1158              | 4.201                      | 20                | ✓ 10.                | x             |     |     | xx    | xx                   |  |  | 8.5  | 8.7 |  | DUP 1483                    |
| 10       | 73       | 1366              | 4.729                      | 10                | ✓ 11.                | x             |     |     | xx    | xx                   |  |  | 8.7  | 9.1 |  | DUP 1105                    |
| 11       | 74       | 620               | 4.759                      | 5                 | ✓ 12.                |               |     |     |       |                      |  |  | 9.1  | 9.1 |  |                             |
| 12       | 75       | 2090              | 4.741                      | 0                 | ✓ 13.                | ✓             | ✓   |     | xx    | xx                   |  |  | 9.3  | 9.3 |  |                             |
| 13       |          |                   |                            |                   |                      |               |     |     |       |                      |  |  | 8.3  |     |  |                             |
| 14       |          |                   |                            |                   |                      |               |     |     |       |                      |  |  |      |     |  |                             |
| 15       |          |                   |                            |                   |                      |               |     |     |       |                      |  |  |      |     |  |                             |
| 16       |          |                   |                            |                   |                      |               |     |     |       |                      |  |  |      |     |  |                             |
| 17       | 62       | 1487              | 2.458                      |                   |                      |               |     |     |       |                      |  |  |      |     |  |                             |
| 18       | 69       | 552               | 3.874                      |                   |                      |               |     |     |       |                      |  |  |      |     |  |                             |
| 19       | 72       | 1483              | 4.201                      |                   |                      |               |     |     |       |                      |  |  |      |     |  |                             |
| 20       | 73       | 1105              | 4.765                      |                   |                      |               |     |     |       |                      |  |  |      |     |  | ODD CURVE                   |
| 21       |          |                   |                            |                   |                      |               |     |     |       |                      |  |  |      |     |  |                             |
| 22       |          |                   |                            |                   |                      |               |     |     |       |                      |  |  |      |     |  |                             |
| 23       |          |                   |                            |                   |                      |               |     |     |       |                      |  |  |      |     |  |                             |
| 24       |          |                   |                            |                   |                      |               |     |     |       |                      |  |  |      |     |  |                             |

Watchkeeper(s): P.C./H.M.

Bottom Depth: 178 m

Transmisso Cleaned: Y / N

|        | Time | UTC  | Local |
|--------|------|------|-------|
| Start  |      | 0022 | 1722  |
| Bottom |      | 0027 |       |
| End    |      | 0042 |       |

## Positional Information

Start  
Lat: 48 ° 15.57 N  
Lon: 123 ° 43.12 W

Bottom  
Lat: 48 ° 15.54 N  
Lon: 123 ° 43.10 W

End  
Lat: 48 ° 15.53 N  
Lon: 123 ° 43.11 W

## Oxygen Info For This Cast

Blank Value: 0.00257 mL • L<sup>-1</sup>  
Std Value: 0.7063 mL • L<sup>-1</sup>  
\*Date Run: 22 | 6 | 11  
Analyst: H.M.

\* Oxygen blanks and standards should be run daily, if possible

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: ADCP Event #: 18 Ship: Tully UTC Date (dd|mmm|yyyy): 23 | Jun | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                                                        | Samples Taken |     |     |       |                 |      |  |  | Comments  |
|----------|----------|-------------------|----------------------------|-------------------|--------------------------------------------------------|---------------|-----|-----|-------|-----------------|------|--|--|-----------|
|          |          | Flask Serial #    | Value mL · L <sup>-1</sup> | Target Pressure   | Confirmed <input checked="" type="checkbox"/> Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> | TEMP |  |  |           |
| 1        | 76       | 1298              | 2.378                      | 8-5               | ✓                                                      | 116           |     |     |       |                 | 7.4  |  |  |           |
| 2        | 77       | 528               | 2.336                      | 100               | ✓                                                      | 100           |     | X   |       |                 | 7.3  |  |  |           |
| 3        | 78       | 1408              | 2.486                      | 75                | ✓                                                      | 75            | xx  | xx  |       |                 | 7.3  |  |  | DUP. 1307 |
| 4        | 79       | 3206              | 2.835                      | 50                | ✓                                                      | 50            |     |     |       |                 | 7.7  |  |  |           |
| 5        | 80       | 1392              | 3.125                      | 40                | ✓                                                      | 40            |     |     |       |                 | 7.9  |  |  |           |
| 6        | 81       | 3157              | 3.352                      | 30                | ✓                                                      | 30            |     |     |       |                 | 8.0  |  |  |           |
| 7        | 82       | 647               | 3.944                      | 20                | ✓                                                      | 20            |     |     | xx    | xx              | 8.5  |  |  |           |
| 8        | 83       | 1378              | 4.961                      | 10                | ✓                                                      | 10            | xx  | xx  | xx    | xx              | 9.3  |  |  | DUP. 3126 |
| 9        | 84       | 1404              | 5.077                      | 5                 | ✓                                                      | 5             |     |     |       |                 | 9.4  |  |  |           |
| 10       | 85       | 3090              | 5.040                      | 0                 | ✓                                                      | 2.2           | ✓   | ✓   | xx    | xx              | 9.4  |  |  |           |
| 11       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 12       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 13       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 14       | 78       | 1307              | 2.483                      |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 15       | 83       | 3126              | 4.952                      |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 16       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 17       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 18       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 19       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 20       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 21       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 22       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 23       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |
| 24       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |           |

Watchkeeper(s): 192

Bottom Depth: 123 m

Transmisso Cleaned: ☒ Y / ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 0414 | 2114  |
| Bottom | 0421 | 2121  |
| End    | 0430 | 2130  |

Positional Information

Start

Lat: 48 ° 13 98 N

Lon: 123 ° 17 95 W

Bottom

Lat: 48 ° 13 95 N

Lon: 123 ° 17 98 W

End

Lat: 48 ° 14 04 N

Lon: 123 ° 17 90 W

Oxygen Info For This Cast

Blank Value: 0.00257 mL · L<sup>-1</sup>

Std Value: 0.7063 mL · L<sup>-1</sup>

\*Date Run: 22 | 6 | 11

Analyst: H.M.

\*Oxygen blanks and standards should be run daily, if possible

- 6591

ORANGE

# Water Properties Group

## Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09

Station: 65

Event #: 22

Ship: Tully

UTC Date (dd|mmm|yyyy): 23 | 06 | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                                                        | Samples Taken |     |     |       |                 |      |  |  |  |  | Comments        |
|----------|----------|-------------------|----------------------------|-------------------|--------------------------------------------------------|---------------|-----|-----|-------|-----------------|------|--|--|--|--|-----------------|
|          |          | Flask Serial #    | Value mL · L <sup>-1</sup> | Target Pressure   | Confirmed <input checked="" type="checkbox"/> Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> | Temp |  |  |  |  |                 |
| 1        | 86       | 1421              | 619.10                     | 8.5               | <input checked="" type="checkbox"/> 124                |               |     |     |       |                 | 7.3  |  |  |  |  |                 |
| 2        | 87       | 708               | 763.60                     | 100               | <input checked="" type="checkbox"/> 100                |               |     | x   |       |                 | 7.3  |  |  |  |  |                 |
| 3        | 88       | 1488              | 3.634                      | 75                | <input checked="" type="checkbox"/> 75                 |               | x   |     |       |                 | 8.3  |  |  |  |  |                 |
| 4        | 89       | 3181              | 4.066                      | 50                | <input checked="" type="checkbox"/> 50                 | x             |     |     |       |                 | 8.7  |  |  |  |  | 1322 dupl 8.7°C |
| 5        | 90       | 3137              | 4.130                      | 40                | <input checked="" type="checkbox"/> 40                 |               |     |     |       |                 | 8.8  |  |  |  |  |                 |
| 6        | 91       | 1481              | 4.601                      | 30                | <input checked="" type="checkbox"/> 30                 |               |     |     |       |                 | 9.2  |  |  |  |  |                 |
| 7        | 92       | 2084              | 4.985                      | 20                | <input checked="" type="checkbox"/> 20                 |               | x   |     | xx    | xx              | 9.4  |  |  |  |  |                 |
| 8        | 93       | 1400              | 5.190                      | 10                | <input checked="" type="checkbox"/> 10                 | x             |     |     | xx    | xx              | 9.6  |  |  |  |  | 3007 dupl 9.5°C |
| 9        | 94       | 1311              | 5.226                      | 5                 | <input checked="" type="checkbox"/> 5                  |               |     |     |       |                 | 9.6  |  |  |  |  |                 |
| 10       | 95       | 2033              | 5.227                      | 0                 | <input checked="" type="checkbox"/> 0                  |               |     |     | xx    | xx              | 9.7  |  |  |  |  |                 |
| 11       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 12       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 13       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 14       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 15       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 16       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 17       | 89       | 1322              | 4.064                      |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 18       | 93       | 3007              | 5.200                      |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 19       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 20       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 21       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 22       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 23       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |
| 24       |          |                   |                            |                   |                                                        |               |     |     |       |                 |      |  |  |  |  |                 |

Watchkeeper(s): SK

Bottom Depth: 129 m

Transmisso Cleaned: Y / N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 0745 |       |
| Bottom | 0750 |       |
| End    | 0801 |       |

### Positional Information

Start Lat: 48 ° 15.830 N  
Lon: 123 ° 5.851 W

Bottom Lat: 48 ° 15.864 N  
Lon: 123 ° 9.878 W

End Lat: 48 ° 15.914 N  
Lon: 123 ° 9.828 W

### Oxygen Info For This Cast

Blank Value: 0.00257 mL · L<sup>-1</sup>

Std Value: 0.7053 mL · L<sup>-1</sup>

\*Date Run: 22 | 6 | 11

Analyst: H.P.

\* Oxygen blanks and standards should be run daily, if possible

## Water Properties Group

## Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09Station: 62Event #: 25Ship: TullyUTC Date (dd|mmm|yyyy): 23 | July | 2011

| Niskin # | Sample #      | Oxygen Titrations |                            | Rosette Operation |                                                        | Samples Taken |              |              |       |                      |                  |  |  | Comments        |
|----------|---------------|-------------------|----------------------------|-------------------|--------------------------------------------------------|---------------|--------------|--------------|-------|----------------------|------------------|--|--|-----------------|
|          |               | Flask Serial #    | Value mL · L <sup>-1</sup> | Target Pressure   | Confirmed <input checked="" type="checkbox"/> Pressure | Oxy           | Nut          | Sal          | Chl a | NH <sub>4</sub> HPLC | T <sub>100</sub> |  |  |                 |
| 1        | <del>96</del> | <del>1298</del>   | <del>-</del>               | <del>6-5</del>    | <del>X</del>                                           | <del> </del>  | <del> </del> | <del>*</del> |       |                      |                  |  |  | <del>X</del>    |
| 2        | <del>97</del> | <del>528</del>    | <del>-</del>               | <del>250</del>    | <del>X</del>                                           | <del> </del>  | <del> </del> | <del>*</del> |       |                      |                  |  |  | <del>X</del>    |
| 3        | <del>98</del> | <del>1708</del>   | <del>-</del>               | <del>200</del>    | <del>X</del>                                           | <del> </del>  | <del> </del> |              |       |                      |                  |  |  | <del>X</del>    |
| 4        | <del>99</del> | <del>1307</del>   | <del>-</del>               | <del>175</del>    | <del>X</del>                                           | <del>2</del>  | <del>2</del> |              |       |                      |                  |  |  | <del>3206</del> |
| 5        | 100           | 1392              | 2.589                      | 6-5               | <input checked="" type="checkbox"/> 145                |               |              | <del>*</del> |       |                      | 7.6              |  |  |                 |
| 6        | 101           | 3090              | 2.703                      | 125               | <input checked="" type="checkbox"/> 125                |               |              |              |       |                      | 7.6              |  |  |                 |
| 7        | 102           | 1404              | 3.336                      | 100               | <input checked="" type="checkbox"/> 100                |               |              |              |       |                      | 8.1              |  |  |                 |
| 8        | 103           | 3126              | 3.899                      | 75                | <input checked="" type="checkbox"/> 75                 | 2             | 2            |              |       |                      | 8.6              |  |  | 1378            |
| 9        | 104           | 647               | 4.481                      | 50                | <input checked="" type="checkbox"/> 50                 |               |              |              |       |                      | 9.1              |  |  |                 |
| 10       | 105           | 3157              | 4.752                      | 40                | <input checked="" type="checkbox"/> 40                 |               |              |              |       |                      | 9.4              |  |  |                 |
| 11       | 106           | 621               | 4.953                      | 30                | <input checked="" type="checkbox"/> 30                 |               |              |              |       |                      | 9.5              |  |  |                 |
| 12       | 107           | 1261              | 5.048                      | 20                | <input checked="" type="checkbox"/> 20                 |               |              |              | 2     | 2                    | 9.6              |  |  |                 |
| 13       | 108           | 1146              | 5.246                      | 10                | <input checked="" type="checkbox"/> 10                 |               |              |              | 2     | 2                    | 9.7              |  |  |                 |
| 14       | 109           | 1393              | 5.322                      | 5                 | <input checked="" type="checkbox"/> 5                  |               |              |              |       |                      | 9.8              |  |  |                 |
| 15       | 110           | 371               | 5.368                      | 0                 | <input checked="" type="checkbox"/> 0                  |               |              |              | 2     | 2                    | 9.8              |  |  |                 |
| 16       |               |                   |                            |                   |                                                        |               |              |              |       |                      |                  |  |  |                 |
| 17       |               |                   |                            |                   |                                                        |               |              |              |       |                      |                  |  |  |                 |
| 18       |               |                   |                            |                   |                                                        |               |              |              |       |                      |                  |  |  |                 |
| 19       |               |                   |                            |                   |                                                        |               |              |              |       |                      |                  |  |  |                 |
| 20       |               |                   |                            |                   |                                                        |               |              |              |       |                      |                  |  |  |                 |
| 21       | 63            | 1378              | 3.884                      |                   |                                                        |               |              |              |       |                      |                  |  |  |                 |
| 22       |               |                   |                            |                   |                                                        |               |              |              |       |                      |                  |  |  |                 |
| 23       |               |                   |                            |                   |                                                        |               |              |              |       |                      |                  |  |  |                 |
| 24       |               |                   |                            |                   |                                                        |               |              |              |       |                      |                  |  |  |                 |

Watchkeeper(s): SKBottom Depth: 150 mTransmisso Cleaned: (Y) N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 1048 |       |
| Bottom | 1054 |       |
| End    | 1106 |       |

## Positional Information

|        |                         |          |
|--------|-------------------------|----------|
| Start  | Lat: <u>48 ° 22.802</u> | <u>N</u> |
|        | Lon: <u>123 ° 2.620</u> | <u>W</u> |
| Bottom | Lat: <u>48 ° 22.729</u> | <u>N</u> |
|        | Lon: <u>123 ° 2.642</u> | <u>W</u> |
| End    | Lat: <u>48 ° 22.702</u> | <u>N</u> |
|        | Lon: <u>123 ° 2.740</u> | <u>W</u> |

## Oxygen Info For This Cast

|              |                                     |
|--------------|-------------------------------------|
| Blank Value: | <u>0.00257</u> mL · L <sup>-1</sup> |
| Std Value:   | <u>0.7063</u> mL · L <sup>-1</sup>  |
| *Date Run:   | <u>22   6   11</u>                  |
| Analyst:     | <u>15-15</u>                        |

\* Oxygen blanks and standards should be run daily, if possible

0358

# Water Properties Group

## Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 56 Event #: 30 Ship: Tully UTC Date (dd|mmm|yyyy): 23 | jul | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                                                        | Samples Taken |     |     |       |                      |                 |  |  |  |  | Comments        |
|----------|----------|-------------------|----------------------------|-------------------|--------------------------------------------------------|---------------|-----|-----|-------|----------------------|-----------------|--|--|--|--|-----------------|
|          |          | Flask Serial #    | Value mL · L <sup>-1</sup> | Target Pressure   | Confirmed <input checked="" type="checkbox"/> Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> HPLC | T <sub>OC</sub> |  |  |  |  |                 |
| 1        | 111      | 1476              | 3.698                      | B-5               | <input checked="" type="checkbox"/> 200                |               |     |     |       |                      | 8.5             |  |  |  |  | 9 am Depth      |
| 2        | 112      | 1123              | 3.652                      | 200               | <input checked="" type="checkbox"/> 200                |               |     | X   |       |                      | 8.5             |  |  |  |  |                 |
| 3        | 113      | 1330              | 3.739                      | 175               | <input checked="" type="checkbox"/> 175                |               | XX  |     |       |                      | 8.5             |  |  |  |  |                 |
| 4        | 114      | 1411              | 3.770                      | 150               | <input checked="" type="checkbox"/> 150                |               |     |     |       |                      | 8.6             |  |  |  |  |                 |
| 5        | 115      | 650               | 4.193                      | 125               | <input checked="" type="checkbox"/> 125                | XX            |     |     |       |                      | 8.9             |  |  |  |  | 3124 dupl 8.9°C |
| 6        | 116      | 2020              | 4.353                      | 100               | <input checked="" type="checkbox"/> 100                |               |     |     |       |                      | 9.0             |  |  |  |  |                 |
| 7        | 117      | 1300              | 4.474                      | 75                | <input checked="" type="checkbox"/> 75                 |               | XX  |     |       |                      | 9.1             |  |  |  |  |                 |
| 8        | 118      | 1395              | 4.790                      | 50                | <input checked="" type="checkbox"/> 50                 |               |     |     |       |                      | 9.3             |  |  |  |  |                 |
| 9        | 119      | 1321              | 4.890                      | 40                | <input checked="" type="checkbox"/> 40                 |               |     |     |       |                      | 9.5             |  |  |  |  |                 |
| 10       | 120      | 1406              | 5.105                      | 30                | <input checked="" type="checkbox"/> 30                 |               |     |     |       |                      | 9.6             |  |  |  |  |                 |
| 11       | 121      | 1407              | 5.245                      | 20                | <input checked="" type="checkbox"/> 20                 |               |     |     | XX    | XX                   | 9.7             |  |  |  |  |                 |
| 12       | 122      | 1397              | 5.394                      | 10                | <input checked="" type="checkbox"/> 10                 | XX            |     |     | XX    | XX                   | 9.8             |  |  |  |  | 3028 dupl 9.8°C |
| 13       | 123      | 1373              | 5.850                      | 5                 | <input checked="" type="checkbox"/> 5                  |               |     |     |       |                      | 10.2            |  |  |  |  |                 |
| 14       | 124      | 3151              | 6.101                      | 0                 | <input checked="" type="checkbox"/> 0                  |               |     |     | XX    | XX                   | 10.5            |  |  |  |  |                 |
| 15       |          |                   |                            |                   |                                                        |               |     |     |       |                      |                 |  |  |  |  |                 |
| 16       |          |                   |                            |                   |                                                        |               |     |     |       |                      |                 |  |  |  |  |                 |
| 17       |          |                   |                            |                   |                                                        |               |     |     |       |                      |                 |  |  |  |  |                 |
| 18       |          |                   |                            |                   |                                                        |               |     |     |       |                      |                 |  |  |  |  |                 |
| 19       | 115      | 3124              | 4.179                      |                   |                                                        |               |     |     |       |                      |                 |  |  |  |  |                 |
| 20       | 122      | 3028              | 5.391                      |                   |                                                        |               |     |     |       |                      |                 |  |  |  |  |                 |
| 21       |          |                   |                            |                   |                                                        |               |     |     |       |                      |                 |  |  |  |  |                 |
| 22       |          |                   |                            |                   |                                                        |               |     |     |       |                      |                 |  |  |  |  |                 |
| 23       |          |                   |                            |                   |                                                        |               |     |     |       |                      |                 |  |  |  |  |                 |
| 24       |          |                   |                            |                   |                                                        |               |     |     |       |                      |                 |  |  |  |  |                 |

Watchkeeper(s): SN

Bottom Depth: 214 m

Transmisso Cleaned: ☒ Y / ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 1658 |       |
| Bottom | 1705 |       |
| End    | 1720 |       |

Positional Information

Start

Lat: 43 ° 46.456 N

Lon: 123 ° 1.532 W

Bottom

Lat: 48 ° 46.454 N

Lon: 123 ° 1.634 W

End

Lat: 48 ° 46.500 N

Lon: 123 ° 1.658 W

Oxygen Info For This Cast

Blank Value: 0.00257 mL · L<sup>-1</sup>

Std Value: 0.7063 mL · L<sup>-1</sup>

\*Date Run: 22 | 6 | 11

Analyst: 14.00

\* Oxygen blanks and standards should be run daily, if possible

BLUE BOX

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 46 Event #: 37 Ship: Tully UTC Date (dd|mmm|yyyy): 23 | 06 | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                      | Samples Taken |     |     |       |                 |  |  |  |  |  |  | Comments                |
|----------|----------|-------------------|----------------------------|-------------------|----------------------|---------------|-----|-----|-------|-----------------|--|--|--|--|--|--|-------------------------|
|          |          | Flask Serial #    | Value mL • L <sup>-1</sup> | Target Pressure   | Confirmed ✓ Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> |  |  |  |  |  |  |                         |
| 1        | 125      | 569               | 4.265                      | 6-5               | ✓ 175                |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 2        | 126      | 2088              | 4.303                      | 150               | ✓ 150                |               |     | X   |       |                 |  |  |  |  |  |  |                         |
| 3        | 127      | 1491              | 4.393                      | 125               | ✓ 125                |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 4        | 128      | 2015              | 4.508                      | 100               | ✓ 100                |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 5        | 129      | 1482              | 4.660                      | 75                | ✓ 75                 |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 6        | 130      | 1465              | 4.797                      | 50                | ✓ 50                 | 2             | 2   |     |       |                 |  |  |  |  |  |  | O <sub>2</sub> Dye: 632 |
| 7        | 131      | 552               | 4.839                      | 40                | ✓ 40                 |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 8        | 132      | 1175              | 5.027                      | 30                | ✓ 30                 |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 9        | 133      | 1496              | 5.368                      | 20                | ✓ 20                 |               |     |     | 2     | 2               |  |  |  |  |  |  |                         |
| 10       | 134      | 1158              | 5.732                      | 10                | ✓ 10                 |               |     |     | 2     | 2               |  |  |  |  |  |  |                         |
| 11       | 135      | 1483              | 6.535                      | 5                 | ✓ 5                  |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 12       | 136      | 1105              | 9.331                      | 0                 | ✓ 1.4                |               |     |     | 2     | 2               |  |  |  |  |  |  |                         |
| 13       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 14       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 15       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 16       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 17       | 130      | 632               | 4.796                      |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 18       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 19       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 20       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 21       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 22       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 23       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |
| 24       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |  |  |  |                         |

Watchkeeper(s): BEN MOORE-MALEY

Bottom Depth: 179 m

Transmisso Cleaned: Y / N

| Time   | UTC   | Local |
|--------|-------|-------|
| Start  | 22 28 | 15 29 |
| Bottom | 22 33 | 15 33 |
| End    | 22 46 | 15 46 |

## Positional Information

Start Lat: 48° 51.37 N  
Lon: 123° 10.78 W

Bottom Lat: 48° 51.38 N  
Lon: 123° 10.84 W

End Lat: 48° 51.36 N  
Lon: 123° 10.88 W

## Oxygen Info For This Cast

Blank Value: 0.00257 mL • L<sup>-1</sup>

Std Value: 0.7063 mL • L<sup>-1</sup>

\*Date Run: 22 | 6 | 11

Analyst: 14.0001

\*Oxygen blanks and standards should be run daily, if possible

Water Properties Group

Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 42 Event #: 41 Ship: Tully UTC Date (dd|mmm|yyyy): 24 | 06 | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                      | Samples Taken |     |     |       |                 |    |    |   |  |      | Comments          |
|----------|----------|-------------------|----------------------------|-------------------|----------------------|---------------|-----|-----|-------|-----------------|----|----|---|--|------|-------------------|
|          |          | Flask Serial #    | Value mL • L <sup>-1</sup> | Target Pressure   | Confirmed ✓ Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> | DK | PH |   |  | Tc   |                   |
| 1        | 137      | 1298              | 3.507                      | 8.5               | ✓ 314                |               |     |     |       |                 | x  | x  |   |  | 8.5  |                   |
| 2        | 138      | 528               | 3.491                      | 300               | ✓ 301                |               |     | x   |       |                 |    |    |   |  | 8.6  |                   |
| 3        | 137      | 1408              | 3.660                      | 256               | ✓ 250                |               |     |     |       |                 | x  | x  |   |  | 8.5  | bottom not sealed |
| 4        | 140      | 1307              | 3.911                      | 200               | ✓ 201                |               |     |     |       |                 | x  | x  |   |  | 8.6  |                   |
| 5        | 141      | 3206              | 4.157                      | 175               | ✓ 175                | x             | x   |     |       |                 |    |    |   |  | 8.4  |                   |
| 6        | 142      | 3090              | 4.285                      | 150               | ✓ 151                |               |     |     |       |                 | x  | x  |   |  | 8.3  |                   |
| 7        | 143      | 1404              | 4.642                      | 125               | ✓ 125                |               |     |     |       |                 |    |    |   |  | 8.4  |                   |
| 8        | 144      | 3126              | 4.840                      | 100               | ✓ 101                |               |     |     |       |                 |    |    |   |  | 8.3  |                   |
| 9        | 145      | 1378              | 4.770                      | 75                | ✓ 75                 |               |     |     |       |                 | x  | x  |   |  | 8.2  |                   |
| 10       | 146      | 647               | 4.734                      | 50                | ✓ 51                 | x             | x   |     |       |                 | x  | x  |   |  | 8.3  |                   |
| 11       | 147      | 621               | 4.778                      | 40                | ✓ 41                 |               |     |     |       |                 | x  | x  | x |  | 8.5  |                   |
| 12       | 148      | 1261              | 4.961                      | 30                | ✓ 31                 |               |     |     |       |                 | x  | x  |   |  | 8.7  |                   |
| 13       | 147      | 1146              | 5.265                      | 20                | ✓ 21                 |               |     |     | xx    | xx              | x  | x  |   |  | 9.1  |                   |
| 14       | 150      | 1393              | 5.609                      | 10                | ✓ 10                 |               |     |     | xx    | xx              | x  | x  |   |  | 9.8  |                   |
| 15       | 151      | 371               | 5.993                      | 5                 | ✓ 5                  |               |     |     |       |                 | x  | y  |   |  | 10.6 |                   |
| 16       | 152      | 196               | 7.538                      | 0                 | ✓ 7.3                |               |     |     | xx    | xx              | x  | x  |   |  | 13.1 | BAD CURVE         |
| 17       |          |                   |                            |                   |                      |               |     |     |       |                 |    |    |   |  |      |                   |
| 18       | 141      | 1392              | 4.174                      | 175               |                      |               |     |     |       |                 |    |    |   |  | 8.4  | oxy duplicate     |
| 19       | 146      | 3157              | 4.721                      | 50                |                      |               |     |     |       |                 |    |    |   |  | 8.4  |                   |
| 20       |          |                   |                            |                   |                      |               |     |     |       |                 |    |    |   |  |      |                   |
| 21       |          |                   |                            |                   |                      |               |     |     |       |                 |    |    |   |  |      |                   |
| 22       |          |                   |                            |                   |                      |               |     |     |       |                 |    |    |   |  |      |                   |
| 23       |          |                   |                            |                   |                      |               |     |     |       |                 |    |    |   |  |      |                   |
| 24       |          |                   |                            |                   |                      |               |     |     |       |                 |    |    |   |  |      |                   |

Watchkeeper(s): Erika Young

Bottom Depth: 321 m  
Transmisso Cleaned: Y / N

| Time   | UTC   | Local |
|--------|-------|-------|
| Start  | 02:11 | 19:11 |
| Bottom | 02:17 | 19:17 |
| End    | 02:37 | 19:37 |

Positional Information  
Start Lat: 49 ° 182 N  
Lon: 123 ° 26.22 W

Bottom Lat: 49 ° 1.81 N  
Lon: 123 ° 26.26 W

End Lat: 49 ° 1.73 N  
Lon: 123 ° 26.32 W

Oxygen Info For This Cast  
Blank Value: 0.00257 mL • L<sup>-1</sup>  
Std Value: 0.7063 mL • L<sup>-1</sup>  
\*Date Run: 22 | 6 | 11  
Analyst: H.M.

\*Oxygen blanks and standards should be run daily, if possible

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 39 Event #: 46 Ship: TULLY UTC Date (dd|mmm|yyyy): 24 Jun 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                                                        | Samples Taken |     |     |       |                      |       |  |  | T <sub>c</sub> | Comments                                 |
|----------|----------|-------------------|----------------------------|-------------------|--------------------------------------------------------|---------------|-----|-----|-------|----------------------|-------|--|--|----------------|------------------------------------------|
|          |          | Flask Serial #    | Value mL • L <sup>-1</sup> | Target Pressure   | Confirmed <input checked="" type="checkbox"/> Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> HPLC | PHYTO |  |  |                |                                          |
| 1        | 153      | 1298              | 3.341                      | B-5               | / 369                                                  |               |     |     |       |                      |       |  |  | 8.7            |                                          |
| 2        | 154      | 528               | 3.334                      | 350               | / 350                                                  |               |     | X   |       |                      |       |  |  | 8.6            |                                          |
| 3        | 155      | 1408              | 3.464                      | 300               | / 300                                                  |               |     |     |       |                      |       |  |  | 8.6            |                                          |
| 4        | 156      | 1307              | 3.409                      | 250               | / 250                                                  |               |     |     |       |                      |       |  |  | 8.5            |                                          |
| 5        | 157      | 3206              | 3.882                      | 200               | / 200                                                  | xx            | xx  |     |       |                      |       |  |  | 8.5            |                                          |
| 6        | 158      | 1392              | 4.084                      | 175               | / 175                                                  |               |     |     |       |                      |       |  |  | 8.6            | 3090/8.5°                                |
| 7        | 159      | 1404              | 4.363                      | 150               | / 150                                                  |               |     |     |       |                      |       |  |  | 8.5            |                                          |
| 8        | 160      | 3126              | 4.381                      | 125               | / 125                                                  |               |     |     |       |                      |       |  |  | 8.6            |                                          |
| 9        | 161      | 1378              | 4.517                      | 100               | / 100                                                  |               |     |     |       |                      |       |  |  | 8.8            |                                          |
| 10       | 162      | 647               | 4.558                      | 75                | / 75                                                   |               |     |     |       |                      |       |  |  | 8.9            |                                          |
| 11       | 163      | 3157              | 4.710                      | 50                | / 50                                                   | xx            | xx  |     |       |                      |       |  |  | 9.0            | 621/9.0°                                 |
| 12       | 164      | 1261              | 4.813                      | 40                | / 40                                                   |               |     |     |       |                      |       |  |  | 9.0            |                                          |
| 13       | 165      | 1146              | 5.128                      | 30                | / 30                                                   |               |     |     |       |                      |       |  |  | 9.0            |                                          |
| 14       | 166      | 1393              | 5.401                      | 20                | / 20                                                   |               |     |     | xx    | xx                   |       |  |  | 9.5            |                                          |
| 15       | 167      | 371               | 5.401                      | 10                | / 10                                                   |               |     |     | xx    | xx                   |       |  |  | 10.4           |                                          |
| 16       | 168      | 196               | 5.896                      | 5                 | / 5                                                    |               |     |     |       |                      |       |  |  | 11.5           |                                          |
| 17       | 169      | 569               | 7.446                      | 0                 | / 0                                                    | ✓             | ✓   |     | xx    | xx                   | xxx   |  |  | 12.7           | stopped @ 98%<br>GOOD CURVE - BAD ENDING |
| 18       |          |                   |                            |                   |                                                        |               |     |     |       |                      |       |  |  |                |                                          |
| 19       |          |                   |                            |                   |                                                        |               |     |     |       |                      |       |  |  |                |                                          |
| 20       | 158      | 3090              | 4.074                      |                   |                                                        |               |     |     |       |                      |       |  |  |                |                                          |
| 21       | 163      | 621               | 4.712                      |                   |                                                        |               |     |     |       |                      |       |  |  |                |                                          |
| 22       |          |                   |                            |                   |                                                        |               |     |     |       |                      |       |  |  |                |                                          |
| 23       |          |                   |                            |                   |                                                        |               |     |     |       |                      |       |  |  |                |                                          |
| 24       |          |                   |                            |                   |                                                        |               |     |     |       |                      |       |  |  |                |                                          |

Watchkeeper(s): SA

Bottom Depth: 385 m

Transmisso Cleaned: ☒ / N

| Time   | UTC   | Local |
|--------|-------|-------|
| Start  | 06:48 |       |
| Bottom | 0656  |       |
| End    | 0718  |       |

**Positional Information**

Start  
 Lat: 49 ° 9.84 N  
 Lon: 123 ° 32.86 W

Start

Bottom

Bottom  
 Lat: 49 ° 9.850 N  
 Lon: 123 ° 32.915 W

End

End  
 Lat: 49 ° 9.950 N  
 Lon: 123 ° 32.974 W

**Oxygen Info For This Cast**

Blank Value: 0.0020 mL • L<sup>-1</sup>  
 Std Value: 0.7197 mL • L<sup>-1</sup>  
 \*Date Run: 24 Jun 11  
 Analyst: HM

\* Oxygen blanks and standards should be run daily, if possible

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-05 Station: 27 Event #: 45 Ship: Tully UTC Date (dd|mmm|yyyy): 24 | Jun | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                      | Samples Taken |     |     |       |                 |  | °C Temp |  | Comments                 |
|----------|----------|-------------------|----------------------------|-------------------|----------------------|---------------|-----|-----|-------|-----------------|--|---------|--|--------------------------|
|          |          | Flask Serial #    | Value mL · L <sup>-1</sup> | Target Pressure   | Confirmed ✓ Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> |  |         |  |                          |
| 1        | 170      | 2068              | 3.346                      | 5-5               | ✓ 342.9              |               |     |     |       |                 |  | 8.7     |  | (?) didn't fire properly |
| 2        | 171      | 1144              | 3.299                      | 300               | ✓ 300.4              |               |     | x   |       |                 |  | 8.7     |  |                          |
| 3        | 172      | 631               | —                          | 250               | ✓ 250.9              |               |     |     |       |                 |  | X       |  | (?) empty - misfire      |
| 4        | 173      | 468               | 3.911                      | 200               | ✓ 200.6              |               |     |     |       |                 |  | 8.5     |  |                          |
| 5        | 174      | 1475              | 4.094                      | 175               | ✓ 179.9              | 2             | 2   |     |       |                 |  | 8.5     |  | 1248 / 8.5°              |
| 6        | 175      | 1397              | 4.285                      | 150               | ✓ 150.0              |               |     |     |       |                 |  | 8.4     |  |                          |
| 7        | 176      | 3028              | 4.506                      | 125               | ✓ 125.2              |               |     |     |       |                 |  | 8.3     |  |                          |
| 8        | 177      | 1373              | 4.604                      | 100               | ✓ 101.0              |               |     |     |       |                 |  | 8.2     |  |                          |
| 9        | 178      | 3151              | 4.657                      | 75                | ✓ 75.3               | 2             | 2   |     |       |                 |  | 8.1     |  | 1318 / 8.1°              |
| 10       | 179      | 745               | 4.591                      | 50                | ✓ 49.8               |               |     |     |       |                 |  | 8.2     |  |                          |
| 11       | 180      | 2020              | 4.529                      | 40                | ✓ 40.3               |               |     |     |       |                 |  | 8.2     |  |                          |
| 12       | 181      | 1300              | 4.600                      | 30                | ✓ 30.3               |               |     |     |       |                 |  | 8.4     |  |                          |
| 13       | 182      | 1355              | 5.199                      | 20                | ✓ 19.8               |               |     |     | 2     | 2               |  | 9.2     |  |                          |
| 14       | 183      | 1321              | 5.560                      | 10                | ✓ 10.7               |               |     |     | 2     | 2               |  | 10.7    |  |                          |
| 15       | 184      | 1406              | 6.305                      | 5                 | ✓ 5.1                |               |     |     |       |                 |  | 12.4    |  |                          |
| 16       | 185      | 1407              | 8.753                      | 0                 | ✓ 2.0                |               |     |     | 2     | 2               |  | 14.5    |  | 94% error                |
| 17       |          |                   |                            |                   |                      |               |     |     |       |                 |  |         |  |                          |
| 18       |          |                   |                            |                   |                      |               |     |     |       |                 |  |         |  |                          |
| 19       | 174      | 1248              | 4.095                      |                   |                      |               |     |     |       |                 |  |         |  |                          |
| 20       | 178      | 1318              | 4.647                      |                   |                      |               |     |     |       |                 |  |         |  |                          |
| 21       |          |                   |                            |                   |                      |               |     |     |       |                 |  |         |  |                          |
| 22       |          |                   |                            |                   |                      |               |     |     |       |                 |  |         |  |                          |
| 23       |          |                   |                            |                   |                      |               |     |     |       |                 |  |         |  |                          |
| 24       |          |                   |                            |                   |                      |               |     |     |       |                 |  |         |  |                          |

Watchkeeper(s): on

Bottom Depth: 351 m

Transmisso Cleaned: (Y) / N

| Time   | UTC   | Local |
|--------|-------|-------|
| Start  | 10:20 | 03:20 |
| Bottom | 10:30 | 03:30 |
| End    | 10:51 | 3:51  |

Positional Information

Start Lat: 49 ° 19.118 N  
Lon: 123 ° 48.082 W

Start

Bottom Lat: 49 ° 19.141 N  
Lon: 123 ° 48.071 W

Bottom

End Lat: 49 ° 19.134 N  
Lon: 123 ° 48.048 W

End

Oxygen Info For This Cast

Blank Value: \_\_\_\_\_ mL · L<sup>-1</sup>

Std Value: \_\_\_\_\_ mL · L<sup>-1</sup>

\*Date Run: \_\_\_\_ | \_\_\_\_ | \_\_\_\_

Analyst: \_\_\_\_\_

\* Oxygen blanks and standards should be run daily, if possible

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 2 Event #: 53 Ship: Tully UTC Date (dd|mmm|yyyy): 24 | Jun | 2011

Orange

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                      | Samples Taken |     |     |       |                 |  |  |  | °C Temp | Comments    |
|----------|----------|-------------------|----------------------------|-------------------|----------------------|---------------|-----|-----|-------|-----------------|--|--|--|---------|-------------|
|          |          | Flask Serial #    | Value mL · L <sup>-1</sup> | Target Pressure   | Confirmed ✓ Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> |  |  |  |         |             |
| 1        | 186      | 1421              | 3.094                      | 5-5               | ✓ 773.0              |               |     |     |       |                 |  |  |  | 8.8     | (?) leaking |
| 2        | 187      | 708               | 3.193                      | 250               | ✓ 250.4              |               |     | X   |       |                 |  |  |  | 8.7     |             |
| 3        | 188      | 1488              | 3.769                      | 200               | ✓ 200.6              |               |     |     |       |                 |  |  |  | 8.5     |             |
| 4        | 189      | 3181              | 4.262                      | 175               | ✓ 175.3              |               |     |     |       |                 |  |  |  | 8.3     |             |
| 5        | 190      | 1322              | 4.448                      | 150               | ✓ 150.5              |               |     |     |       |                 |  |  |  | 8.3     |             |
| 6        | 191      | 2084              | 4.573                      | 125               | ✓ 124.7              |               |     |     |       |                 |  |  |  | 8.3     |             |
| 7        | 192      | 1481              | 4.694                      | 100               | ✓ 100.0              |               |     |     |       |                 |  |  |  | 8.3     |             |
| 8        | 193      | 3137              | 4.791                      | 75                | ✓ 75.6               |               |     |     |       |                 |  |  |  | 8.3     |             |
| 9        | 194      | 1400              | 4.459                      | 50                | ✓ 50.9               |               |     |     |       |                 |  |  |  | 8.9     |             |
| 10       | 195      | 3007              | 4.701                      | 40                | ✓ 40.6               |               |     |     |       |                 |  |  |  | 9.3     |             |
| 11       | 196      | 1311              | 4.900                      | 30                | ✓ 30.8               | 2             | 2   |     |       |                 |  |  |  | 9.5     | 2033 / 9.5  |
| 12       | 197      | 3055              | 5.116                      | 20                | ✓ 20.2               |               |     |     | 2     |                 |  |  |  | 10.1    |             |
| 13       | 198      | 2065              | 5.539                      | 10                | ✓ 10.8               |               |     |     | 2     |                 |  |  |  | 11.7    |             |
| 14       | 199      | 690               | 7.965                      | 5                 | ✓ 5.5                |               |     |     |       |                 |  |  |  | 14.5    |             |
| 15       | 200      | 2069              | 8.920                      | 0                 | ✓ 2.7                |               |     |     | 2     | 2               |  |  |  | 15.5    |             |
| 16       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |         |             |
| 17       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |         |             |
| 18       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |         |             |
| 19       | 196      | 2033              | 4.904                      | 30                |                      |               |     |     |       |                 |  |  |  |         |             |
| 20       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |         |             |
| 21       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |         |             |
| 22       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |         |             |
| 23       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |         |             |
| 24       |          |                   |                            |                   |                      |               |     |     |       |                 |  |  |  |         |             |

Watchkeeper(s): son

Bottom Depth: 277 m

Transmisso Cleaned: (Y) / N

| Time   | UTC   | Local |
|--------|-------|-------|
| Start  | 14:38 | 07:38 |
| Bottom | 14:45 | 07:45 |
| End    | 15:03 | 08:03 |

Positional Information

Start Lat: 49° ° 24.102 N  
Lon: 124° ° 9.295 W

Bottom Lat: 49 ° 24.090 N  
Lon: 124 ° 9.299 W

End Lat: 49 ° 24.100 N  
Lon: 124 ° 9.339 W

Oxygen Info For This Cast

Blank Value: 0.7063 mL · L<sup>-1</sup>  
Std Value: 0.00257 mL · L<sup>-1</sup>  
\*Date Run: 22 | 6 | 2011  
Analyst: km

\* Oxygen blanks and standards should be run daily, if possible

## Water Properties Group

## Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 3 Event #: 57 Ship: Tully UTC Date (dd|mmm|yyyy): 24 | 06 | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation      |                      | Samples Taken |     |     |       |                 |  |  | Temp |  |  |  | Comments              |
|----------|----------|-------------------|----------------------------|------------------------|----------------------|---------------|-----|-----|-------|-----------------|--|--|------|--|--|--|-----------------------|
|          |          | Flask Serial #    | Value mL • L <sup>-1</sup> | Target Pressure        | Confirmed ✓ Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> |  |  |      |  |  |  |                       |
| 1        | 201      | 559               | 2.760                      | 6-5                    | ✓ 315                | 1             | 1   |     |       |                 |  |  | 9°C  |  |  |  | leaking               |
| 2        | 202      | 2088              | 2.737                      | 300                    | ✓ 300                | xx            | xx  | X   |       |                 |  |  | 8.9  |  |  |  | 1491 dupl 8.9°C       |
| 3        | 203      | 2015              | 3.001                      | 250                    | ✓ 250                |               |     |     |       |                 |  |  | 8.9  |  |  |  | leaking               |
| 4        | 204      | 1487              | 3.560                      | 200                    | ✓ 200                |               |     |     |       |                 |  |  | 8.6  |  |  |  |                       |
| 5        | 205      | 1465              | 4.084                      | 175                    | ✓ 175                |               |     |     |       |                 |  |  | 8.5  |  |  |  |                       |
| 6        | 206      | 632               | 4.383                      | 150                    | ✓ 150                |               |     |     |       |                 |  |  | 8.3  |  |  |  |                       |
| 7        | 207      | 552               | 4.542                      | 125                    | ✓ 125.6              |               |     |     |       |                 |  |  | 8.3  |  |  |  |                       |
| 8        | 208      | 1175              | 4.609                      | 100                    | ✓ 100.6              |               |     |     |       |                 |  |  | 8.3  |  |  |  |                       |
| 9        | 209      | 1496              | 4.500                      | 75                     | ✓ 75.0               |               |     |     |       |                 |  |  | 8.3  |  |  |  |                       |
| 10       | 210      | 1158              | 4.396                      | 50                     | ✓ 50.1               |               |     |     |       |                 |  |  | 8.8  |  |  |  |                       |
| 11       | 211      | 1483              | 4.491                      | 40                     | ✓ 40.9               |               |     |     |       |                 |  |  | 9.1  |  |  |  |                       |
| 12       | 212      | 1105              | 4.602                      | 30                     | ✓ 30.7               |               |     |     |       |                 |  |  | 9.5  |  |  |  |                       |
| 13       | 213      | 1306              | 5.105                      | 20                     | ✓ 20.5               | xx            | xx  |     | xx    | xx              |  |  | 10.9 |  |  |  | 620 dupl 11°C         |
| 14       | 214      | 2090              | 7.323                      | 10                     | ✓ 10.6               |               |     |     | xx    | xx              |  |  | 13.2 |  |  |  | WD OFF-CHAIN TO SHORE |
| 15       | 215      | 1085              | 7.180                      | 5                      | ✓ 5.2                |               |     |     |       |                 |  |  | 14.3 |  |  |  |                       |
| 16       | 216      | 611               | 8.693                      | 0                      | ✓ 2.5                |               |     |     | xx    | xx              |  |  | 15.3 |  |  |  |                       |
| 17       |          |                   |                            |                        |                      |               |     |     |       |                 |  |  |      |  |  |  |                       |
| 18       |          |                   |                            |                        |                      |               |     |     |       |                 |  |  |      |  |  |  |                       |
| 19       |          |                   |                            |                        |                      |               |     |     |       |                 |  |  |      |  |  |  |                       |
| 20       | 202      | 1491              | 2.643                      | DIDN'T CHANGE FLASH #5 |                      |               |     |     |       |                 |  |  |      |  |  |  |                       |
| 21       | 213      | 620               | 5.106                      |                        |                      |               |     |     |       |                 |  |  |      |  |  |  |                       |
| 22       |          |                   |                            |                        |                      |               |     |     |       |                 |  |  |      |  |  |  |                       |
| 23       |          |                   |                            |                        |                      |               |     |     |       |                 |  |  |      |  |  |  |                       |
| 24       |          |                   |                            |                        |                      |               |     |     |       |                 |  |  |      |  |  |  |                       |

Watchkeeper(s): Hannah StewartBottom Depth: 320 mTransmisso Cleaned: ☒ Y / ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 1804 | 1104  |
| Bottom | 1820 | 1120  |
| End    | 1834 | 1134  |

## Positional Information

Start  
Lat: 49 ° 26.614 N  
Lon: 124 ° 20.193 WBottom  
Lat: 49 ° 26.674 N  
Lon: 124 ° 20.092 WEnd  
Lat: 49 ° 26.695 N  
Lon: 124 ° 20.168 W

## Oxygen Info For This Cast

Blank Value: 0.0020 mL • L<sup>-1</sup>Std Value: 0.7197 mL • L<sup>-1</sup>\*Date Run: 24 | 6 | 11Analyst: HM

\* Oxygen blanks and standards should be run daily, if possible

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 6 Event #: 58 Ship: TULLY UTC Date (dd|mmm|yyyy): 24 | 06 | 2011

Box R

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                                                        | Samples Taken |                                     |                                     |                                     |                                     |                  |  |  |  |                | Comments                |
|----------|----------|-------------------|----------------------------|-------------------|--------------------------------------------------------|---------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------------------|--|--|--|----------------|-------------------------|
|          |          | Flask Serial #    | Value mL * L <sup>-1</sup> | Target Pressure   | Confirmed <input checked="" type="checkbox"/> Pressure | Oxy           | Nut                                 | Sal                                 | Chl a                               | NH <sub>4</sub>                     | T <sub>100</sub> |  |  |  | T <sub>0</sub> |                         |
| 1        | 217      | 2056              | 3.979                      | 6-5               | <input checked="" type="checkbox"/>                    | 188           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |                                     |                  |  |  |  | 8.4            |                         |
| 2        | 218      | 3061              | 4.050                      | 175               | <input checked="" type="checkbox"/>                    | 175           |                                     | <input checked="" type="checkbox"/> |                                     |                                     |                  |  |  |  | 8.4            |                         |
| 3        | 219      | 3178              | 4.564                      | 150               | <input checked="" type="checkbox"/>                    | 150           |                                     |                                     |                                     |                                     |                  |  |  |  | 8.2            | closed micely (for mic) |
| 4        | 220      | 1201              | 4.396                      | 125               | <input checked="" type="checkbox"/>                    | 125           |                                     |                                     |                                     |                                     |                  |  |  |  | 8.2            |                         |
| 5        | 221      | 1414              | 4.569                      | 100               | <input checked="" type="checkbox"/>                    | 100           |                                     |                                     |                                     |                                     |                  |  |  |  | 8.2            |                         |
| 6        | 222      | 570               | 4.206                      | 75                | <input checked="" type="checkbox"/>                    | 75            |                                     |                                     |                                     |                                     |                  |  |  |  | 8.4            |                         |
| 7        | 223      | 1386              | 4.423                      | 50                | <input checked="" type="checkbox"/>                    | 50            |                                     |                                     |                                     |                                     |                  |  |  |  | 9.0            |                         |
| 8        | 224      | 3107              | 4.721                      | 40                | <input checked="" type="checkbox"/>                    | 40            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |                                     |                  |  |  |  | 9.5            | 1335                    |
| 9        | 225      | 1134              | 4.732                      | 30                | <input checked="" type="checkbox"/>                    | 30            |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                  |  |  |  | 9.8            |                         |
| 10       | 226      | 3118              | 4.816                      | 20                | <input checked="" type="checkbox"/>                    | 20            |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                  |  |  |  | 10.0           |                         |
| 11       | 227      | 2066              |                            | 10                | <input checked="" type="checkbox"/>                    | 10            |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                  |  |  |  |                | empty did not fire      |
| 12       | 228      | 3135              | 7.015                      | 5                 | <input checked="" type="checkbox"/>                    | 5             |                                     |                                     |                                     |                                     |                  |  |  |  | 13.3           |                         |
| 13       | 229      | 1459              | 8.227                      | sfc               | <input checked="" type="checkbox"/>                    | 1.3           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                  |  |  |  | 14.8           |                         |
| 14       |          |                   |                            |                   |                                                        |               |                                     |                                     |                                     |                                     |                  |  |  |  |                |                         |
| 15       |          |                   |                            |                   |                                                        |               |                                     |                                     |                                     |                                     |                  |  |  |  |                |                         |
| 16       |          |                   |                            |                   |                                                        |               |                                     |                                     |                                     |                                     |                  |  |  |  |                |                         |
| 17       | 224      | 1335              | 4.724                      | 40                |                                                        |               |                                     |                                     |                                     |                                     |                  |  |  |  | 9.6            | duplicate               |
| 18       |          |                   |                            |                   |                                                        |               |                                     |                                     |                                     |                                     |                  |  |  |  |                |                         |
| 19       |          |                   |                            |                   |                                                        |               |                                     |                                     |                                     |                                     |                  |  |  |  |                |                         |
| 20       |          |                   |                            |                   |                                                        |               |                                     |                                     |                                     |                                     |                  |  |  |  |                |                         |
| 21       |          |                   |                            |                   |                                                        |               |                                     |                                     |                                     |                                     |                  |  |  |  |                |                         |
| 22       |          |                   |                            |                   |                                                        |               |                                     |                                     |                                     |                                     |                  |  |  |  |                |                         |
| 23       |          |                   |                            |                   |                                                        |               |                                     |                                     |                                     |                                     |                  |  |  |  |                |                         |
| 24       |          |                   |                            |                   |                                                        |               |                                     |                                     |                                     |                                     |                  |  |  |  |                |                         |

Watchkeeper(s): JP

Bottom Depth: 193 m

Transmisso Cleaned: ☒ Y / ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 1919 | 1219  |
| Bottom | 1924 | 1224  |
| End    | 1938 | 1238  |

## Positional Information

Start  
 Lat: 49 ° 30.67 N  
 Lon: 124 ° 27.85 W

Bottom  
 Lat: 49 ° 30.67 N  
 Lon: 124 ° 27.83 W

End  
 Lat: 49 ° 30.63 N  
 Lon: 124 ° 27.84 W

## Oxygen Info For This Cast

Blank Value: \_\_\_\_\_ mL \* L<sup>-1</sup>  
 Std Value: \_\_\_\_\_ mL \* L<sup>-1</sup>  
 \*Date Run: \_\_\_\_ | \_\_\_\_ | \_\_\_\_  
 Analyst: \_\_\_\_\_

\* Oxygen blanks and standards should be run daily, if possible

ORANGE

## Water Properties Group

## Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 9 Event #: 59 Ship: TULLY UTC Date (dd|mmm|yyyy): 24 | JUN | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                                                        | Samples Taken |     |     |       |                 |  | T <sup>o</sup> C |  |  | Comments |
|----------|----------|-------------------|----------------------------|-------------------|--------------------------------------------------------|---------------|-----|-----|-------|-----------------|--|------------------|--|--|----------|
|          |          | Flask Serial #    | Value mL * L <sup>-1</sup> | Target Pressure   | Confirmed <input checked="" type="checkbox"/> Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> |  |                  |  |  |          |
| 1        | 230      | 1421              | 3.014                      | 6-5               | <input checked="" type="checkbox"/> 165                |               |     |     |       |                 |  | 8.5              |  |  |          |
| 2        | 231      | 708               | 3.214                      | 150               | <input checked="" type="checkbox"/> 150                |               |     | ✓   |       |                 |  | 8.3              |  |  |          |
| 3        | 232      | 1488              | 3.994                      | 125               | <input checked="" type="checkbox"/> 125                |               |     |     |       |                 |  | 8.3              |  |  |          |
| 4        | 233      | 3181              | 4.303                      | 100               | <input checked="" type="checkbox"/> 100                |               |     |     |       |                 |  | 8.2              |  |  |          |
| 5        | 234      | 1322              | 4.241                      | 75                | <input checked="" type="checkbox"/> 75                 |               |     |     |       |                 |  | 8.3              |  |  |          |
| 6        | 235      | 2084              | 4.343                      | 50                | <input checked="" type="checkbox"/> 50                 |               |     |     |       |                 |  | 8.9              |  |  |          |
| 7        | 236      | 1481              | 4.502                      | 40                | <input checked="" type="checkbox"/> 40                 |               |     |     |       |                 |  | 9.3              |  |  |          |
| 8        | 237      | 3137              | 4.751                      | 30                | <input checked="" type="checkbox"/> 30                 | ✓             | ✓   |     |       |                 |  | 9.9              |  |  |          |
| 9        | 238      | 3007              | 5.029                      | 20                | <input checked="" type="checkbox"/> 20                 |               |     |     | ✓✓    | ✓✓              |  | 10.6             |  |  |          |
| 10       | 239      | 1311              | 6.239                      | 10                | <input checked="" type="checkbox"/> 10                 |               |     |     | ✓✓    | ✓✓              |  | 12.2             |  |  |          |
| 11       | 240      | 2033              | 7.131                      | 5                 | <input checked="" type="checkbox"/> 5                  |               |     |     |       |                 |  | 14.1             |  |  |          |
| 12       | 241      | 3055              | 7.915                      | SPC               | <input checked="" type="checkbox"/> 1.3                |               |     |     | ✓✓    | ✓✓              |  | 14.9             |  |  |          |
| 13       |          |                   |                            |                   |                                                        |               |     |     |       |                 |  |                  |  |  |          |
| 14       |          |                   |                            |                   |                                                        |               |     |     |       |                 |  |                  |  |  |          |
| 15       |          |                   |                            |                   |                                                        |               |     |     |       |                 |  |                  |  |  |          |
| 16       | 237      | 1400              | 4.745                      | 30                |                                                        |               |     |     |       |                 |  | 9.9              |  |  |          |
| 17       |          |                   |                            |                   |                                                        |               |     |     |       |                 |  |                  |  |  |          |
| 18       |          |                   |                            |                   |                                                        |               |     |     |       |                 |  |                  |  |  |          |
| 19       |          |                   |                            |                   |                                                        |               |     |     |       |                 |  |                  |  |  |          |
| 20       |          |                   |                            |                   |                                                        |               |     |     |       |                 |  |                  |  |  |          |
| 21       |          |                   |                            |                   |                                                        |               |     |     |       |                 |  |                  |  |  |          |
| 22       |          |                   |                            |                   |                                                        |               |     |     |       |                 |  |                  |  |  |          |
| 23       |          |                   |                            |                   |                                                        |               |     |     |       |                 |  |                  |  |  |          |
| 24       |          |                   |                            |                   |                                                        |               |     |     |       |                 |  |                  |  |  |          |

Watchkeeper(s): TJBottom Depth: 170 mTransmisso Cleaned: ☒ Y / ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 2035 | 1335  |
| Bottom | 2039 | 1339  |
| End    | 2052 | 1352  |

## Positional Information

Start  
 Lat: 49 ° 35.53 N  
 Lon: 124 ° 38.32 W

Bottom  
 Lat: 49 ° 35.53 N  
 Lon: 124 ° 38.30 W

End  
 Lat: 49 ° 35.54 N  
 Lon: 124 ° 38.29 W

## Oxygen Info For This Cast

Blank Value: \_\_\_\_\_ mL \* L<sup>-1</sup>Std Value: \_\_\_\_\_ mL \* L<sup>-1</sup>

\*Date Run: \_\_\_\_ | \_\_\_\_ | \_\_\_\_

Analyst: \_\_\_\_\_

\* Oxygen blanks and standards should be run daily, if possible

## Water Properties Group

## Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 12 Event #: 62 Ship: TULLY UTC Date (dd|mmm|yyyy): 24 | 06 | 2011

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                    | Samples Taken |     |     |       |                      |     |    |      |  |  | Comments                 |
|----------|----------|-------------------|----------------------------|-------------------|--------------------|---------------|-----|-----|-------|----------------------|-----|----|------|--|--|--------------------------|
|          |          | Flask Serial #    | Value mL • L <sup>-1</sup> | Target Pressure   | Confirmed Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> HPLC | DIC | pH | T°   |  |  |                          |
| 1        | 242      | 1298              | 3.028                      | 6-5               | ✓ 350              | x             | x   |     |       |                      | x   | x  | 8.8  |  |  |                          |
| 2        | 243      | 528               | 3.494                      | 300               | ✓ 300              |               |     | x   |       |                      |     |    | 8.6  |  |  |                          |
| 3        | 244      | 1408              | 3.666                      | 250               | ✓ 250              |               |     |     |       |                      | x   | x  | 8.5  |  |  |                          |
| 4        | 245      | 1307              | 2.390                      | 200               | ✓ 200              |               |     |     |       |                      | x   | x  | 8.3  |  |  | BAD SAMPLE!              |
| 5        | 246      | 3206              | 4.038                      | 175               | ✓ 175              | 2             | 2   |     |       |                      |     |    | 8.3  |  |  | O <sub>2</sub> Dup: 1382 |
| 6        | 247      | 3090              | 4.324                      | 150               | ✓ 150              |               |     |     |       |                      | x   | x  | 8.2  |  |  |                          |
| 7        | 248      | 1404              | 4.379                      | 125               | ✓ 125              |               |     |     |       |                      |     |    | 8.2  |  |  |                          |
| 8        | 249      | 3126              | 4.386                      | 100               | ✓ 100              |               |     |     |       |                      |     |    | 8.2  |  |  |                          |
| 9        | 250      | 1378              | 4.228                      | 75                | ✓ 75               |               |     |     |       |                      | x   | x  | 8.3  |  |  |                          |
| 10       | 251      | 647               | 4.428                      | 50                | ✓ 50               |               |     |     |       |                      | x   | x  | 8.7  |  |  |                          |
| 11       | 252      | 3157              | 4.662                      | 40                | ✓ 40               |               |     |     |       |                      |     |    | 8.9  |  |  |                          |
| 12       | 253      | 621               | 4.743                      | 30                | ✓ 30               | 2             | 2   |     |       |                      | x   | x  | 9.3  |  |  | O <sub>2</sub> Dup: 569  |
| 13       | 254      | 1146              | 4.821                      | 20                | ✓ 20               |               |     |     | xx    | xx                   | xx  | xx | 9.7  |  |  |                          |
| 14       | 255      | 1393              | 5.638                      | 10                | ✓ 10               |               |     |     | xx    | xx                   | x   | x  | 12.0 |  |  |                          |
| 15       | 256      | 371               | 8.271                      | 5                 | ✓ 5                |               |     |     |       |                      | x   | x  | 15.9 |  |  |                          |
| 16       | 257      | 196               | 9.986                      | SPC               | ✓ 1.7              |               |     |     | xx    | xx                   |     |    | 17.3 |  |  |                          |
| 17       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |      |  |  |                          |
| 18       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |      |  |  |                          |
| 19       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |      |  |  |                          |
| 20       |          | 1382              | 2.970                      | 175               |                    |               |     |     |       |                      |     |    |      |  |  | BAD SAMPLE               |
| 21       |          | 569               | 4.740                      | 30                |                    |               |     |     |       |                      |     |    |      |  |  |                          |
| 22       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |      |  |  |                          |
| 23       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |      |  |  |                          |
| 24       |          |                   |                            |                   |                    |               |     |     |       |                      |     |    |      |  |  |                          |

Watchkeeper(s): 12Bottom Depth: 355 mTransmisso Cleaned: Y / N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 2302 | 1602  |
| Bottom | 2310 | 1610  |
| End    | 2330 | 1630  |

## Positional Information

|       |                                  |
|-------|----------------------------------|
| Start | Lat: <u>49</u> ° <u>43.60</u> N  |
|       | Lon: <u>124</u> ° <u>40.82</u> W |

|        |                                  |
|--------|----------------------------------|
| Bottom | Lat: <u>49</u> ° <u>43.60</u> N  |
|        | Lon: <u>124</u> ° <u>40.76</u> W |

|     |                                  |
|-----|----------------------------------|
| End | Lat: <u>49</u> ° <u>43.53</u> N  |
|     | Lon: <u>124</u> ° <u>40.68</u> W |

## Oxygen Info For This Cast

|              |                                     |
|--------------|-------------------------------------|
| Blank Value: | <u>0.002</u> mL • L <sup>-1</sup>   |
| Std Value:   | <u>0.14030</u> mL • L <sup>-1</sup> |
| *Date Run:   | <u>24</u>   <u>6</u>   <u>2011</u>  |
| Analyst:     | <u>HM</u>                           |

\* Oxygen blanks and standards should be run daily, if possible

# Water Properties Group

# Rosette Log

Institute of Ocean Sciences, Ocean Sciences Division, Sidney, BC

Cruise ID: 2011-09 Station: 14 Event #: 63 Ship: TULLY UTC Date (dd|mmm|yyyy):        |        |       

BLUE BOY

| Niskin # | Sample # | Oxygen Titrations |                            | Rosette Operation |                      | Samples Taken |     |     |       |                 |      |   |      |  | Comments   |
|----------|----------|-------------------|----------------------------|-------------------|----------------------|---------------|-----|-----|-------|-----------------|------|---|------|--|------------|
|          |          | Flask Serial #    | Value mL · L <sup>-1</sup> | Target Pressure   | Confirmed √ Pressure | Oxy           | Nut | Sal | Chl a | NH <sub>4</sub> | PINP | T |      |  |            |
| 1        | 258      | 2068              | X                          | 20                | ✓ 20                 | X             | X   | X   | XX    | XX              |      |   | 10.0 |  | 5nd sample |
| 2        | 259      | 1144              | 5.792                      | 10                | ✓ 10                 | X             | X   |     | XX    | XX              |      |   | 17.8 |  |            |
| 3        | 260      | 631               | 8.637                      | SFC               | ✓ 1.2                | X             | X   |     | XX    | XX              | XXX  |   | 15.3 |  |            |
| 4        |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 5        |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 6        |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 7        |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 8        |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 9        |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 10       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 11       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 12       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 13       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 14       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 15       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 16       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 17       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 18       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 19       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 20       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 21       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 22       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 23       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |
| 24       |          |                   |                            |                   |                      |               |     |     |       |                 |      |   |      |  |            |

Watchkeeper(s): R

Bottom Depth: 315 m

Transmisso Cleaned: Y / N

|        | UTC  | Local |
|--------|------|-------|
| Start  | 0104 | 1804  |
| Bottom | 0112 | 1812  |
| End    | 0120 | 1820  |

Positional Information

Start

Lat: 49 ° 52.96 N

Lon: 124 ° 59.61 W

Bottom

Lat: 49 ° 52.99 N

Lon: 124 ° 59.63 W

End

Lat: 49 ° 53.01 N

Lon: 124 ° 59.63 W

Oxygen Info For This Cast

Blank Value: 0.002 mL · L<sup>-1</sup>

Std Value: 0.1408 mL · L<sup>-1</sup>

\*Date Run: 24 16 2011

Analyst: MM

\* Oxygen blanks and standards should be run daily, if possible