

## WP2

CTD#\_\_\_\_1\_\_\_\_ / Station#\_\_\_\_1\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 1000 m  
 bottom depth \_\_\_\_\_  
 Start Time: 05:27  
 Start Lat: 20 54.859 N  
 Start Lon: 158 19.873 W

Operator(s): Ks/dan/rob  
 Year Day: 4 utc  
 Finish Time: 06:17  
 Finish Lat: 20 55.347 N  
 Finish Lon: 158 19.537 W

| Rosette Position | Desired Depth (m) | Actual Depth (m) | ZIJ | Allison | Jeremy | Jeff | Audrey/Jane tte | Ryan/GW | Annette |
|------------------|-------------------|------------------|-----|---------|--------|------|-----------------|---------|---------|
| 1                | 1000              | 1022             |     |         |        | X    |                 |         |         |
| 2                | 1000              | 1020             |     |         |        | X    |                 |         |         |
| 3                | 1000              | 1022             |     |         |        | X    |                 |         |         |
| 4                | 1000              | 1022             |     |         |        | X    |                 |         |         |
| 5                | 250               | 251              |     |         |        |      |                 |         |         |
| 6                | 150               | 149              |     |         |        |      |                 |         |         |
| 7                | 150               | 151              |     |         |        |      |                 |         |         |
| 8                | 135               | 136              |     |         |        |      |                 |         |         |
| 9                | 115               | 113              |     |         |        |      |                 |         |         |
| 10               | Chlmax=110        | 109              |     |         |        |      |                 | X       |         |
| 11               | Chlmax=110        | 110              |     |         |        |      |                 |         |         |
| 12               | 100               | 100              |     |         |        |      |                 | X       |         |
| 13               | 100               | 100              |     |         |        |      |                 |         |         |
| 14               | 75                | 75               |     |         |        |      |                 | X       |         |
| 15               | 75                | 75               |     |         |        |      |                 |         |         |
| 16               | 45                | 43               |     |         |        |      |                 | X       |         |
| 17               | 45                | 42               |     |         |        |      |                 |         |         |
| 18               | 25                | 24               |     |         |        |      |                 | X       |         |
| 19               | 25                | 24               |     |         |        |      |                 |         |         |
| 20               | 15                | 14               |     |         |        |      |                 | X       |         |
| 21               | 15                | 15               |     |         |        |      |                 |         |         |
| 22               | 5                 | 9                |     |         |        |      |                 | X       |         |
| 23               | 5                 | 8                |     |         |        |      |                 |         |         |
| 24               | 5                 | 8                |     |         |        |      |                 |         |         |

Notes:

## WP2

CTD#\_\_\_\_02\_\_\_\_ / Station#\_\_\_\_02\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 500 m  
 bottom depth \_\_\_\_\_  
 Start Time: 18:13  
 Start Lat: N 19 29.651  
 Start Lon: W 160 2.203

Operator(s): Kuhio/Rob  
 Year Day: 004 utc  
 Finish Time: 18:55  
 Finish Lat: N 19 29.747  
 Finish Lon: W 160 1.672

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Janette | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|----------------|-----|-----------|---------|
| 1                | 500               | 508              | X      | X      | X    | X              |     |           |         |
| 2                | 500               | 506              |        |        | X    |                |     |           |         |
| 3                | 300               | 298              | X      | X      | X    | X              |     |           |         |
| 4                | 150               | 150              | X      | X      | X    |                |     |           |         |
| 5                | 150               | 152              |        |        |      | X              | X   |           |         |
| 6                | 150               | 151              |        |        |      |                |     |           | X       |
| 7                | 135               | 135              | X      | X      | X    | X              | X   |           |         |
| 8                | DCM=120           | 119              | X      | X      | X    |                |     |           |         |
| 9                | DCM=120           | 121              |        |        |      | X              | X   | X         |         |
| 10               | DCM=120           | 120              |        |        |      |                |     |           | X       |
| 11               | 115               | 114              | X      | X      | X    | X              | X   |           |         |
| 12               | 100               | 102              | X      | X      | X    | X              | X   |           |         |
| 13               | 100               | 101              |        |        |      |                |     | X         | X       |
| 14               | 75                | 74               | X      | X      | X    | X              | X   |           |         |
| 15               | 75                | 74               |        |        |      |                |     | X         | X       |
| 16               | 45                | 45               | X      | X      | X    | X              | X   |           |         |
| 17               | 45                | 44               |        |        |      |                |     | X         | X       |
| 18               | 25                | 25               | X      | X      | X    | X              | X   |           |         |
| 19               | 25                | 26               |        |        |      |                |     | X         | X       |
| 20               | 15                | 18               | X      | X      | X    | X              | X   |           |         |
| 21               | 15                | 19               |        |        |      |                |     | X         | X       |
| 22               | 5                 | 8                | X      | X      | X    |                |     |           |         |
| 23               | 5                 | 6                |        |        |      | X              | X   | X         |         |
| 24               | 5                 | 7                |        |        |      |                |     |           | X       |

Notes:

# WP2

CTD#\_\_\_\_03\_\_\_\_ / Station#\_\_\_\_02\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 200 m  
 bottom depth \_\_\_\_\_  
 Start Time: 23:04  
 Start Lat: 19 31.723 N  
 Start Lon: 159 54.125' W

Operator(s): Dan/Karen  
 Year Day: 004 utc  
 Finish Time: 23:34  
 Finish Lat: 19 31.936 N  
 Finish Lon: 159 53306 W

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Grazing | ZIJ |
|------------------|-------------------|------------------|------------|---------|-----|
| 1                | 200               | 198              | 0.1        | X       |     |
| 2                | 200               | 197              | 0.1        | X       |     |
| 3                | 200               | 198              | 0.1        | X       |     |
| 4                | 200               | 198              | 0.1        |         | X   |
| 5                | 135               | 136              | 1          | X       |     |
| 6                | 135               | 136              | 1          | X       |     |
| 7                | 135               | 135              | 1          | X       |     |
| 8                | 135               | 135              | 1          |         | X   |
| 9                | 125(d)            | 125              | Xtra       | X       |     |
| 10               | 90                | 90               | Xtra       | X       |     |
| 11               | 70                | 70               | 10         | X       |     |
| 12               | 70                | 71               | 10         | X       |     |
| 13               | 70                | 71               | 10         | X       | X   |
| 14               | 35                | 33               | 30         | X       |     |
| 15               | 35                | 35               | 30         | X       |     |
| 16               | 35                | 35               | 30         | X       |     |
| 17               | 35                | 36               | 30         |         | X   |
| 18               | 20                | 20               | 50         | X       |     |
| 19               | 20                | 21               | 50         | X       |     |
| 20               | 20                | 21               | 50         | X       | X   |
| 21               | 5                 | 12               | 100        | X       |     |
| 22               | 5                 | 13               | 100        | X       |     |
| 23               | 5                 | 13               | 100        | X       |     |
| 24               | 5                 | 13               | 100        |         | X   |

Notes:

# WP2

CTD#\_\_\_\_04\_\_\_\_ / Station#\_\_\_\_03\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth \_\_\_\_\_  
 Start Time: 18:17  
 Start Lat: 17 22.765 N  
 Start Lon: 162 26.558 W

Operator(s): Kuhio/Rob  
 Year Day: 005 utc  
 Finish Time: \_\_\_\_\_  
 Finish Lat: N  
 Finish Lon: W

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Janette | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|----------------|-----|-----------|---------|
| 1                | 500               | 498              | X      | X      | X    | X              |     |           |         |
| 2                | 500               | 499              |        |        | X    |                |     |           |         |
| 3                | 300               | 300              | X      | X      | X    | X              |     |           |         |
| 4                | 200               | 201              | X      | X      | X    | X              | X   |           |         |
| 5                | 150               | 150              | X      | X      | X    |                |     |           |         |
| 6                | 150               | 150              |        |        |      | X              | X   |           |         |
| 7                | 150               | 152              |        |        |      |                |     |           | X       |
| 8                | 135               | 135              | X      | X      | X    | X              | X   |           |         |
| 9                | DCM=130           | 131              | X      | X      | X    |                |     |           |         |
| 10               | DCM=130           | 130              |        |        |      | X              | X   | X         |         |
| 11               | DCM=130           | 131              |        |        |      |                |     |           | X       |
| 12               | 115               | 115              | X      | X      | X    | X              | X   |           |         |
| 13               | 100               | 100              | X      | X      | X    | X              | X   |           |         |
| 14               | 100               | 100              |        |        |      |                |     | X         | X       |
| 15               | 75                | 75               | X      | X      | X    | X              | X   |           |         |
| 16               | 75                | 74               |        |        |      |                |     | X         | X       |
| 17               | 50                | 50               | X      | X      | X    | X              | X   |           |         |
| 18               | 50                | 51               |        |        |      |                |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X              | X   |           |         |
| 20               | 25                | 25               |        |        |      |                |     | X         | X       |
| 21               | 5                 | 12               | X      | X      | X    |                |     |           |         |
| 22               | 5                 | 13               |        |        |      | X              | X   | X         |         |
| 23               | 5                 | 12               |        |        |      |                |     |           | X       |
| 24               | 5                 | 11               |        |        |      |                |     |           | X       |

Notes:

# WP2

CTD#\_\_\_\_05\_\_\_\_ / Station#\_\_\_\_03\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 250 m  
 bottom depth \_\_\_\_\_  
 Start Time: 22:16  
 Start Lat: 17 23.018' N  
 Start Lon: 162 24.174' W

Operator(s): Dan/Karen  
 Year Day: 005 utc  
 Finish Time: 22:49  
 Finish Lat: 17 23.012' N  
 Finish Lon: 162 23.867' W

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Grazing | ZIJ | Rob B. |
|------------------|-------------------|------------------|------------|---------|-----|--------|
| 1                | 200               | 201              | 0.1        | X       |     |        |
| 2                | 200               | 200              | 0.1        | X       |     |        |
| 3                | 200               | 201              | 0.1        | X       |     | X      |
| 4                | 200               | 200              | 0.1        |         | X   |        |
| 5                | 150               | 151              | Xtra       | X       |     | X      |
| 6                | 130               | 130              | 1          | X       |     |        |
| 7                | 130               | 131              | 1          | X       |     |        |
| 8                | 130               | 129              | 1          | X       |     | X      |
| 9                | 130               | 129              | 1          |         | X   |        |
| 10               | 100               | 100              | Xtra       | X       |     | X      |
| 11               | 70                | 71               | 10         | X       |     |        |
| 12               | 70                | 70               | 10         | X       |     | X      |
| 13               | 70                | 70               | 10         | X       | X   |        |
| 14               | 35                | 35               | 30         | X       |     |        |
| 15               | 35                | 35               | 30         | X       |     |        |
| 16               | 35                | 35               | 30         | X       |     | X      |
| 17               | 35                | 35               | 30         |         | X   |        |
| 18               | 20                | 26               | 50         | X       |     |        |
| 19               | 20                | 26               | 50         | X       |     | X      |
| 20               | 20                | 24               | 50         | X       | X   |        |
| 21               | 5                 | 11               | 100        | X       |     |        |
| 22               | 5                 | 11               | 100        | X       |     |        |
| 23               | 5                 | 11               | 100        | X       |     | X      |
| 24               | 5                 | 11               | 100        |         | X   |        |

Notes: DEEP CHL MAX = 130 m  
 Secchi Depth = 19m (ZJ)

## WP2

CTD#\_\_\_\_06\_\_\_\_ / Station#\_\_\_\_04\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth \_\_\_\_\_  
 Start Time: 18:01  
 Start Lat: 14 57.781 N  
 Start Lon: 165 3.09 W

Operator(s): Kuhio/Rob  
 Year Day: 006 utc  
 Finish Time: 18:58  
 Finish Lat: N 14 57.987  
 Finish Lon: W 165 3.960

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Janette | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|----------------|-----|-----------|---------|
| 1                | 500               | 500              | X      | X      | X    | X              |     |           |         |
| 2                | 500               | 500              |        |        | X    |                |     |           |         |
| 3                | 300               | 300              | X      | X      | X    | X              |     |           |         |
| 4                | 200               | 200              | X      | X      | X    | X              | X   |           |         |
| 5                | 150               | 150              | X      | X      | X    |                |     |           |         |
| 6                | 150               | 147              |        |        |      | X              | X   |           |         |
| 7                | 150               | 148              |        |        |      |                |     |           | X       |
| 8                | 135               | 135              | X      | X      | X    | X              | X   |           |         |
| 9                | DCM=120           | 121              | X      | X      | X    |                |     |           |         |
| 10               | DCM=120           | 120              |        |        |      | X              | X   | X         |         |
| 11               | DCM=120           | 120              |        |        |      |                |     |           | X       |
| 12               | 115               | 115              | X      | X      | X    | X              | X   |           |         |
| 13               | 100               | 100              | X      | X      | X    | X              | X   |           |         |
| 14               | 100               | 100              |        |        |      |                |     | X         | X       |
| 15               | 75                | 76               | X      | X      | X    | X              | X   |           |         |
| 16               | 75                | 75               |        |        |      |                |     | X         | X       |
| 17               | 50                | 50               | X      | X      | X    | X              | X   |           |         |
| 18               | 50                | 50               |        |        |      |                |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X              | X   |           |         |
| 20               | 25                | 25               |        |        |      |                |     | X         | X       |
| 21               | 5                 | 10               | X      | X      | X    |                |     |           |         |
| 22               | 5                 | 9                |        |        |      | X              | X   | X         |         |
| 23               | 5                 | 10               |        |        |      |                |     |           | X       |
| 24               | 5                 | 10               |        |        |      |                |     |           | X       |

Notes:

## WP2

CTD#\_\_\_\_07\_\_\_\_ / Station#\_\_\_\_04\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 255 m  
 bottom depth \_\_\_\_\_  
 Start Time: 22:15  
 Start Lat: 14 58.971 N  
 Start Lon: 165 1.960 W

Operator(s): Dan/Karen  
 Year Day: 006 utc  
 Finish Time: 22:50  
 Finish Lat: 14 59.057 N  
 Finish Lon: 165 1.731 W

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Grazing | ZIJ | Rob B. | Eric |
|------------------|-------------------|------------------|------------|---------|-----|--------|------|
| 1                | 255               | 255              | 0.1        | X       |     |        |      |
| 2                | 255               | 256              | 0.1        | X       |     |        |      |
| 3                | 255               | 255              | 0.1        | X       |     | X      |      |
| 4                | 255               | 255              | 0.1        |         | X   |        |      |
| 5                | 170 dcm           | 170              | extra      | X       |     | X      | X    |
| 6                | 130               | 129              | 3          | X       |     |        |      |
| 7                | 130               | 131              | 3          | X       |     |        |      |
| 8                | 130               | 129              | 3          | X       |     | x      |      |
| 9                | 130               | 131              | 3          |         | X   |        |      |
| 10               | 100               | 100              | extra      | X       | X   | X      |      |
| 11               | 85                | 85               | 10         | X       |     |        |      |
| 12               | 85                | 85               | 10         | X       |     | X      |      |
| 13               | 85                | 85               | 10         | X       | X   |        |      |
| 14               | 45                | 45               | 30         | X       |     |        |      |
| 15               | 45                | 45               | 30         | X       |     |        |      |
| 16               | 45                | 46               | 30         | X       |     |        |      |
| 17               | 45                | 45               | 30         | X       |     | X      |      |
| 18               | 45                | 45               | 30         |         | X   |        |      |
| 19               | 25                | 25               | 50         | X       |     |        |      |
| 20               | 25                | 24               | 50         | X       |     | X      |      |
| 21               | 25                | 25               | 50         | X       | X   |        |      |
| 22               | 5                 | 10               | 100        | X       |     |        |      |
| 23               | 5                 | 10               | 100        | X       |     |        |      |
| 24               | 5                 | 10               | 100        | X       | X   | X      |      |

Notes: 120 m = DCM  
 Secchi Depth = 21m, ZJ

## WP2

CTD#\_\_\_\_08\_\_\_\_ / Station#\_\_\_\_05\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth 4836  
 Start Time: 19:00  
 Start Lat: 12 26.090 N  
 Start Lon: 167 43.780 W

Operator(s): Kuhio/Rob  
 Year Day: 007 utc  
 Finish Time: 19:54  
 Finish Lat: N 12 26.315  
 Finish Lon: W 167 43.638

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Jane tte | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|-----------------|-----|-----------|---------|
| 1                | 500               | 500              | X      | X      | X    | X               |     |           |         |
| 2                | 500               | 501              |        |        | X    |                 |     |           |         |
| 3                | 300               | 300              | X      | X      | X    | X               |     |           |         |
| 4                | 200               | 200              | X      | X      | X    | X               | X   |           |         |
| 5                | 150               | 150              | X      | X      | X    |                 |     |           |         |
| 6                | 150               | 149              |        |        |      | X               | X   |           |         |
| 7                | 150               | 150              |        |        |      |                 |     |           | X       |
| 8                | 135               | 135              | X      | X      | X    | X               | X   |           |         |
| 9                | DCM=120           | 119              | X      | X      | X    |                 |     |           |         |
| 10               | DCM=120           | 120              |        |        |      | X               | X   | X         |         |
| 11               | DCM=120           | 120              |        |        |      |                 |     |           | X       |
| 12               | 115               | 114              | X      | X      | X    | X               | X   |           |         |
| 13               | 100               | 100              | X      | X      | X    | X               | X   |           |         |
| 14               | 100               | 101              |        |        |      |                 |     | X         | X       |
| 15               | 75                | 75               | X      | X      | X    | X               | X   |           |         |
| 16               | 75                | 75               |        |        |      |                 |     | X         | X       |
| 17               | 50                | 50               | X      | X      | X    | X               | X   |           |         |
| 18               | 50                | 50               |        |        |      |                 |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X               | X   |           |         |
| 20               | 25                | 25               |        |        |      |                 |     | X         | X       |
| 21               | 5                 | 8                | X      | X      | X    |                 |     |           |         |
| 22               | 5                 | 7                |        |        |      | X               | X   | X         |         |
| 23               | 5                 | 6                |        |        |      |                 |     |           | X       |
| 24               | 5                 | 9                |        |        |      |                 |     |           | X       |

Notes:



## WP2

CTD#\_\_\_\_09\_\_\_\_ / Station#\_\_\_\_05\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth 4272  
 Start Time: 23:17  
 Start Lat: 12 28.469 N  
 Start Lon: 167 41.469 W

Operator(s): Dan/Karen  
 Year Day: 007 utc  
 Finish Time: 23:55  
 Finish Lat: 12 28.551 N  
 Finish Lon: 167 41.240 W

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Grazing | Prim Prod | Rob (HPLC/Chl) | ZIJ |
|------------------|-------------------|------------------|------------|---------|-----------|----------------|-----|
| 1                | 200               | 200              | 0.1        |         |           |                |     |
| 2                | 130               | 130              | 1          | X       |           |                |     |
| 3                | 130               | 129              | 1          | X       |           | X              |     |
| 4                | 130               | 130              | 1          | X       | X         |                |     |
| 5                | 130               | 130              | 1          |         |           |                | X   |
| 6                | 130               | 129              | 1          |         |           |                | X   |
| 7                | 130               | 128              | 1          |         |           |                | X   |
| 8                | 130               | 131              | 1          |         |           |                | X   |
| 9                | 100               | 100              | 3          |         |           | X              |     |
| 10               | 85                | 85               | 5          | X       |           |                |     |
| 11               | 85                | 85               | 5          | X       |           | X              |     |
| 12               | 85                | 85               | 5          | X       | X         |                |     |
| 13               | 50                | 50               | 18         |         |           | x              |     |
| 14               | 22                | 22               | 46         | X       |           |                |     |
| 15               | 22                | 22               | 46         | X       |           | X              |     |
| 16               | 22                | 22               | 46         | X       | X         |                |     |
| 17               | 11                | 13               | 68         | X       |           |                |     |
| 18               | 11                | 13               | 68         | X       |           | X              |     |
| 19               | 11                | 13               | 68         | X       | X         |                |     |
| 20               | 5                 | 5                | 82         | X       |           |                |     |
| 21               | 5                 | 5                | 82         | X       |           | X              |     |
| 22               | 5                 | 5                | 82         | X       | X         |                |     |
| 23               | 5                 | 5                | 100        | X       |           |                |     |
| 24               | 5                 | 5                | 100        | X       | X         | X              |     |

Notes: DCM = 130 m, MLD = about 90 m.

Hydraulic fluid from winch leaked on deck during/after this cast. Samples potentially compromised by the fluid.

## WP2

CTD#\_\_\_\_10\_\_\_\_ / Station#\_\_\_\_06\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth: No reading  
 Start Time: 19:08  
 Start Lat: 10 4.849 N  
 Start Lon: 170 8.195 W

Operator(s): Kuhio/Rob  
 Year Day: 008 utc  
 Finish Time: 19:59  
 Finish Lat: N 10 5.043  
 Finish Lon: W 170 8.103

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Jane tte | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|-----------------|-----|-----------|---------|
| 1                | 500               | 500              | X      | X      | X    | X               |     |           |         |
| 2                | 500               | 500              |        |        | X    |                 |     |           |         |
| 3                | 300               | 300              | X      | X      | X    | X               |     |           |         |
| 4                | 200               | 199              | X      | X      | X    | X               | X   |           |         |
| 5                | 150               | 149              | X      | X      | X    |                 |     |           |         |
| 6                | 150               | 149              |        |        |      | X               | X   |           |         |
| 7                | 150               | 148              |        |        |      |                 |     |           | X       |
| 8                | 135               | 133              | X      | X      | X    | X               | X   |           |         |
| 9                | 115               | 114              | X      | X      | X    | X               | X   |           |         |
| 10               | DCM=110           | 110              | X      | X      | X    |                 |     |           |         |
| 11               | DCM=110           | 110              |        |        |      | X               | X   | X         |         |
| 12               | DCM=110           | 110              |        |        |      |                 |     |           | X       |
| 13               | 100               | 100              | X      | X      | X    | X               | X   |           |         |
| 14               | 100               | 99               |        |        |      |                 |     | X         | X       |
| 15               | 75                | 75               | X      | X      | X    | X               | X   |           |         |
| 16               | 75                | 75               |        |        |      |                 |     | X         | X       |
| 17               | 50                | 48               | X      | X      | X    | X               | X   |           |         |
| 18               | 50                | 49               |        |        |      |                 |     | X         | X       |
| 19               | 25                | 22               | X      | X      | X    | X               | X   |           |         |
| 20               | 25                | 23               |        |        |      |                 |     | X         | X       |
| 21               | 5                 | 11               | X      | X      | X    |                 |     |           |         |
| 22               | 5                 | 10               |        |        |      | X               | X   | X         |         |
| 23               | 5                 | 10               |        |        |      |                 |     |           | X       |
| 24               | 5                 | 11               |        |        |      |                 |     |           | X       |

Notes: MLD = ~75 m

# WP2

CTD#\_\_\_\_11\_\_\_\_ / Station#\_\_\_\_06\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth: Unknown  
 Start Time: 23:15  
 Start Lat: 10 6.143 N  
 Start Lon: 170 7.287 W

Operator(s): Dan/Karen  
 Year Day: 008 utc  
 Finish Time: 23:43  
 Finish Lat: 10 6.186 N  
 Finish Lon: 170 7.218 W

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Grazing | Prim Prod | Rob (HPLC/Chl) |
|------------------|-------------------|------------------|------------|---------|-----------|----------------|
| 1                | 220               | 220              | 0.4        | X       |           |                |
| 2                | 220               | 220              | 0.4        | X       |           |                |
| 3                | 220               | 220              | 0.4        | X       |           | X              |
| 4                | 220               | 220              | 0.4        |         | X         |                |
| 5                | 156               | 156              | 2          | X       |           |                |
| 6                | 156               | 156              | 2          | X       |           |                |
| 7                | 156               | 156              | 2          | X       |           | X              |
| 8                | 156               | 156              | 2          |         | X         |                |
| 9                | 120               | 120              | 5          | X       |           |                |
| 10               | 120               | 120              | 5          | X       |           |                |
| 11               | 120               | 120              | 5          | X       |           | X              |
| 12               | 120               | 119              | 5          |         | X         |                |
| 13               | 95=DCM            | 95               | 9          |         |           | X              |
| 14               | 75                | 75               | 15         |         |           | X              |
| 15               | 45                | 45               | 32         | X       |           |                |
| 16               | 45                | 45               | 32         | X       |           |                |
| 17               | 45                | 45               | 32         | X       |           | X              |
| 18               | 45                | 45               | 32         |         | X         |                |
| 19               | 32                | 32               | 45         | X       |           |                |
| 20               | 32                | 32               | 45         | X       |           | X              |
| 21               | 32                | 32               | 45         | X       | X         |                |
| 22               | 9                 | 9                | 80         | X       |           |                |
| 23               | 9                 | 9                | 80         | X       |           | X              |
| 24               | 9                 | 9                | 80         | X       | X         |                |

Notes: DCM = 95 m, MLD = 67 m

## WP2

CTD#\_\_\_\_12\_\_\_\_ / Station#\_\_\_\_07\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth: Not known  
 Start Time: 19:05  
 Start Lat: 7 53.07' N  
 Start Lon: 172 20.311 W

Operator(s): Kuhio/Rob  
 Year Day: 009 utc  
 Finish Time: 19:  
 Finish Lat: N 7  
 Finish Lon: W 172

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Jane tte | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|-----------------|-----|-----------|---------|
| 1                | 500               | 499              | X      | X      | X    | X               |     |           |         |
| 2                | 500               | 501              |        |        | X    |                 |     |           |         |
| 3                | 300               | 300              | X      | X      | X    | X               |     |           |         |
| 4                | 200               | 200              | X      | X      | X    | X               | X   |           |         |
| 5                | 150               | 150              | X      | X      | X    |                 |     |           |         |
| 6                | 150               | 150              |        |        |      | X               | X   |           |         |
| 7                | 150               | 150              |        |        |      |                 |     |           | X       |
| 8                | 135               | 135              | X      | X      | X    | X               | X   |           |         |
| 9                | 115               | 115              | X      | X      | X    | X               | X   |           |         |
| 10               | DCM=100           | 100              | X      | X      | X    |                 |     |           |         |
| 11               | DCM=100           | 100              |        |        |      | X               | X   | X         |         |
| 12               | DCM=100           | 100              |        |        |      |                 |     |           | X       |
| 13               | 100               | 100              | X      | X      | X    | X               | X   |           |         |
| 14               | 100               | 100              |        |        |      |                 |     | X         | X       |
| 15               | 75                | 75               | X      | X      | X    | X               | X   |           |         |
| 16               | 75                | 75               |        |        |      |                 |     | X         | X       |
| 17               | 50                | 48               | X      | X      | X    | X               | X   |           |         |
| 18               | 50                | 48               |        |        |      |                 |     | X         | X       |
| 19               | 25                | 24               | X      | X      | X    | X               | X   |           |         |
| 20               | 25                | 24               |        |        |      |                 |     | X         | X       |
| 21               | 5                 | 11               | X      | X      | X    |                 |     |           |         |
| 22               | 5                 | 11               |        |        |      | X               | X   | X         |         |
| 23               | 5                 | 10               |        |        |      |                 |     |           | X       |
| 24               | 5                 | 10               |        |        |      |                 |     |           | X       |

Notes: MLD = 68 m

## WP2

CTD#\_\_\_\_13\_\_\_\_ / Station#\_\_\_\_07\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth: No data  
 Start Time: 23:15  
 Start Lat: 7 56.318 N  
 Start Lon: 172 17.004 W

Operator(s): Dan/Karen  
 Year Day: 009 utc  
 Finish Time: 23:56  
 Finish Lat: 7 56.510 N  
 Finish Lon: 172 16.963 W

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Grazing | Prim Prod | Rob (HPLC/Chl) | Allison (RNA) |
|------------------|-------------------|------------------|------------|---------|-----------|----------------|---------------|
| 1                | <b>200</b>        | 200              | --         |         |           |                | X             |
| 2                | <b>150</b>        | 150              | 1          | X       |           |                |               |
| 3                | <b>150</b>        | 150              | 1          | X       |           | X              |               |
| 4                | <b>150</b>        | 150              | 1          | X       | X         |                |               |
| 5                | <b>120</b>        | 120              | --         |         |           |                | X             |
| 6                | <b>100=DCM</b>    | 100              | -          |         |           |                | X             |
| 7                | <b>100=DCM</b>    | 100              | extra      |         |           | X              |               |
| 8                | <b>94</b>         | 94               | 6          | X       |           |                |               |
| 9                | <b>94</b>         | 94               | 6          | X       |           | X              |               |
| 10               | <b>94</b>         | 94               | 6          | X       | X         |                |               |
| 11               | <b>75</b>         | 75               | --         |         |           | X              |               |
| 12               | <b>57</b>         | 57               | 18         | X       |           |                |               |
| 13               | <b>57</b>         | 57               | 18         | X       |           | X              |               |
| 14               | <b>57</b>         | 57               | 18         | X       | X         |                |               |
| 15               | <b>46</b>         | 46               | 25         | X       |           |                |               |
| 16               | <b>46</b>         | 46               | 25         | X       |           | X              |               |
| 17               | <b>46</b>         | 46               | 25         | X       | X         |                |               |
| 18               | <b>23</b>         | 23               | 50         | X       |           |                |               |
| 19               | <b>23</b>         | 23               | 50         | X       |           | X              |               |
| 20               | <b>23</b>         | 23               | 50         | X       | X         |                |               |
| 21               | <b>10</b>         | 12               | 73         | X       |           |                |               |
| 22               | <b>10</b>         | 12               | 73         | X       |           | X              |               |
| 23               | <b>10</b>         | 12               | 73         | X       | X         |                |               |
| 24               | <b>10</b>         | 12               | 73         |         |           |                | X             |

Notes: DCM = 100 m, MLD = 72 m

## WP2

CTD#\_\_\_\_14\_\_\_\_ / Station#\_\_\_\_08\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth: Not known  
 Start Time: 19:22  
 Start Lat: 5 38.945' N  
 Start Lon: 174 32.096' W

Operator(s): Kuhio/Rob  
 Year Day: 010 utc  
 Finish Time: 20:16  
 Finish Lat: N 5 39.500  
 Finish Lon: W 174 31.355

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Jane tte | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|-----------------|-----|-----------|---------|
| 1                | 500               | 498              | X      | X      | X    | X               |     |           |         |
| 2                | 500               | 500              |        |        | X    |                 |     |           |         |
| 3                | 300               | 300              | X      | X      | X    | X               |     |           |         |
| 4                | 200               | 200              | X      | X      | X    | X               | X   |           |         |
| 5                | 150               | 150              | X      | X      | X    |                 |     |           |         |
| 6                | 150               | 150              |        |        |      | X               | X   |           |         |
| 7                | 150               | 150              |        |        |      |                 |     |           | X       |
| 8                | 135               | 135              | X      | X      | X    | X               | X   |           |         |
| 9                | DCM=120           | 119              | X      | X      | X    |                 |     |           |         |
| 10               | DCM=120           | 120              |        |        |      | X               | X   | X         |         |
| 11               | DCM=120           | 120              |        |        |      |                 |     |           | X       |
| 12               | 115               | 115              | X      | X      | X    | X               | X   |           |         |
| 13               | 100               | 100              | X      | X      | X    | X               | X   |           |         |
| 14               | 100               | 100              |        |        |      |                 |     | X         | X       |
| 15               | 75                | 75               | X      | X      | X    | X               | X   |           |         |
| 16               | 75                | 75               |        |        |      |                 |     | X         | X       |
| 17               | 50                | 48               | X      | X      | X    | X               | X   |           |         |
| 18               | 50                | 49               |        |        |      |                 |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X               | X   |           |         |
| 20               | 25                | 25               |        |        |      |                 |     | X         | X       |
| 21               | 5                 | 8                | X      | X      | X    |                 |     |           |         |
| 22               | 5                 | 8                |        |        |      | X               | X   | X         |         |
| 23               | 5                 | 10               |        |        |      |                 |     |           | X       |
| 24               | 5                 | 10               |        |        |      |                 |     |           | X       |

Notes: MLD = 105 m

## WP2

CTD#\_\_\_\_15\_\_\_\_ / Station#\_\_\_\_08\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth: No data  
 Start Time: 23:20  
 Start Lat: 5 41.269' N  
 Start Lon: 174 27.876' W

Operator(s): Dan/Karen  
 Year Day: 010 utc  
 Finish Time: 23:58  
 Finish Lat: 5 41.362 N  
 Finish Lon: 174 28.026' W

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Grazing | Prim Prod | Rob (HPLC/Chl) | Alison (RNA) |
|------------------|-------------------|------------------|------------|---------|-----------|----------------|--------------|
| 1                | <b>200</b>        | 200              |            |         |           |                | X            |
| 2                | <b>164</b>        | 164              | 1          | X-6     |           |                |              |
| 3                | <b>164</b>        | 164              | 1          | X       |           | Chl/HPLC #6    |              |
| 4                | <b>164</b>        | 164              | 1          | X       | X         |                |              |
| 5                | <b>130</b>        | 130              |            |         |           | Chl/HPLC #7    |              |
| 6                | <b>DCM=115</b>    | 115              |            |         |           |                | X            |
| 7                | <b>DCM=115</b>    | 115              |            |         |           | Chl/HPLC #8    |              |
| 8                | <b>100</b>        | 100              | 6          | X-5     |           |                |              |
| 9                | <b>100</b>        | 99               | 6          | X       |           | Chl/HPLC #5    |              |
| 10               | <b>100</b>        | 99               | 6          | X       | X         |                |              |
| 11               | <b>61</b>         | 61               | 18         | X-4     |           |                |              |
| 12               | <b>61</b>         | 62               | 18         | X       |           | Chl/HPLC #4    |              |
| 13               | <b>61</b>         | 61               | 18         | X       | X         |                |              |
| 14               | <b>50</b>         | 50               | 25         | X-3N    |           |                |              |
| 15               | <b>50</b>         | 50               | 25         | X       |           |                |              |
| 16               | <b>50</b>         | 50               | 25         | X       |           | Chl/HPLC #3    |              |
| 17               | <b>50</b>         | 50               | 25         | X       | X         |                |              |
| 18               | <b>25</b>         | 25               | 50         | X-2     |           |                |              |
| 19               | <b>25</b>         | 26               | 50         | X       |           | Chl/HPLC #2    |              |
| 20               | <b>25</b>         | 25               | 50         | X       | X         |                |              |
| 21               | <b>11</b>         | 11               | 73         | X-1     |           |                |              |
| 22               | <b>11</b>         | 12               | 73         | X       |           | Chl/HPLC #1    |              |
| 23               | <b>11</b>         | 12               | 73         | X       | X         |                |              |
| 24               | <b>10</b>         | 10               |            |         |           |                | X            |

Notes: DCM = 115 m, MLD = 102 m. 130 m = salinity max

## WP2

CTD#\_\_\_\_16\_\_\_\_ / Station#\_\_\_\_09\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth: Not known  
 Start Time: 19:05  
 Start Lat: 3 14.207 N  
 Start Lon: 176 53.015 W

Operator(s): Kuhio/Rob  
 Year Day: 011 utc  
 Finish Time: 20:06  
 Finish Lat: N 3 14.829  
 Finish Lon: W 176 52.575

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Jane tte | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|-----------------|-----|-----------|---------|
| 1                | 500               | 501              | X      | X      | X    | X               |     |           |         |
| 2                | 500               | 509              |        |        | X    |                 |     |           |         |
| 3                | 300               | 299              | X      | X      | X    | X               |     |           |         |
| 4                | 200               | 200              | X      | X      | X    | X               | X   |           |         |
| 5                | 150               | 150              | X      | X      | X    |                 |     |           |         |
| 6                | 150               | 151              |        |        |      | X               | X   |           |         |
| 7                | 150               | 150              |        |        |      |                 |     |           | X       |
| 8                | 135               | 136              | X      | X      | X    | X               | X   |           |         |
| 9                | 115               | 113              | X      | X      | X    | X               | X   |           |         |
| 10               | 100               | 100              | X      | X      | X    | X               | X   |           |         |
| 11               | 100               | 100              |        |        |      |                 |     | X         | X       |
| 12               | DCM=85            | 82               | X      | X      | X    |                 |     |           |         |
| 13               | DCM=85            | 84               |        |        |      | X               | X   | X         |         |
| 14               | DCM=85            | 83               |        |        |      |                 |     |           | X       |
| 15               | 75                | 74               | X      | X      | X    | X               | X   |           |         |
| 16               | 75                | 74               |        |        |      |                 |     | X         | X       |
| 17               | 50                | 50               | X      | X      | X    | X               | X   |           |         |
| 18               | 50                | 50               |        |        |      |                 |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X               | X   |           |         |
| 20               | 25                | 25               |        |        |      |                 |     | X         | X       |
| 21               | 5                 | 9                | X      | X      | X    |                 |     |           |         |
| 22               | 5                 | 6                |        |        |      | X               | X   | X         |         |
| 23               | 5                 | 6                |        |        |      |                 |     |           | X       |
| 24               | 5                 | 6                |        |        |      |                 |     |           | X       |

Notes: MLD = 60 m



## WP2

CTD#\_\_\_\_17\_\_\_\_ / Station#\_\_\_\_09\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth: No data  
 Start Time: 23:21  
 Start Lat: 3 15.916 N  
 Start Lon: 176 51.523 W

Operator(s): Dan/Karen  
 Year Day: 011 utc  
 Finish Time: 23:55  
 Finish Lat: 3 16.047'N  
 Finish Lon: 176 51.202' W

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Grazing | Prim Prod | Rob (HPLC/Chl) | Alison (RNA) |
|------------------|-------------------|------------------|------------|---------|-----------|----------------|--------------|
| 1                | 200               | 200              |            | X-6     |           |                |              |
| 2                | 200               | 200              | 1          | X       |           | Chl/HPLC #6    |              |
| 3                | 200               | 200              | 1          | X       | X         |                |              |
| 4                | 200               | 200              | 1          |         |           |                | X            |
| 5                | 150               | 150              |            |         |           | Chl/HPLC #8    |              |
| 6                | 122               | 122              | 6          | X-5     |           |                |              |
| 7                | 122               | 122              | 6          | X       |           | Chl/HPLC #5    |              |
| 8                | 122               | 122              | 6          | X       | X         |                |              |
| 9                | 100               | 100              |            |         |           | Chl/HPLC #7    |              |
| 10               | DCM=75            | 75               | 18         | X-4     |           |                |              |
| 11               | DCM=75            | 75               | 18         | X       |           | Chl/HPLC #4    |              |
| 12               | DCM=75            | 75               | 18         | X       | X         |                |              |
| 13               | DCM=75            | 75               |            |         |           |                | X            |
| 14               | 60                | 60               | 25         | X-3N    |           |                |              |
| 15               | 60                | 60               | 25         | X       |           |                |              |
| 16               | 60                | 60               | 25         | X       |           | Chl/HPLC #3    |              |
| 17               | 60                | 60               | 25         | X       | X         |                |              |
| 18               | 30                | 30               | 50         | X-2     |           |                |              |
| 19               | 30                | 30               | 50         | X       |           | Chl/HPLC #2    |              |
| 20               | 30                | 30               | 50         | X       | X         |                |              |
| 21               | 14                | 14               | 73         | X-1     |           |                |              |
| 22               | 14                | 14               | 73         | X       |           | Chl/HPLC #1    |              |
| 23               | 14                | 14               | 73         | X       | X         |                |              |
| 24               | 14                | 14               |            |         |           |                | X            |

Notes: DCM = 75 m, MLD (based mainly on temperature) = ~100 m (but first break in density at ~40 m because of increase in salinity)

# WP2

CTD#\_\_\_\_18\_\_\_\_ / Station#\_\_\_\_10\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth: Not known  
 Start Time: 20:10  
 Start Lat: 0 21.920 N  
 Start Lon: 179 38.638 W

Operator(s): Kuhio/Rob  
 Year Day: 012 utc  
 Finish Time: 21:13  
 Finish Lat: N 22.443  
 Finish Lon: W 179 38.358

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Janette | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|----------------|-----|-----------|---------|
| 1                | 500               | 499              | X      | X      | X    | X              |     |           |         |
| 2                | 500               | 500              |        |        | X    |                |     |           |         |
| 3                | 500               | 500              | X      | X      | X    | X              |     |           |         |
| 4                | 300               | 300              | X      | X      | X    | X              |     |           |         |
| 5                | 200               | 200              | X      | X      | X    | X              | X   |           |         |
| 6                | 150               | 150              | X      | X      | X    | X              | X   |           |         |
| 7                | 150               | 150              |        |        |      |                |     |           | X       |
| 8                | 135               | 136              | X      | X      | X    | X              | X   |           |         |
| 9                | 115               | 115              | X      | X      | X    | X              | X   |           |         |
| 10               | 100               | 100              | X      | X      | X    | X              | X   |           |         |
| 11               | 100               | 100              |        |        |      |                |     | X         | X       |
| 12               | 75                | 75               | X      | X      | X    | X              | X   |           |         |
| 13               | 75                | 75               |        |        |      |                |     | X         | X       |
| 14               | DCM=70            | 70               | X      | X      | X    |                |     |           |         |
| 15               | DCM=70            | 70               |        |        |      | X              | X   | X         |         |
| 16               | DCM=70            | 70               |        |        |      |                |     |           | X       |
| 17               | 50                | 48               | X      | X      | X    | X              | X   |           |         |
| 18               | 50                | 50               |        |        |      |                |     | X         | X       |
| 19               | 25                | 26               | X      | X      | X    | X              | X   |           |         |
| 20               | 25                | 25               |        |        |      |                |     | X         | X       |
| 21               | 5                 | 7                | X      | X      | X    |                |     |           |         |
| 22               | 5                 | 7                |        |        |      | X              | X   | X         |         |
| 23               | 5                 | 7                |        |        |      |                |     |           | X       |
| 24               | 5                 | 5                |        |        |      |                |     |           | X       |

Notes: MLD = 56m

## WP2

CTD#\_\_\_\_19\_\_\_\_ / Station#\_\_\_\_10\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth: No data  
 Start Time: 00:08  
 Start Lat: 0 23.472N  
 Start Lon: 179 38.170W

Operator(s): Dan/Karen  
 Year Day: 013 utc  
 Finish Time: 00:45  
 Finish Lat: 0 23.577 N  
 Finish Lon: 179 38.011 W

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Rob (HPLC/Chl) | Grazing | Prim Prod | Alison (RNA) |
|------------------|-------------------|------------------|------------|----------------|---------|-----------|--------------|
| 1                | 200               | 200              |            |                |         |           | X            |
| 2                | 150               | 150              |            | Chl/HPLC #8    |         |           |              |
| 3                | 105               | 105              | 1          |                | X-6     |           |              |
| 4                | 105               | 105              | 1          | Chl/HPLC #6    | X       |           |              |
| 5                | 105               | 105              | 1          |                | X       | X         |              |
| 6                | 70=dcn            | 70               |            |                |         |           | X            |
| 7                | 70=dcn            | 69               |            | Chl/HPLC #7    |         |           |              |
| 8                | 64                | 64               | 6          |                | X-5     |           |              |
| 9                | 64                | 64               | 6          | Chl/HPLC #5    | X       |           |              |
| 10               | 64                | 64               | 6          |                | X       | X         |              |
| 11               | 39                | 39               | 18         |                | X-4     |           |              |
| 12               | 39                | 39               | 18         | Chl/HPLC #4    | X       |           |              |
| 13               | 39                | 39               | 18         |                | X       | X         |              |
| 14               | 32                | 32               | 25         |                | X-3N    |           |              |
| 15               | 32                | 32               | 25         |                | X       |           |              |
| 16               | 32                | 32               | 25         | Chl/HPLC #3    | X       |           |              |
| 17               | 32                | 32               | 25         |                | X       | X         |              |
| 18               | 16                | 16               | 50         |                | X-2     |           |              |
| 19               | 16                | 16               | 50         | Chl/HPLC #2    | X       |           |              |
| 20               | 16                | 16               | 50         |                | X       | X         |              |
| 21               | 7                 | 9                | 73         |                | X-1     |           |              |
| 22               | 7                 | 9                | 73         | Chl/HPLC #1    | X       |           |              |
| 23               | 7                 | 9                | 73         |                | X       | X         |              |
| 24               | 7                 | 9                |            |                |         |           | X            |

Notes: MLD = ~70 m

## WP2

CTD#\_\_\_\_20\_\_\_\_ / Station#\_\_\_\_11\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth: Not known  
 Start Time: 20:01  
 Start Lat: 2 18.042 S  
 Start Lon: 177 26.220 E

Operator(s): Kuhio/Rob  
 Year Day: 013 UTC  
 Finish Time: 21:00  
 Finish Lat: S 2 18.096  
 Finish Lon: E 177 25.123

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Jane tte | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|-----------------|-----|-----------|---------|
| 1                | 500               | 500              | X      | X      | X    | X               |     |           |         |
| 2                | 500               | 502              |        |        | X    |                 |     |           |         |
| 3                | 300               | 300              | X      | X      | X    | X               |     |           |         |
| 4                | 200               | 200              | X      | X      | X    | X               | X   |           |         |
| 5                | 150               | 150              | X      | X      | X    |                 |     |           |         |
| 6                | 150               | 159              |        |        |      | X               | X   |           |         |
| 7                | 150               | 150              |        |        |      |                 |     |           | X       |
| 8                | 135               | 136              | X      | X      | X    | X               | X   |           |         |
| 9                | 115               | 115              | X      | X      | X    | X               | X   |           |         |
| 10               | 100               | 100              | X      | X      | X    | X               | X   |           |         |
| 11               | 100               | 99               |        |        |      |                 |     | X         | X       |
| 12               | DCM=95            | 94               | X      | X      | X    |                 |     |           |         |
| 13               | DCM=95            | 93               |        |        |      | X               | X   | X         |         |
| 14               | DCM=95            | 94               |        |        |      |                 |     |           | X       |
| 15               | 75                | 76               | X      | X      | X    | X               | X   |           |         |
| 16               | 75                | 75               |        |        |      |                 |     | X         | X       |
| 17               | 50                | 50               | X      | X      | X    | X               | X   |           |         |
| 18               | 50                | 50               |        |        |      |                 |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X               | X   |           |         |
| 20               | 25                | 25               |        |        |      |                 |     | X         | X       |
| 21               | 5                 | 9                | X      | X      | X    |                 |     |           |         |
| 22               | 5                 | 10               |        |        |      | X               | X   | X         |         |
| 23               | 5                 | 8                |        |        |      |                 |     |           | X       |
| 24               | 5                 | 10               |        |        |      |                 |     |           | X       |

Notes: MLD = ~60

## WP2

CTD#\_\_\_\_21\_\_\_\_ / Station#\_\_\_\_11\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth: No data  
 Start Time: 00:11  
 Start Lat: 2 18.757S  
 Start Lon: 177 20.561E

Operator(s): Dan/Karen  
 Year Day: 014 utc  
 Finish Time: 00:45  
 Finish Lat: 2 18.946 S  
 Finish Lon: 177 20.177 E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Grazing | Prim Prod | Rob (HPLC/Chl) | Alison (RNA) |
|------------------|-------------------|------------------|------------|---------|-----------|----------------|--------------|
| 1                | <b>200</b>        | 200              |            |         |           |                | X            |
| 2                | <b>154</b>        | 154              | 1          | X-6     |           |                |              |
| 3                | <b>154</b>        | 154              | 1          | X       |           | Chl/HPLC #6    |              |
| 4                | <b>154</b>        | 154              | 1          | X       | X         |                |              |
| 5                | <b>125</b>        | 125              |            |         |           | Chl/HPLC #8    |              |
| 6                | <b>DCM=94</b>     | 94               | 6          | X-5     |           |                |              |
| 7                | <b>DCM=94</b>     | 94               | 6          | X       |           | Chl/HPLC #5    |              |
| 8                | <b>DCM=94</b>     | 94               | 6          | X       | X         |                |              |
| 9                | <b>DCM=94</b>     | 94               |            |         |           |                | X            |
| 10               | <b>75</b>         | 75               |            |         |           | Chl/HPLC #7    |              |
| 11               | <b>57</b>         | 57               | 18         | X-4     |           |                |              |
| 12               | <b>57</b>         | 57               | 18         | X       |           | Chl/HPLC #4    |              |
| 13               | <b>57</b>         | 57               | 18         | X       | X         |                |              |
| 14               | <b>46</b>         | 46               | 25         | X-3N    |           |                |              |
| 15               | <b>46</b>         | 46               | 25         | X       |           |                |              |
| 16               | <b>46</b>         | 46               | 25         | X       |           | Chl/HPLC #3    |              |
| 17               | <b>46</b>         | 46               | 25         | X       | X         |                |              |
| 18               | <b>23</b>         | 23               | 50         | X-2     |           |                |              |
| 19               | <b>23</b>         | 23               | 50         | X       |           | Chl/HPLC #2    |              |
| 20               | <b>23</b>         | 23               | 50         | X       | X         |                |              |
| 21               | <b>10</b>         | 11               | 73         | X-1     |           |                |              |
| 22               | <b>10</b>         | 10               | 73         | X       |           | Chl/HPLC #1    |              |
| 23               | <b>10</b>         | 10               | 73         | X       | X         |                |              |
| 24               | <b>10</b>         | 10               |            |         |           |                | X            |

Notes: MLD ~64 m

# WP2

CTD#\_\_\_\_22\_\_\_\_ / Station#\_\_\_\_12\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth 5245m  
 Start Time: 20:01  
 Start Lat: 4 43.256' S  
 Start Lon: 174 44.068' E

Operator(s): Kuhio/Rob  
 Year Day: 014 UTC  
 Finish Time: 21:01  
 Finish Lat: S 4 43.359  
 Finish Lon: E 174 43.766

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Jane tte | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|-----------------|-----|-----------|---------|
| 1                | 500               | 500              | X      | X      | X    | X               |     |           |         |
| 2                | 500               | 500              |        |        | X    |                 |     |           |         |
| 3                | 300               | 298              | X      | X      | X    | X               |     |           |         |
| 4                | 200               | 200              | X      | X      | X    | X               | X   |           |         |
| 5                | 150               | 149              | X      | X      | X    |                 |     |           |         |
| 6                | 150               | 149              |        |        |      | X               | X   |           |         |
| 7                | 150               | 149              |        |        |      |                 |     |           | X       |
| 8                | 135               | 135              | X      | X      | X    | X               | X   |           |         |
| 9                | 115               | 114              | X      | X      | X    | X               | X   |           |         |
| 10               | 100               | 100              | X      | X      | X    | X               | X   |           |         |
| 11               | 100               | 100              |        |        |      |                 |     | X         | X       |
| 12               | DCM=100           | 99               | X      | X      | X    |                 |     |           |         |
| 13               | DCM=100           | 100              |        |        |      | X               | X   | X         |         |
| 14               | DCM=100           | 100              |        |        |      |                 |     |           | X       |
| 15               | 75                | 75               | X      | X      | X    | X               | X   |           |         |
| 16               | 75                | 75               |        |        |      |                 |     | X         | X       |
| 17               | 50                | 50               | X      | X      | X    | X               | X   |           |         |
| 18               | 50                | 50               |        |        |      |                 |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X               | X   |           |         |
| 20               | 25                | 25               |        |        |      |                 |     | X         | X       |
| 21               | 5                 | 8                | X      | X      | X    |                 |     |           |         |
| 22               | 5                 | 8                |        |        |      | X               | X   | X         |         |
| 23               | 5                 | 8                |        |        |      |                 |     |           | X       |
| 24               | 5                 | 7                |        |        |      |                 |     |           | X       |

Notes: MLD = ~50

## WP2

CTD#\_\_\_\_23\_\_\_\_ / Station#\_\_\_\_12\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth 5250  
 Start Time: 00:13  
 Start Lat: 4 43.568S  
 Start Lon: 174 42.006E

Operator(s): Dan/Karen  
 Year Day: 015 UTC  
 Finish Time: 00:43  
 Finish Lat: 4 43.559 S  
 Finish Lon: 174 41.768 E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Rob (HPLC/Chl) | Grazing | Prim Prod | Alison (RNA) |
|------------------|-------------------|------------------|------------|----------------|---------|-----------|--------------|
| 1                | <b>200</b>        | 200              |            |                |         |           | X            |
| 2                | <b>140</b>        | 140              | 1          |                | X-6     |           |              |
| 3                | <b>140</b>        | 140              | 1          | Chl/HPLC #6    | X       |           |              |
| 4                | <b>140</b>        | 140              | 1          |                | X       | X         |              |
| 5                | <b>125</b>        | 125              |            | Chl/HPLC #8    |         |           |              |
| 6                | <b>DCM=110</b>    | 110              |            |                |         |           | X            |
| 7                | <b>DCM=110</b>    | 110              |            | Chl/HPLC #7    |         |           |              |
| 8                | <b>85</b>         | 85               | 6          |                | X-5     |           |              |
| 9                | <b>85</b>         | 85               | 6          | Chl/HPLC #5    | X       |           |              |
| 10               | <b>85</b>         | 85               | 6          |                | X       | X         |              |
| 11               | <b>52</b>         | 52               | 18         |                | X-4     |           |              |
| 12               | <b>52</b>         | 52               | 18         | Chl/HPLC #4    | X       |           |              |
| 13               | <b>52</b>         | 52               | 18         |                | X       | X         |              |
| 14               | <b>42</b>         | 42               | 25         |                | X-3N    |           |              |
| 15               | <b>42</b>         | 42               | 25         |                | X       |           |              |
| 16               | <b>42</b>         | 42               | 25         | Chl/HPLC #3    | X       |           |              |
| 17               | <b>42</b>         | 42               | 25         |                | X       | X         |              |
| 18               | <b>21</b>         | 21               | 50         |                | X-2     |           |              |
| 19               | <b>21</b>         | 21               | 50         | Chl/HPLC #2    | X       |           |              |
| 20               | <b>21</b>         | 21               | 50         |                | X       | X         |              |
| 21               | <b>10</b>         | 10               | 73         |                | X-1     |           |              |
| 22               | <b>10</b>         | 10               | 73         | Chl/HPLC #1    | X       |           |              |
| 23               | <b>10</b>         | 10               | 73         |                | X       | X         |              |
| 24               | <b>10</b>         | 10               |            |                |         |           | X            |

Notes: MLD ~50 m

## WP2

CTD#\_\_\_\_24\_\_\_\_ / Station#\_\_\_\_13\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth 5397 m  
 Start Time: 20:15  
 Start Lat: 7 4.173 S  
 Start Lon: 172 18.311 E

Operator(s): Kuhio/Rob  
 Year Day: 015 UTC  
 Finish Time: 21:07  
 Finish Lat: 7 4.184  
 Finish Lon: E 172 18.170

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Jane tte | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|-----------------|-----|-----------|---------|
| 1                | 500               | 500              | X      | X      | X    | X               |     |           |         |
| 2                | 500               | 500              |        |        | X    |                 |     |           |         |
| 3                | 300               | 300              | X      | X      | X    | X               |     |           |         |
| 4                | 200               | 200              | X      | X      | X    | X               | X   |           |         |
| 5                | 150               | 151              | X      | X      | X    |                 |     |           |         |
| 6                | 150               | 150              |        |        |      | X               | X   |           |         |
| 7                | 150               | 150              |        |        |      |                 |     |           | X       |
| 8                | 135               | 134              | X      | X      | X    | X               | X   |           |         |
| 9                | 115               | 115              | X      | X      | X    | X               | X   |           |         |
| 10               | 100               | 100              | X      | X      | X    | X               | X   |           |         |
| 11               | 100               | 100              |        |        |      |                 |     | X         | X       |
| 12               | DCM=100           | 100              | X      | X      | X    |                 |     |           |         |
| 13               | DCM=100           | 100              |        |        |      | X               | X   | X         |         |
| 14               | DCM=100           | 101              |        |        |      |                 |     |           | X       |
| 15               | 75                | 75               | X      | X      | X    | X               | X   |           |         |
| 16               | 75                | 75               |        |        |      |                 |     | X         | X       |
| 17               | 50                | 50               | X      | X      | X    | X               | X   |           |         |
| 18               | 50                | 50               |        |        |      |                 |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X               | X   |           |         |
| 20               | 25                | 25               |        |        |      |                 |     | X         | X       |
| 21               | 5                 | 9                | X      | X      | X    |                 |     |           |         |
| 22               | 5                 | 9                |        |        |      | X               | X   | X         |         |
| 23               | 5                 | 9                |        |        |      |                 |     |           | X       |
| 24               | 5                 | 9                |        |        |      |                 |     |           | X       |

Notes: MLD = ~35



## WP2

CTD#\_\_\_\_27\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth 4598 m  
 Start Time: 00:20  
 Start Lat: 9 14.582 S  
 Start Lon: 169 57.645 E

Operator(s): Dan/Karen  
 Year Day: 017 UTC  
 Finish Time: 01:00  
 Finish Lat: 9 14.622' S  
 Finish Lon: 169 57.462' E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Rob (HPLC/Chl) | Grazing | Prim Prod | Alison (RNA) |
|------------------|-------------------|------------------|------------|----------------|---------|-----------|--------------|
| 1                | <b>200</b>        | 200              |            |                |         |           | X            |
| 2                | <b>150</b>        | 150              |            | Chl/HPLC #8    |         |           |              |
| 3                | <b>92</b>         | 92               | 1          | Chl/HPLC #6    |         |           |              |
| 4                | <b>92</b>         | 92               | 1          |                |         | X         |              |
| 5                | <b>DCM=70</b>     | 70               |            |                |         |           | X            |
| 6                | <b>DCM=70</b>     | 70               |            | Chl/HPLC #7    |         |           |              |
| 7                | <b>56</b>         | 56               | 6          |                | X-5     |           |              |
| 8                | <b>56</b>         | 56               | 6          |                | X       |           |              |
| 9                | <b>56</b>         | 56               | 6          |                | X       |           |              |
| 10               | <b>56</b>         | 56               | 6          | Chl/HPLC #5    | X       |           |              |
| 11               | <b>56</b>         | 56               | 6          |                |         | X         |              |
| 12               | <b>34</b>         | 34               | 18         | Chl/HPLC #4    |         |           |              |
| 13               | <b>34</b>         | 34               | 18         |                |         | X         |              |
| 14               | <b>28</b>         | 28               | 25         |                | X-3N    |           |              |
| 15               | <b>28</b>         | 28               | 25         |                | X       |           |              |
| 16               | <b>28</b>         | 28               | 25         |                | X       |           |              |
| 17               | <b>28</b>         | 28               | 25         | Chl/HPLC #3    | X       |           |              |
| 18               | <b>28</b>         | 28               | 25         |                |         | X         |              |
| 19               | <b>14</b>         | 14               | 50         | Chl/HPLC #2    |         |           |              |
| 20               | <b>14</b>         | 14               | 50         |                |         | X         |              |
| 21               | <b>6</b>          | 6                | 73         | Chl/HPLC #1    |         |           |              |
| 22               | <b>6</b>          | 6                | 73         |                |         | X         |              |
| 23               | <b>6</b>          | 6                |            |                |         |           |              |
| 24               | <b>6</b>          | 6                |            |                |         |           | X            |

Notes: Pirate drill in the middle of the cast. MLD = ~40 m, extra mark made on deeper bottles somewhere

## WP2

CTD#\_\_\_\_26\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth 4630 m  
 Start Time: 20:01  
 Start Lat: 9 15.017' S  
 Start Lon: 169 59.977' E

Operator(s): Kuhio/Rob  
 Year Day: 016 UTC  
 Finish Time: 21:05  
 Finish Lat: S 9 14.988  
 Finish Lon: E 169 59.993

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Jane tte | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|-----------------|-----|-----------|---------|
| 1                | 500               | 500              | X      | X      | X    | X               |     |           |         |
| 2                | 500               | 500              |        |        | X    |                 |     |           |         |
| 3                | 300               | 299              | X      | X      | X    | X               |     |           |         |
| 4                | 200               | 200              | X      | X      | X    | X               | X   |           |         |
| 5                | 150               | 150              | X      | X      | X    |                 |     |           |         |
| 6                | 150               | 149              |        |        |      | X               | X   |           |         |
| 7                | 150               | 150              |        |        |      |                 |     |           | X       |
| 8                | 135               | 135              | X      | X      | X    | X               | X   |           |         |
| 9                | 115               | 115              | X      | X      | X    | X               | X   |           |         |
| 10               | 100               | 100              | X      | X      | X    | X               | X   |           |         |
| 11               | 100               | 100              |        |        |      |                 |     | X         | X       |
| 12               | 75                | 75               | X      | X      | X    | X               | X   |           |         |
| 13               | 75                | 75               |        |        |      |                 |     | X         | X       |
| 14               | DCM=70            | 70               | X      | X      | X    |                 |     |           |         |
| 15               | DCM=70            | 70               |        |        |      | X               | X   | X         |         |
| 16               | DCM=70            | 70               |        |        |      |                 |     |           | X       |
| 17               | 50                | 49               | X      | X      | X    | X               | X   |           |         |
| 18               | 50                | 49               |        |        |      |                 |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X               | X   |           |         |
| 20               | 25                | 25               |        |        |      |                 |     | X         | X       |
| 21               | 5                 | 9                | X      | X      | X    |                 |     |           |         |
| 22               | 5                 | 9                |        |        |      | X               | X   | X         |         |
| 23               | 5                 | 8                |        |        |      |                 |     |           | X       |
| 24               | 5                 | 8                |        |        |      |                 |     |           | X       |

Notes: MLD = ~30 m

## WP2

CTD#\_\_\_\_35\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_10\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4631 m  
 Start Time: 04:00  
 Start Lat: 9 15.033 S  
 Start Lon: 169 59.991 E

Operator(s): Karen/Dan  
 Year Day: 018 UTC  
 Finish Time: 04:26  
 Finish Lat: 9 15.011' S  
 Finish Lon: 170 0.015' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC | Anna/ VPL | Big STf | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod | AB |
|----------|-------------------|------------------|-----|----------|-----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.1 |          |           |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.1 |          |           |         |            |           | X           | X         |    |
| 3        | 92                | 92               | 1   |          | X         |         |            |           |             |           |    |
| 4        | 92                | 92               | 1   | X        |           |         |            |           |             |           |    |
| 5        | 92                | 92               | 1   |          |           |         |            | X         |             |           |    |
| 6        | 70                | 70               | 3   |          |           |         |            |           | X           | X         |    |
| 7        | 70                | 70               | 3   |          |           |         |            |           |             |           | X  |
| 8        | 56                | 56               | 6   |          | X         | X       |            |           |             |           |    |
| 9        | 56                | 56               | 6   |          |           |         | X          |           |             |           |    |
| 10       | 56                | 56               | 6   | x-Ap     |           |         |            |           | X           |           |    |
| 11       | 56                | 56               | 6   |          |           |         |            | X         |             |           |    |
| 12       | 34                | 34               | 18  |          | X         |         |            |           |             |           |    |
| 13       | 34                | 34               | 18  | X        |           |         |            |           |             |           |    |
| 14       | 34                | 34               | 18  |          |           |         |            | X         |             | X         |    |
| 15       | 28                | 28               | 25  |          | X         | X       | X          |           |             |           |    |
| 16       | 28                | 28               | 25  | X-Ap     |           |         |            |           |             |           |    |
| 17       | 28                | 28               | 25  |          |           |         |            | X         | X           | X         |    |
| 18       | 14                | 14               | 50  |          | X         |         |            |           |             |           |    |
| 19       | 14                | 14               | 50  | X        |           |         |            |           |             |           |    |
| 20       | 14                | 14               | 50  |          |           |         |            | X         |             |           |    |
| 21       | 6                 | 6                | 73  |          | X         | X       |            |           |             |           |    |
| 22       | 6                 | 6                | 73  | X-Ap     |           |         |            |           |             |           |    |
| 23       | 6                 | 6                | 73  |          |           |         |            | X         | X           | X         |    |
| 24       | 6                 | 6                | 73  |          |           |         |            |           |             |           | X  |

Notes: MLD ~ 35 m, DCM ~60 m

## WP2

CTD#\_\_\_\_36\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_11\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4640 m  
 Start Time: 06:00  
 Start Lat: 9 15.002' S  
 Start Lon: 170 0.001' E

Operator(s): Karen/Dan  
 Year Day: 018 UTC  
 Finish Time: 06:27  
 Finish Lat: 9 14.999 S  
 Finish Lon: 170 0.010 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | AH |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.1 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.1 |      |          |         |            |           | X           | X         |    |
| 3        | 92                | 92               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 92                | 92               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 70                | 70               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 70                | 70               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 56                | 56               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 56                | 56               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 56                | 56               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 56                | 56               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 34                | 34               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 34                | 34               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 28                | 28               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 28                | 28               | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 28                | 28               | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 28                | 28               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 14                | 14               | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 14                | 14               | 50  |      |          |         |            |           |             |           |    |
| 19       | 14                | 14               | 50  |      |          |         |            | X         |             |           |    |
| 20       | 6                 | 7                | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 6                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 6                | 73  |      |          |         |            |           |             |           |    |
| 23       | 6                 | 6                | 73  |      |          |         |            | X         | X           | X         |    |
| 24       | 6                 | 6                | 73  |      |          |         |            |           |             |           | X  |

Notes: DCM = ~70 m, MLD ~40 m

## WP2

CTD#\_\_\_\_37\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_12\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4635 m  
 Start Time: 08:00  
 Start Lat: 9 14.999 S  
 Start Lon: 170 0.005 E

Operator(s): Karen/Dan  
 Year Day: 018 UTC  
 Finish Time: 08:18  
 Finish Lat: 9 14.965'S  
 Finish Lon: 170 0.039' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC | Anna/ VPL | Big STf | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod | AB |
|----------|-------------------|------------------|-----|----------|-----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.1 |          |           |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.1 |          |           |         |            |           | X           | X         |    |
| 3        | 92                | 92               | 1   |          | X         |         |            |           |             |           |    |
| 4        | 92                | 92               | 1   | X        |           |         |            |           |             |           |    |
| 5        | 92                | 92               | 1   |          |           |         |            | X         |             |           |    |
| 6        | 70                | 70               | 3   |          |           |         |            |           | X           | X         |    |
| 7        | 70                | 70               | 3   |          |           |         |            |           |             |           | X  |
| 8        | 56                | 56               | 6   |          | X         | X       |            |           |             |           |    |
| 9        | 56                | 56               | 6   |          |           |         | X          |           |             |           |    |
| 10       | 56                | 56               | 6   | x-Ap     |           |         |            |           | X           |           |    |
| 11       | 56                | 56               | 6   |          |           |         |            | X         |             |           |    |
| 12       | 34                | 34               | 18  |          | X         |         |            |           |             |           |    |
| 13       | 34                | 34               | 18  | X        |           |         |            |           |             |           |    |
| 14       | 34                | 34               | 18  |          |           |         |            | X         |             | X         |    |
| 15       | 28                | 28               | 25  |          | X         | X       | X          |           |             |           |    |
| 16       | 28                | 28               | 25  | X-Ap     |           |         |            |           |             |           |    |
| 17       | 28                | 28               | 25  |          |           |         |            | X         | X           | X         |    |
| 18       | 14                | 14               | 50  |          | X         |         |            |           |             |           |    |
| 19       | 14                | 14               | 50  | X        |           |         |            |           |             |           |    |
| 20       | 14                | 14               | 50  |          |           |         |            | X         |             |           |    |
| 21       | 6                 | 7                | 73  |          | X         | X       |            |           |             |           |    |
| 22       | 6                 | 8                | 73  | X-Ap     |           |         |            |           |             |           |    |
| 23       | 6                 | 8                | 73  |          |           |         |            | X         | X           | X         |    |
| 24       | 6                 | 8                | 73  |          |           |         |            |           |             |           | X  |

Notes: MLD ~38 m, DCM ~70 m

Bottle 11 did not close

## WP2

CTD# \_\_\_\_38\_\_\_\_ / Station# \_\_\_\_14\_\_\_\_ / Cast# \_\_\_\_13\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4635 m  
 Start Time: 10:00  
 Start Lat: 9 15.005' S  
 Start Lon: 169 59.997' E

Operator(s): Karen/Dan  
 Year Day: 018 UTC  
 Finish Time: 10:20  
 Finish Lat: 9 15.021 S  
 Finish Lon: 170 0.001' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | AH |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.1 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.1 |      |          |         |            |           | X           | X         |    |
| 3        | 92                | 92               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 92                | 92               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 70                | 70               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 70                | 70               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 56                | 56               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 56                | 56               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 56                | 56               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 56                | 56               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 34                | 34               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 34                | 34               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 28                | 28               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 28                | 28               | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 28                | 28               | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 28                | 28               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 14                | 14               | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 14                | 14               | 50  |      |          |         |            |           |             |           |    |
| 19       | 14                | 14               | 50  |      |          |         |            | X         |             |           |    |
| 20       | 6                 | 6.9              | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 6                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 6                | 73  |      |          |         |            |           |             |           |    |
| 23       | 6                 | 6                | 73  |      |          |         |            | X         | X           | X         |    |
| 24       | 6                 | 6                | 73  |      |          |         |            |           |             |           | X  |

Notes: MLD ~40 m, DCM ~70 m

## WP2

CTD#\_\_\_\_39\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_14\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4642 m  
 Start Time: 12:00  
 Start Lat: 9 14.991 S  
 Start Lon: 169 59.978 E

Operator(s): Kuhio/Karen  
 Year Day: 018 UTC  
 Finish Time: 12:23  
 Finish Lat: 9 14.970 S  
 Finish Lon: 169 59.865 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC    | Anna/ VPL | Big STf  | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod | AB       |
|----------|-------------------|------------------|-----|-------------|-----------|----------|------------|-----------|-------------|-----------|----------|
| 1        | 150               | 150              | 0.1 |             |           |          |            |           |             |           | <b>X</b> |
| 2        | 150               | 150              | 0.1 |             |           |          |            |           | <b>X</b>    | <b>X</b>  |          |
| 3        | 92                | 92               | 1   |             | <b>X</b>  |          |            |           |             |           |          |
| 4        | 92                | 92               | 1   | <b>X</b>    |           |          |            |           |             |           |          |
| 5        | 92                | 92               | 1   |             |           |          |            | <b>X</b>  |             |           |          |
| 6        | 70                | 70               | 3   |             |           |          |            |           | <b>X</b>    | <b>X</b>  |          |
| 7        | 70                | 70               | 3   |             |           |          |            |           |             |           | <b>X</b> |
| 8        | 56                | 56               | 6   |             | <b>X</b>  | <b>X</b> |            |           |             |           |          |
| 9        | 56                | 56               | 6   |             |           |          | <b>X</b>   |           |             |           |          |
| 10       | 56                | 56               | 6   | <b>x-Ap</b> |           |          |            |           | <b>X</b>    |           |          |
| 11       | 56                | 56               | 6   |             |           |          |            | <b>X</b>  |             |           |          |
| 12       | 34                | 34               | 18  |             | <b>X</b>  |          |            |           |             |           |          |
| 13       | 34                | 34               | 18  | <b>X</b>    |           |          |            |           |             |           |          |
| 14       | 34                | 34               | 18  |             |           |          |            | <b>X</b>  |             | <b>X</b>  |          |
| 15       | 28                | 28               | 25  |             | <b>X</b>  | <b>X</b> | <b>X</b>   |           |             |           |          |
| 16       | 28                | 28               | 25  | <b>X-Ap</b> |           |          |            |           |             |           |          |
| 17       | 28                | 28               | 25  |             |           |          |            | <b>X</b>  | <b>X</b>    | <b>X</b>  |          |
| 18       | 14                | 14               | 50  |             | <b>X</b>  |          |            |           |             |           |          |
| 19       | 14                | 14               | 50  | <b>X</b>    |           |          |            |           |             |           |          |
| 20       | 14                | 14               | 50  |             |           |          |            | <b>X</b>  |             |           |          |
| 21       | 6                 | 6                | 73  |             | <b>X</b>  | <b>X</b> |            |           |             |           |          |
| 22       | 6                 | 6                | 73  | <b>X-Ap</b> |           |          |            |           |             |           |          |
| 23       | 6                 | 6                | 73  |             |           |          |            | <b>X</b>  | <b>X</b>    | <b>X</b>  |          |
| 24       | 6                 | 7.5              | 73  |             |           |          |            |           |             |           | <b>X</b> |

Notes: MLD = ~35 m, DCM ~ 65 m

## WP2

CTD# 40 / Station# 14 / Cast# 15

max CTD depth: 200 m  
 bottom depth: 4630 m  
 Start Time: 13:58  
 Start Lat: 9 14.994 S  
 Start Lon: 169 59.942 E

Operator(s): Erik/Kuhio  
 Year Day: 018 UTC  
 Finish Time: 14:29  
 Finish Lat: 9 15.161S  
 Finish Lon: 169 59.809 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC     | Anna/VPL | Big STf  | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | AH       |
|----------|-------------------|------------------|-----|----------|----------|----------|------------|-----------|-------------|-----------|----------|
| 1        | <b>150</b>        | 150              | 0.1 |          |          |          |            |           |             |           | <b>X</b> |
| 2        | <b>150</b>        | 150              | 0.1 |          |          |          |            |           | <b>X</b>    | <b>X</b>  |          |
| 3        | <b>92</b>         | 91               | 1   | <b>X</b> | <b>X</b> |          |            | <b>X</b>  |             |           |          |
| 4        | <b>92</b>         | 92               | 1   |          |          |          |            |           |             |           | <b>X</b> |
| 5        | <b>70</b>         | 71               | 3   |          |          |          |            |           |             |           | <b>X</b> |
| 6        | <b>70</b>         | 71               | 3   |          |          |          |            |           | <b>X</b>    | <b>X</b>  |          |
| 7        | <b>56</b>         | 56               | 6   |          | <b>X</b> | <b>X</b> |            |           |             |           |          |
| 8        | <b>56</b>         | 56               | 6   |          |          |          |            | <b>X</b>  | <b>X</b>    | <b>X</b>  |          |
| 9        | <b>56</b>         | 56               | 6   | <b>X</b> |          |          | <b>X</b>   |           |             |           |          |
| 10       | <b>56</b>         | 56               | 6   |          |          |          |            |           |             |           | <b>X</b> |
| 11       | <b>34</b>         | 34               | 18  | <b>X</b> | <b>X</b> |          |            |           |             |           |          |
| 12       | <b>34</b>         | 34               | 18  |          |          |          |            | <b>X</b>  |             |           |          |
| 13       | <b>28</b>         | 28               | 25  |          | <b>X</b> | <b>X</b> |            |           |             |           |          |
| 14       | <b>28</b>         | 28               | 25  | <b>X</b> |          |          | <b>X</b>   |           |             |           |          |
| 15       | <b>28</b>         | 28               | 25  |          |          |          |            | <b>X</b>  | <b>X</b>    | <b>X</b>  |          |
| 16       | <b>28</b>         | 28               | 25  |          |          |          |            |           |             |           | <b>X</b> |
| 17       | <b>14</b>         | 14               | 50  | <b>X</b> | <b>X</b> |          |            |           |             |           |          |
| 18       | <b>14</b>         | 14               | 50  |          |          |          |            |           |             |           |          |
| 19       | <b>14</b>         | 14               | 50  |          |          |          |            | <b>X</b>  |             |           |          |
| 20       | <b>6</b>          | 6                | 73  |          | <b>X</b> | <b>X</b> |            |           |             |           |          |
| 21       | <b>6</b>          | 7                | 73  | <b>X</b> |          |          |            |           |             |           |          |
| 22       | <b>6</b>          | 7                | 73  |          |          |          |            |           |             |           |          |
| 23       | <b>6</b>          | 7                | 73  |          |          |          |            | <b>X</b>  | <b>X</b>    | <b>X</b>  |          |
| 24       | <b>6</b>          | 6                | 73  |          |          |          |            |           |             |           | <b>X</b> |

Notes: **Bottle 2 didn't close**



## WP2

CTD#\_\_\_\_41\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_16\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4633 m  
 Start Time: 16:00  
 Start Lat: 9 15.057 S  
 Start Lon: 170 0.025 E

Operator(s): Kuhio/Erik  
 Year Day: 018 UTC  
 Finish Time: 16:29  
 Finish Lat: 9 14.986S  
 Finish Lon: 170 0.024E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC | Anna/ VPL | Big STf | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod | AB |
|----------|-------------------|------------------|-----|----------|-----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.1 |          |           |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.1 |          |           |         |            |           | X           | X         |    |
| 3        | 92                | 92               | 1   |          | X         |         |            |           |             |           |    |
| 4        | 92                | 92               | 1   | X        |           |         |            |           |             |           |    |
| 5        | 92                | 92               | 1   |          |           |         |            | X         |             |           |    |
| 6        | 70                | 70               | 3   |          |           |         |            |           | X           | X         |    |
| 7        | 70                | 71               | 3   |          |           |         |            |           |             |           | X  |
| 8        | 56                | 56               | 6   |          | X         | X       |            |           |             |           |    |
| 9        | 56                | 56               | 6   |          |           |         | X          |           |             |           |    |
| 10       | 56                | 56               | 6   | x-Ap     |           |         |            |           | X           |           |    |
| 11       | 56                | 56               | 6   |          |           |         |            | X         |             |           |    |
| 12       | 34                | 34               | 18  |          | X         |         |            |           |             |           |    |
| 13       | 34                | 35               | 18  | X        |           |         |            |           |             |           |    |
| 14       | 34                | 34               | 18  |          |           |         |            | X         |             | X         |    |
| 15       | 28                | 28               | 25  |          | X         | X       | X          |           |             |           |    |
| 16       | 28                | 29               | 25  | X-Ap     |           |         |            |           |             |           |    |
| 17       | 28                | 28               | 25  |          |           |         |            | X         | X           | X         |    |
| 18       | 14                | 14               | 50  |          | X         |         |            |           |             |           |    |
| 19       | 14                | 14               | 50  | X        |           |         |            |           |             |           |    |
| 20       | 14                | 15               | 50  |          |           |         |            | X         |             |           |    |
| 21       | 6                 | 6                | 73  |          | X         | X       |            |           |             |           |    |
| 22       | 6                 | 6                | 73  | X-Ap     |           |         |            |           |             |           |    |
| 23       | 6                 | 6                | 73  |          |           |         |            | X         | X           | X         |    |
| 24       | 6                 | 7                | 73  |          |           |         |            |           |             |           | X  |

Notes: DCM ~58m

## WP2

CTD#\_\_\_\_42\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_17\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4635 m  
 Start Time: 18:00  
 Start Lat: 9 15.008 S  
 Start Lon: 169 59.997 E

Operator(s): Erik/Kuhio  
 Year Day: 018 UTC  
 Finish Time: 18:33  
 Finish Lat: 9 14.986S  
 Finish Lon: 170 0.027 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | AH |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 151              | 0.1 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.1 |      |          |         |            |           | X           | X         |    |
| 3        | 92                | 92               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 92                | 92               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 70                | 70               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 70                | 70               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 56                | 56               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 56                | 56               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 56                | 56               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 56                | 56               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 34                | 34               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 34                | 34               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 28                | 28               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 28                | 28               | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 28                | 28               | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 28                | 28               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 14                | 15               | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 14                | 15               | 50  |      |          |         |            |           |             |           |    |
| 19       | 14                | 14               | 50  |      |          |         |            | X         |             |           |    |
| 20       | 6                 | 7                | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 6                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 6                | 73  |      |          |         |            |           |             |           |    |
| 23       | 6                 | 6                | 73  |      |          |         |            | X         | X           | X         |    |
| 24       | 6                 | 6                | 73  |      |          |         |            |           |             |           | X  |

Notes: DCM ~60m

# WP2

CTD#\_\_\_\_43\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_18\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4632  
 Start Time: 21:17  
 Start Lat: 9 15.023'S  
 Start Lon: 169 59.997'E

Operator(s): Kuhio/Karen  
 Year Day: 018 UTC  
 Finish Time: 21:37  
 Finish Lat: 9 15.014'S  
 Finish Lon: 169 59.992'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % I | Ap/ HPLC | Anna/ VPL | BIG-STf | Slides Grz | qPCR H2O2 | Virus es Chl | Bac Prod | AB |
|------------------|-------------------|------------------|-----|----------|-----------|---------|------------|-----------|--------------|----------|----|
| 1                | 150               | 150              | 0.1 |          |           |         |            |           |              |          | X  |
| 2                | 150               | 150              | 0.1 |          |           |         |            |           | X            | X        |    |
| 3                | 92                | 92               | 1   |          | X         |         |            |           |              |          |    |
| 4                | 92                | 92               | 1   | X        |           |         |            |           |              |          |    |
| 5                | 92                | 92               | 1   |          |           |         |            | X         |              |          |    |
| 6                | 70                | 70               | 3   |          |           |         |            |           | X            | X        |    |
| 7                | 70                | 70               | 3   |          |           |         |            |           |              |          | X  |
| 8                | 56                | 56               | 6   |          | X         | X       |            |           |              |          |    |
| 9                | 56                | 56               | 6   |          |           |         | X          |           |              |          |    |
| 10               | 56                | 56               | 6   | X-Ap     |           |         |            |           | X            |          |    |
| 11               | 56                | 56               | 6   |          |           |         |            | X         |              |          |    |
| 12               | 34                | 34               | 18  |          | X         |         |            |           |              |          |    |
| 13               | 34                | 34               | 18  | X        |           |         |            |           |              |          |    |
| 14               | 34                | 34               | 18  |          |           |         |            | X         |              | X        |    |
| 15               | 28                | 27               | 25  |          | X         | X       | X          |           |              |          |    |
| 16               | 28                | 27.5             | 25  | X-Ap     |           |         |            |           |              |          |    |
| 17               | 28                | 27.8             | 25  |          |           |         |            | X         | X            | X        |    |
| 18               | 14                | 14               | 50  |          | X         |         |            |           |              |          |    |
| 19               | 14                | 14               | 50  | X        |           |         |            |           |              |          |    |
| 20               | 14                | 14               | 50  |          |           |         |            | X         |              |          |    |
| 21               | 6                 | 6                | 73  |          | X         | X       |            |           |              |          |    |
| 22               | 6                 | 6                | 73  | X-Ap     |           |         |            |           |              |          |    |
| 23               | 6                 | 6                | 73  |          |           |         |            | X         | X            | X        |    |
| 24               | 6                 | 6                | 73  |          |           |         |            |           |              |          | X  |

**Notes: Problem with winch on deployment – cast delayed to fix winch, last diel cast (DIEL 1-15)**

MLD ~38m, DCM ~70m

## WP2

CTD#\_\_\_\_44\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_19\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4634  
 Start Time: 23:45  
 Start Lat: 9 15.005'S  
 Start Lon: 169 59.999'E

Operator(s): Kuhio/Karen  
 Year Day: 018 UTC  
 Finish Time: 00:07  
 Finish Lat: 9 14.985'S  
 Finish Lon: 169 59.93'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | (HPLC/Chl)  | Grazing | PRIM PROD | GROW-OUT |
|------------------|-------------------|------------------|------------|-------------|---------|-----------|----------|
| 1                | 92                | 92               | 1          |             | X-6     |           |          |
| 2                | 92                | 92               | 1          | Chl/HPLC #6 | X       |           |          |
| 3                | 92                | 92               | 1          |             | X       | X         |          |
| 4                | 70=DCM            | 70               | 3          |             |         |           | X        |
| 5                | 70=DCM            | 71               | 3          |             |         |           | X        |
| 6                | 70=DCM            | 70               | 3          |             |         |           | X        |
| 7                | 70=DCM            | 70               | 3          |             |         |           | X        |
| 8                | 70=DCM            | 70               | 3          |             |         |           | X        |
| 9                | 56                | 56               | 6          |             | X       |           |          |
| 10               | 56                | 56               | 6          | Chl/HPLC #5 | X       |           |          |
| 11               | 56                | 56               | 6          |             | X       | X         |          |
| 12               | 34                | 34               | 18         |             | X-4     |           |          |
| 13               | 34                | 34               | 18         | Chl/HPLC #4 | X       |           |          |
| 14               | 34                | 34               | 18         |             | X       | X         |          |
| 15               | 28                | 28               | 25         |             | X-3N    |           |          |
| 16               | 28                | 28               | 25         | Chl/HPLC #3 | X       |           |          |
| 17               | 28                | 28               | 25         |             | X       | X         |          |
| 18               | 14                | 14               | 50         |             | X-2     |           |          |
| 19               | 14                | 13.5             | 50         | Chl/HPLC #2 | X       |           |          |
| 20               | 14                | 14               | 50         |             | X       | X         |          |
| 21               | 6                 | 6                | 73         |             | X-1     |           |          |
| 22               | 6                 | 6                | 73         | Chl/HPLC #1 | X       |           |          |
| 23               | 6                 | 6                | 73         |             | X       | X         |          |
| 24               | 6                 | 6                | 73         |             |         |           | X        |

Notes: MLD ~48 m

Mark hit before fire on bottle 20

## WP2

CTD#\_\_\_\_28\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_03\_\_\_\_

max CTD depth: 300 m  
 bottom depth 4598 m  
 Start Time: 00:20  
 Start Lat: 9 14.582 S  
 Start Lon: 169 57.645 E

Operator(s): Dan/Karen  
 Year Day: 017 UTC  
 Finish Time: 01:00  
 Finish Lat: 9 14.622' S  
 Finish Lon: 169 57.462' E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Rob (HPLC/Chl) | Grazing | Prim Prod | Alison (RNA) |
|------------------|-------------------|------------------|------------|----------------|---------|-----------|--------------|
| 1                | 200               |                  |            |                |         |           | X            |
| 2                | 150               |                  |            | Chl/HPLC #8    |         |           |              |
| 3                | 92                |                  | 1          | Chl/HPLC #6    |         |           |              |
| 4                | 92                |                  | 1          |                |         | X         |              |
| 5                | DCM=70            |                  |            |                |         |           | X            |
| 6                | DCM=70            |                  |            | Chl/HPLC #7    |         |           |              |
| 7                | 56                |                  | 6          |                | X-5     |           |              |
| 8                | 56                |                  | 6          |                | X       |           |              |
| 9                | 56                |                  | 6          |                | X       |           |              |
| 10               | 56                |                  | 6          | Chl/HPLC #5    | X       |           |              |
| 11               | 56                |                  | 6          |                |         | X         |              |
| 12               | 34                |                  | 18         | Chl/HPLC #4    |         |           |              |
| 13               | 34                |                  | 18         |                |         | X         |              |
| 14               | 28                |                  | 25         |                | X-3N    |           |              |
| 15               | 28                |                  | 25         |                | X       |           |              |
| 16               | 28                |                  | 25         |                | X       |           |              |
| 17               | 28                |                  | 25         | Chl/HPLC #3    | X       |           |              |
| 18               | 28                |                  | 25         |                |         | X         |              |
| 19               | 14                |                  | 50         | Chl/HPLC #2    |         |           |              |
| 20               | 14                |                  | 50         |                |         | X         |              |
| 21               | 6                 |                  | 73         | Chl/HPLC #1    |         |           |              |
| 22               | 6                 |                  | 73         |                |         | X         |              |
| 23               | 6                 |                  |            |                |         |           |              |
| 24               | 6                 |                  |            |                |         |           | X            |

Notes: Pirate drill in the middle of the cast. MLD = ~40 m, extra mark made on deeper bottles somewhere

# WP2

CTD#\_\_\_\_29\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_04\_\_\_\_

max CTD depth: 200 m  
 bottom depth m  
 Start Time: 0:  
 Start Lat: 9 S  
 Start Lon: 170 E

Operator(s): Dan/Erik  
 Year Day: 017 UTC  
 Finish Time: 0  
 Finish Lat: 9 S  
 Finish Lon: 170 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC | Anna/ VPL | Big STf | Slides Grz | QPCR | Viruses Chl | Bact Prod | AB |
|----------|-------------------|------------------|-----|----------|-----------|---------|------------|------|-------------|-----------|----|
| 1        | 150               |                  | 0.1 |          |           |         |            |      |             |           |    |
| 2        | 150               |                  | 0.1 |          |           |         |            |      |             |           |    |
| 3        | 92                |                  | 1   |          |           |         |            |      |             |           |    |
| 4        | 92                |                  | 1   |          |           |         |            |      |             |           |    |
| 5        | 92                |                  | 1   |          |           |         |            |      |             |           |    |
| 6        | 70                |                  | 3   |          |           |         |            |      |             |           |    |
| 7        | 70                |                  | 3   |          |           |         |            |      |             |           |    |
| 8        | 56                |                  | 6   |          |           |         |            |      |             |           |    |
| 9        | 56                |                  | 6   |          |           |         |            |      |             |           |    |
| 10       | 56                |                  | 6   |          |           |         |            |      |             |           |    |
| 11       | 56                |                  | 6   |          |           |         |            |      |             |           |    |
| 12       | 34                |                  | 18  |          |           |         |            |      |             |           |    |
| 13       | 34                |                  | 18  |          |           |         |            |      |             |           |    |
| 14       | 34                |                  | 18  |          |           |         |            |      |             |           |    |
| 15       | 28                |                  | 25  |          |           |         |            |      |             |           |    |
| 16       | 28                |                  | 25  |          |           |         |            |      |             |           |    |
| 17       | 28                |                  | 25  |          |           |         |            |      |             |           |    |
| 18       | 14                |                  | 50  |          |           |         |            |      |             |           |    |
| 19       | 14                |                  | 50  |          |           |         |            |      |             |           |    |
| 20       | 14                |                  | 50  |          |           |         |            |      |             |           |    |
| 21       | 6                 |                  | 73  |          |           |         |            |      |             |           |    |
| 22       | 6                 |                  | 73  |          |           |         |            |      |             |           |    |
| 23       | 6                 |                  | 73  |          |           |         |            |      |             |           |    |
| 24       | 6                 |                  | 73  |          |           |         |            |      |             |           |    |

Notes:

## WP2

CTD#\_\_\_\_29\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_04\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4633 m  
 Start Time: 16:00  
 Start Lat: 9 14.804 S  
 Start Lon: 170 0.023 E

Operator(s): Kuhio/Karen  
 Year Day: 017 UTC  
 Finish Time: 16:32  
 Finish Lat: 9 14.998 S  
 Finish Lon: 169 59.987 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC | Anna/ VPL | Big STf | Slides Grz | QPCR | Viruses Chl | Bact Prod | AB |
|----------|-------------------|------------------|-----|----------|-----------|---------|------------|------|-------------|-----------|----|
| 1        | 150               | 150              | 0.1 |          |           |         |            |      |             |           | X  |
| 2        | 150               | 150              | 0.1 |          |           |         |            |      | X           | X         |    |
| 3        | 92                | 92               | 1   |          | X         |         |            |      |             |           |    |
| 4        | 92                | 92               | 1   | X        |           |         |            |      |             |           |    |
| 5        | 92                | 92               | 1   |          |           |         |            | X    |             |           |    |
| 6        | 70                | 70               | 3   |          |           |         |            |      | X           | X         |    |
| 7        | 70                | 70               | 3   |          |           |         |            |      |             |           | X  |
| 8        | 56                | 56               | 6   |          | X         | X       |            |      |             |           |    |
| 9        | 56                | 55               | 6   |          |           |         | X          |      |             |           |    |
| 10       | 56                | 56               | 6   | x-Ap     |           |         |            |      | X           |           |    |
| 11       | 56                | 56               | 6   |          |           |         |            | X    |             |           |    |
| 12       | 34                | 34               | 18  |          | X         |         |            |      |             |           |    |
| 13       | 34                | 34               | 18  | X        |           |         |            |      |             |           |    |
| 14       | 34                | 34               | 18  |          |           |         |            | X    |             | X         |    |
| 15       | 28                | 28               | 25  |          | X         | X       | X          |      |             |           |    |
| 16       | 28                | 28               | 25  | X-Ap     |           |         |            |      |             |           |    |
| 17       | 28                | 28               | 25  |          |           |         |            | X    | X           | X         |    |
| 18       | 14                | 14               | 50  |          | X         |         |            |      |             |           |    |
| 19       | 14                | 13               | 50  | X        |           |         |            |      |             |           |    |
| 20       | 14                | 14               | 50  |          |           |         |            | X    |             |           |    |
| 21       | 6                 | 9                | 73  |          | X         | X       |            |      |             |           |    |
| 22       | 6                 | 8                | 73  | X-Ap     |           |         |            |      |             |           |    |
| 23       | 6                 | 9                | 73  |          |           |         |            | X    | X           | X         |    |
| 24       | 6                 | 8                | 73  |          |           |         |            |      |             |           | X  |

Notes: First cast of Diel Station

DCM ~ 60-70 m, MLD = 40 m

## WP2

CTD#\_\_\_\_30\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_05\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4631 m  
 Start Time: 18:00  
 Start Lat: 9 15.017 S  
 Start Lon: 169 59.981 E

Operator(s): Karen/Kuhio  
 Year Day: 017 UTC  
 Finish Time: 18:24  
 Finish Lat: 915.013 S  
 Finish Lon: 170 0.001 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod | AH |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.1 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.1 |      |          |         |            |           | X           | X         |    |
| 3        | 92                | 91               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 92                | 91               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 70                | 70               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 70                | 70               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 56                | 56               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 56                | 56               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 56                | 56               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 56                | 56               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 34                | 34               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 34                | 34               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 28                | 28               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 28                | 28               | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 28                | 28               | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 28                | 28               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 14                | 14               | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 14                | 14               | 50  |      |          |         |            |           |             |           |    |
| 19       | 14                | 14               | 50  |      |          |         |            | X         |             |           |    |
| 20       | 6                 | 6.5              | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 6                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 6                | 73  |      |          |         |            |           |             |           |    |
| 23       | 6                 | 6                | 73  |      |          |         |            | X         | X           | X         |    |
| 24       | 6                 | 6                | 73  |      |          |         |            |           |             |           | X  |

Notes: 2<sup>nd</sup> Cast of Diel Station

MLD = ~40 m

DCM = ~62 m



## WP2

CTD#\_\_\_\_31\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_06\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4632 m  
 Start Time: 20:00  
 Start Lat: 9 15.014' S  
 Start Lon: 169 59.995' E

Operator(s): Karen/Kuhio  
 Year Day: 017 UTC  
 Finish Time: 20:20  
 Finish Lat: 9 15.025'S  
 Finish Lon: 169 60.000' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC | Anna/ VPL | Big STf | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod | AB |
|----------|-------------------|------------------|-----|----------|-----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.1 |          |           |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.1 |          |           |         |            |           | X           | X         |    |
| 3        | 92                | 92               | 1   |          | X         |         |            |           |             |           |    |
| 4        | 92                | 92               | 1   | X        |           |         |            |           |             |           |    |
| 5        | 92                | 92               | 1   |          |           |         |            | X         |             |           |    |
| 6        | 70                | 70               | 3   |          |           |         |            |           | X           | X         |    |
| 7        | 70                | 70               | 3   |          |           |         |            |           |             |           | X  |
| 8        | 56                | 56               | 6   |          | X         | X       |            |           |             |           |    |
| 9        | 56                | 55               | 6   |          |           |         | X          |           |             |           |    |
| 10       | 56                | 56               | 6   | x-Ap     |           |         |            |           | X           |           |    |
| 11       | 56                | 56               | 6   |          |           |         |            | X         |             |           |    |
| 12       | 34                | 34               | 18  |          | X         |         |            |           |             |           |    |
| 13       | 34                | 34               | 18  | X        |           |         |            |           |             |           |    |
| 14       | 34                | 34               | 18  |          |           |         |            | X         |             | X         |    |
| 15       | 28                | 28               | 25  |          | X         | X       | X          |           |             |           |    |
| 16       | 28                | 28               | 25  | X-Ap     |           |         |            |           |             |           |    |
| 17       | 28                | 28               | 25  |          |           |         |            | X         | X           | X         |    |
| 18       | 14                | 13.5             | 50  |          | X         |         |            |           |             |           |    |
| 19       | 14                | 14               | 50  | X        |           |         |            |           |             |           |    |
| 20       | 14                | 13.5             | 50  |          |           |         |            | X         |             |           |    |
| 21       | 6                 | 6                | 73  |          | X         | X       |            |           |             |           |    |
| 22       | 6                 | 5.8              | 73  | X-Ap     |           |         |            |           |             |           |    |
| 23       | 6                 | 6                | 73  |          |           |         |            | X         | X           | X         |    |
| 24       | 6                 | 6                | 73  |          |           |         |            |           |             |           | X  |

Notes: 3<sup>rd</sup> Cast of Diel Station

MLD = ~42 m

DCM = ~75 m

## WP2

CTD#\_\_\_\_32\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_07\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4633 m  
 Start Time: 22:00  
 Start Lat: 9 14.998 S  
 Start Lon: 169 59.998 E

Operator(s): Erik/Kuhio  
 Year Day: 017 UTC  
 Finish Time: 22:21  
 Finish Lat: 9 15.001 S  
 Finish Lon: 170 0.007 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | AH |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.1 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.1 |      |          |         |            |           | X           | X         |    |
| 3        | 92                | 92               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 92                | 92               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 70                | 70               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 70                | 70               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 56                | 56               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 56                | 56               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 56                | 57               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 56                | 56               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 34                | 34               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 34                | 34               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 28                | 28               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 28                | 28               | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 28                | 28               | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 28                | 28               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 14                | 14               | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 14                | 14               | 50  |      |          |         |            |           |             |           |    |
| 19       | 14                | 14               | 50  |      |          |         |            | X         |             |           |    |
| 20       | 6                 | 6                | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 5                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 6                | 73  |      |          |         |            |           |             |           |    |
| 23       | 6                 | 7                | 73  |      |          |         |            | X         | X           | X         |    |
| 24       | 6                 | 6                | 73  |      |          |         |            |           |             |           | X  |

Notes: DCM ~60m  
 Bottle 7 did not close

## WP2

CTD#\_\_\_\_33\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_08\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4639 m  
 Start Time: 23:58  
 Start Lat: 9 14.942 S  
 Start Lon: 170 0.001 E

Operator(s): Erik/Kuhio  
 Year Day: 017 (most 018) UTC  
 Finish Time: 00:23  
 Finish Lat: 9 15.023 S  
 Finish Lon: 169 59.997 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC Ap | Anna/VPL | Big STf | Slides Grz | QPCR | Viruses Chl | Bact Prod | AB |
|----------|-------------------|------------------|-----|---------|----------|---------|------------|------|-------------|-----------|----|
| 1        | 150               | 150              | 0.1 |         |          |         |            |      | X           | X         | X  |
| 2        | 92                | 91               | 1   |         |          |         |            | X    |             |           |    |
| 3        | 92                | 92               | 1   | X       | X        |         | X          |      |             |           |    |
| 4        | 92                | 92               | 1   |         |          |         | X          |      |             |           |    |
| 5        | 70                | 71               | 3   |         |          |         |            |      | X           | X         | X  |
| 6        | 56                | 57               | 6   |         | X        | X       |            |      |             |           |    |
| 7        | 56                | 56               | 6   | X-Ap    |          |         |            | X    | X           | X         |    |
| 8        | 56                | 56               | 6   |         |          |         | X          |      |             |           |    |
| 9        | 56                | 56               | 6   |         |          |         | X          |      |             |           |    |
| 10       | 34                | 34               | 18  | X       |          |         |            | X    |             |           |    |
| 11       | 34                | 34               | 18  |         | X        |         | X          |      |             |           |    |
| 12       | 34                | 34               | 18  |         |          |         | X          |      |             |           |    |
| 13       | 28                | 28               | 25  |         | X        | X       |            |      |             |           |    |
| 14       | 28                | 28               | 25  | X-Ap    |          |         |            | X    | X           | X         |    |
| 15       | 28                | 28               | 25  |         |          |         | X          |      |             |           |    |
| 16       | 28                | 28               | 25  |         |          |         | X          |      |             |           |    |
| 17       | 14                | 14               | 50  | X       |          |         |            | X    |             |           |    |
| 18       | 14                | 14               | 50  |         | X        |         | X          |      |             |           |    |
| 19       | 14                | 15               | 50  |         |          |         | X          |      |             |           |    |
| 20       | 6                 | 6                | 73  |         | X        | X       |            |      |             |           |    |
| 21       | 6                 | 7                | 73  | X-Ap    |          |         |            | X    | X           | X         |    |
| 22       | 6                 | 7                | 73  |         |          |         | X          |      |             |           |    |
| 23       | 6                 | 6                | 73  |         |          |         | X          |      |             |           |    |
| 24       | 6                 | 7                | 73  |         |          |         |            |      |             |           | X  |

Notes: DCM~60m

Bottle 11 did not close

## WP2

CTD#\_\_\_\_34\_\_\_\_ / Station#\_\_\_\_14\_\_\_\_ / Cast#\_\_\_\_09\_\_\_\_

max CTD depth: 200 m  
 bottom depth 4635 m  
 Start Time: 01:59  
 Start Lat: 09 15.012 S  
 Start Lon: 169 59.974 E

Operator(s): Erik/Kuhio  
 Year Day: 018 UTC  
 Finish Time: 02:30  
 Finish Lat: 9 15.092 S  
 Finish Lon: 170 0.018 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | AH |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.1 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.1 |      |          |         |            |           | X           | X         |    |
| 3        | 92                | 92               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 92                | 92               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 70                | 70               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 70                | 70               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 56                | 56               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 56                | 56               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 56                | 56               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 56                | 56               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 34                | 34               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 34                | 34               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 28                | 28               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 28                | 28               | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 28                | 28               | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 28                | 28               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 14                | 14               | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 14                | 14               | 50  |      |          |         |            |           |             |           |    |
| 19       | 14                | 14               | 50  |      |          |         |            | X         |             |           |    |
| 20       | 6                 | 6                | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 6                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 7                | 73  |      |          |         |            |           |             |           |    |
| 23       | 6                 | 6                | 73  |      |          |         |            | X         | X           | X         |    |
| 24       | 6                 | 7                | 73  |      |          |         |            |           |             |           | X  |

Notes: DCM ~62m  
 Bottle 7 did not close

## WP2

CTD#\_\_\_\_45\_\_\_\_ / Station#\_\_\_\_15\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth 3662 m  
 Start Time: 21:05  
 Start Lat: 12 34.547' S  
 Start Lon: 169 51.541' E

Operator(s): Kuhio/Rob  
 Year Day: 019 UTC  
 Finish Time: 22:01  
 Finish Lat: S 12 34.556  
 Finish Lon: E 169 51.559

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Jane tte | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|-----------------|-----|-----------|---------|
| 1                | 500               | 500              | X      | X      | X    | X               |     |           |         |
| 2                | 500               | 500              |        |        | X    |                 |     |           |         |
| 3                | 300               | 299              | X      | X      | X    | X               |     |           |         |
| 4                | 200               | 200              | X      | X      | X    | X               | X   |           |         |
| 5                | 150               | 149              | X      | X      | X    |                 |     |           |         |
| 6                | 150               | 149              |        |        |      | X               | X   |           |         |
| 7                | 150               | 149              |        |        |      |                 |     |           | X       |
| 8                | 135               | 135              | X      | X      | X    | X               | X   |           |         |
| 9                | 115               | 115              | X      | X      | X    | X               | X   |           |         |
| 10               | 100               | 100              | X      | X      | X    | X               | X   |           |         |
| 11               | 100               | 100              |        |        |      |                 |     | X         | X       |
| 12               | DCM=95            | 95               | X      | X      | X    |                 |     |           |         |
| 13               | DCM=95            | 95               |        |        |      | X               | X   | X         |         |
| 14               | DCM=95            | 95               |        |        |      |                 |     |           | X       |
| 15               | 75                | 74               | X      | X      | X    | X               | X   |           |         |
| 16               | 75                | 75               |        |        |      |                 |     | X         | X       |
| 17               | 50                | 50               | X      | X      | X    | X               | X   |           |         |
| 18               | 50                | 50               |        |        |      |                 |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X               | X   |           |         |
| 20               | 25                | 25               |        |        |      |                 |     | X         | X       |
| 21               | 5                 | 9                | X      | X      | X    |                 |     |           |         |
| 22               | 5                 | 10               |        |        |      | X               | X   | X         |         |
| 23               | 5                 | 9                |        |        |      |                 |     |           | X       |
| 24               | 5                 | 9                |        |        |      |                 |     |           | X       |

Notes: MLD = ~ 30

## WP2

CTD#\_\_\_\_46\_\_\_\_ / Station#\_\_\_\_15\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth 3664  
 Start Time: 01:15  
 Start Lat: 12 34.509S  
 Start Lon: 169 51.521E

Operator(s): Dan/Karen  
 Year Day: 020 UTC  
 Finish Time: 01:50  
 Finish Lat: 12 34.606'S  
 Finish Lon: 169 51.627'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Rob (HPLC/Chl) | Grazing | Prim Prod |
|------------------|-------------------|------------------|------------|----------------|---------|-----------|
| 1                | <b>130</b>        | 130              | 1          |                | X-6     |           |
| 2                | <b>130</b>        | 130              | 1          | Chl/HPLC #6    | X       |           |
| 3                | <b>130</b>        | 130              | 1          |                | X       | X         |
| 4                | <b>110=dcn</b>    | 110              | 2          | Chl/HPLC #8    |         |           |
| 5                | <b>110=dcn</b>    | 110              | 2          |                |         |           |
| 6                | <b>79</b>         | 79               | 6          |                | X-5     |           |
| 7                | <b>79</b>         | 79               | 6          |                | X       |           |
| 8                | <b>79</b>         | 79               | 6          | Chl/HPLC #5    | X       |           |
| 9                | <b>79</b>         | 79               | 6          |                |         | X         |
| 10               | <b>55</b>         | 55               |            | Chl/HPLC #7    |         |           |
| 11               | <b>48</b>         | 48               | 18         |                | X-4     |           |
| 12               | <b>48</b>         | 48               | 18         | Chl/HPLC #4    | X       |           |
| 13               | <b>48</b>         | 48               | 18         |                | X       | X         |
| 14               | <b>39</b>         | 39               | 25         |                | X-3N    |           |
| 15               | <b>39</b>         | 39               | 25         | Chl/HPLC #3    | X       |           |
| 16               | <b>39</b>         | 39               | 25         |                | X       | X         |
| 17               | <b>39</b>         | 39               | 25         |                |         |           |
| 18               | <b>19</b>         | 19               | 50         |                | X-2     |           |
| 19               | <b>19</b>         | 19               | 50         | Chl/HPLC #2    | X       |           |
| 20               | <b>19</b>         | 19               | 50         |                | X       | X         |
| 21               | <b>9</b>          | 9                | 73         |                | X-1     |           |
| 22               | <b>9</b>          | 9                | 73         | Chl/HPLC #1    | X       |           |
| 23               | <b>9</b>          | 9                | 73         |                | X       | X         |
| 24               | <b>9</b>          | 9                | 73         |                |         |           |

Notes: small chl fluorescence peak on this cast at 39 m and earlier (cast 01) at 55 m.  
 DCM = 110 m, MLD ~20 m

# WP2

CTD#\_\_\_\_47\_\_\_\_ / Station#\_\_\_\_16\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth 3260 m  
 Start Time: 21:10  
 Start Lat: 15 53.622' S  
 Start Lon: 169 42.960' E

Operator(s): Kuhio/Rob  
 Year Day: 020 UTC  
 Finish Time: 22:09  
 Finish Lat: S 15 53.662  
 Finish Lon: E 169 43.159

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey /Janette | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|-----------------|-----|-----------|---------|
| 1                | 500               | 500              | X      | X      | X    | X               |     |           |         |
| 2                | 500               | 500              |        |        | X    |                 |     |           |         |
| 3                | 300               | 300              | X      | X      | X    | X               |     |           |         |
| 4                | 200               | 199              | X      | X      | X    | X               | X   |           |         |
| 5                | 150               | 150              | X      | X      | X    |                 |     |           |         |
| 6                | 150               | 150              |        |        |      | X               | X   |           |         |
| 7                | 150               | 150              |        |        |      |                 |     |           | X       |
| 8                | 135               | 135              | X      | X      | X    | X               | X   |           |         |
| 9                | 115               | 114              | X      | X      | X    | X               | X   |           |         |
| 10               | DCM=113           | 113              | X      | X      | X    |                 |     |           |         |
| 11               | DCM=113           | 113              |        |        |      | X               | X   | X         |         |
| 12               | DCM=113           | 113              |        |        |      |                 |     |           | X       |
| 13               | 100               | 100              | X      | X      | X    | X               | X   |           |         |
| 14               | 100               | 100              |        |        |      |                 |     | X         | X       |
| 15               | 75                | 75               | X      | X      | X    | X               | X   |           |         |
| 16               | 75                | 75               |        |        |      |                 |     | X         | X       |
| 17               | 50                | 50               | X      | X      | X    | X               | X   |           |         |
| 18               | 50                | 50               |        |        |      |                 |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X               | X   |           |         |
| 20               | 25                | 25               |        |        |      |                 |     | X         | X       |
| 21               | 5                 | 8                | X      | X      | X    |                 |     |           |         |
| 22               | 5                 | 7                |        |        |      | X               | X   | X         |         |
| 23               | 5                 | 8                |        |        |      |                 |     |           | X       |
| 24               | 5                 | 8                |        |        |      |                 |     |           | X       |

Notes: MLD = ~ 30

# WP2

CTD#\_\_\_\_48\_\_\_\_ / Station#\_\_\_\_16\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth 3266  
 Start Time: 01:07  
 Start Lat: 15 54.604'S  
 Start Lon: 169 44.496'E

Operator(s): Dan/Karen  
 Year Day: 021 UTC  
 Finish Time: 01:38  
 Finish Lat: 15 54.696'S  
 Finish Lon: 169 44.592'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Rob (HPLC/Chl) | Grazing | Prim Prod | Alison (RNA) |
|------------------|-------------------|------------------|------------|----------------|---------|-----------|--------------|
| 1                | <b>200</b>        | 200              |            |                |         |           | X            |
| 2                | <b>146</b>        | 146              | 1          |                | X-6     |           |              |
| 3                | <b>146</b>        | 146              | 1          | Chl/HPLC #6    | X       |           |              |
| 4                | <b>146</b>        | 146              | 1          |                | X       | X         |              |
| 5                | <b>DCM=113</b>    | 113              | 3          |                |         |           | X            |
| 6                | <b>DCM=113</b>    | 113              | 3          | Chl/HPLC #8    |         |           |              |
| 7                | <b>89</b>         | 89               | 6          |                | X-5     |           |              |
| 8                | <b>89</b>         | 89               | 6          | Chl/HPLC #5    | X       |           |              |
| 9                | <b>89</b>         | 89               | 6          |                | X       | X-Ap      |              |
| 10               | <b>75</b>         | 75               |            | Chl/HPLC #7    |         |           |              |
| 11               | <b>54</b>         | 54               | 18         |                | X-4     |           |              |
| 12               | <b>54</b>         | 54               | 18         | Chl/HPLC #4    | X       |           |              |
| 13               | <b>54</b>         | 54               | 18         |                | X       | X         |              |
| 14               | <b>44</b>         | 44               | 25         |                | X-3N    |           |              |
| 15               | <b>44</b>         | 44               | 25         |                | X       |           |              |
| 16               | <b>44</b>         | 44               | 25         | Chl/HPLC #3    | X       |           |              |
| 17               | <b>44</b>         | 44               | 25         |                | X       | X-Ap      |              |
| 18               | <b>22</b>         | 22               | 50         |                | X-2     |           |              |
| 19               | <b>22</b>         | 22               | 50         | Chl/HPLC #2    | X       |           |              |
| 20               | <b>22</b>         | 22               | 50         |                | X       | X         |              |
| 21               | <b>10</b>         | 10               | 73         |                | X-1     |           |              |
| 22               | <b>10</b>         | 10               | 73         | Chl/HPLC #1    | X       |           |              |
| 23               | <b>10</b>         | 10               | 73         |                | X       | X-Ap      |              |
| 24               | <b>10</b>         | 10               | 73         |                |         |           | X            |

Notes: MLD ~40 m



## WP2

CTD#\_\_\_\_49\_\_\_\_ / Station#\_\_\_\_17\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 250 m  
 bottom depth 347 m  
 Start Time: 22:35  
 Start Lat: 19 13.930'S  
 Start Lon: 169 34.650'E

Operator(s): Kuhio/Rob  
 Year Day: 021 UTC  
 Finish Time: 23:10  
 Finish Lat: 19 13.984'S  
 Finish Lon: 169 34.613'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Rob-HPLC | Jeremy | Jeff | Audrey/Janette | VL | Ryan (GW) | Annette |
|------------------|-------------------|------------------|----------|--------|------|----------------|----|-----------|---------|
| 1                | <b>200</b>        | 200              |          | X      | X    |                | X  |           |         |
| 2                | <b>150</b>        | 150              | X        | X      | X    |                |    |           |         |
| 3                | <b>150</b>        | 150              |          |        |      | X              | X  |           |         |
| 4                | <b>150</b>        | 150              |          |        |      |                |    |           | X       |
| 5                | <b>135</b>        | 135              |          | X      | X    |                |    |           |         |
| 6                | <b>135</b>        | 135              | X        |        |      |                | X  |           |         |
| 7                | <b>115</b>        | 115              |          | X      | X    |                |    |           |         |
| 8                | <b>115</b>        | 115              | X        |        |      |                | X  |           |         |
| 9                | <b>DCM=110</b>    | 110              | X        | X      | X    |                | X  |           |         |
| 10               | <b>DCM=110</b>    | 110              |          |        |      | X              |    | X         |         |
| 11               | <b>DCM=110</b>    | 110              |          |        |      |                |    |           | X       |
| 12               | <b>100</b>        | 100              |          | X      | X    |                | X  |           |         |
| 13               | <b>100</b>        | 100              |          |        |      |                |    | X         |         |
| 14               | <b>75</b>         | 75               | X        |        |      |                | X  |           |         |
| 15               | <b>75</b>         | 75               |          | X      | X    | X              |    |           |         |
| 16               | <b>75</b>         | 75               |          |        |      |                |    | X         | X       |
| 17               | <b>50</b>         | 50               | X-last   | X      | X    | X              | X  |           |         |
| 18               | <b>50</b>         | 50               |          |        |      |                |    | X         | X       |
| 19               | <b>25</b>         | 25               | X-last   | X      | X    | X              | X  |           |         |
| 20               | <b>25</b>         | 25               |          |        |      |                |    | X         | X       |
| 21               | <b>5</b>          | 5                | X        | X      | X    |                | X  |           |         |
| 22               | <b>5</b>          | 4.7              |          |        |      | X              |    | X         |         |
| 23               | <b>5</b>          | 4.9              |          |        |      |                |    |           | X       |
| 24               | <b>5</b>          | 4.8              |          |        |      |                |    |           | X       |

Notes: 1<sup>st</sup> Island Station, MLD = 50 m, DCM spans the range of 100 -125 m

## WP2

CTD#\_\_\_\_50\_\_\_\_ / Station#\_\_\_\_18\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 250 m  
 bottom depth 646 m  
 Start Time: 04:25  
 Start Lat: 19 29.819'S  
 Start Lon: 170 12.875'E

Operator(s): Dan/Karen  
 Year Day: 022 UTC  
 Finish Time: 04:50  
 Finish Lat: 19 29.849'S  
 Finish Lon: 170 12.914'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Rob-HPLC | Jeremy | Jeff | Audrey/Janette | VL | Ryan (GW) | Annette |
|------------------|-------------------|------------------|----------|--------|------|----------------|----|-----------|---------|
| 1                | <b>200</b>        | 200              |          | X      | X    |                | X  |           |         |
| 2                | <b>150</b>        | 150              | X        | X      | X    |                |    |           |         |
| 3                | <b>150</b>        | 150              |          |        |      | X              | X  |           |         |
| 4                | <b>150</b>        | 150              |          |        |      |                |    |           | X       |
| 5                | <b>135</b>        | 135              |          | X      | X    |                |    |           |         |
| 6                | <b>135</b>        | 135              | X        |        |      |                | X  |           |         |
| 7                | <b>115</b>        | 115              |          | X      | X    |                |    |           |         |
| 8                | <b>115</b>        | 115              |          |        |      |                | X  |           |         |
| 9                | <b>DCM=114</b>    | 114              | X        | X      | X    |                | X  |           |         |
| 10               | <b>DCM=114</b>    | 114              |          |        |      | X              |    | X         |         |
| 11               | <b>DCM=114</b>    | 114              |          |        |      |                |    |           | X       |
| 12               | <b>100</b>        | 100              |          | X      | X    |                | X  |           |         |
| 13               | <b>100</b>        | 100              | X        |        |      |                |    | X         |         |
| 14               | <b>75</b>         | 75               | X        |        |      |                | X  | X         |         |
| 15               | <b>75</b>         | 75               |          | X      | X    | X              |    |           |         |
| 16               | <b>75</b>         | 75               |          |        |      |                |    |           | X       |
| 17               | <b>50</b>         | 50               | X-last   | X      | X    | X              | X  |           |         |
| 18               | <b>50</b>         | 50               |          |        |      |                |    | X         | X       |
| 19               | <b>25</b>         | 25               | X-last   | X      | X    | X              | X  |           |         |
| 20               | <b>25</b>         | 25               |          |        |      |                |    | X         | X       |
| 21               | <b>5</b>          | 5                | X        | X      | X    |                | X  |           |         |
| 22               | <b>5</b>          | 5                |          |        |      | X              |    | X         |         |
| 23               | <b>5</b>          | 5                |          |        |      |                |    |           | X       |
| 24               | <b>5</b>          | 5                |          |        |      |                |    |           | X       |

Notes: 2nd Island Station, MLD = ~50 m, DCM = 114 m

# WP2

CTD#\_\_\_\_51\_\_\_\_ / Station#\_\_\_\_19\_\_\_\_ / Cast#\_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth 1383m  
 Start Time: 21:02  
 Start Lat: 21 37.420' S  
 Start Lon: 169 39.498' E

Operator(s): Kuhio/Rob  
 Year Day: 022 UTC  
 Finish Time: 21:59  
 Finish Lat: S 21 37. 389  
 Finish Lon: E 169 39.520

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Alison | Jeremy | Jeff | Audrey/Janet | ZIJ | Ryan (GW) | Annette |
|------------------|-------------------|------------------|--------|--------|------|--------------|-----|-----------|---------|
| 1                | 500               | 500              | X      | X      | X    | X            |     |           |         |
| 2                | 500               | 501              |        |        | X    |              |     |           |         |
| 3                | 300               | 300              | X      | X      | X    | X            |     |           |         |
| 4                | 200               | 199              | X      | X      | X    | X            | X   |           |         |
| 5                | 150               | 150              | X      | X      | X    |              |     |           |         |
| 6                | 150               | 150              |        |        |      | X            | X   |           |         |
| 7                | 150               | 150              |        |        |      |              |     |           | X       |
| 8                | 135               | 135              | X      | X      | X    | X            | X   |           |         |
| 9                | DCM=130           | 130              | X      | X      | X    |              |     |           |         |
| 10               | DCM=130           | 130              |        |        |      | X            | X   | X         |         |
| 11               | DCM=130           | 130              |        |        |      |              |     |           | X       |
| 12               | 115               | 115              | X      | X      | X    | X            | X   |           |         |
| 13               | 100               | 100              | X      | X      | X    | X            | X   |           |         |
| 14               | 100               | 100              |        |        |      |              |     | X         | X       |
| 15               | 75                | 74               | X      | X      | X    | X            | X   |           |         |
| 16               | 75                | 75               |        |        |      |              |     | X         | X       |
| 17               | 50                | 50               | X      | X      | X    | X            | X   |           |         |
| 18               | 50                | 50               |        |        |      |              |     | X         | X       |
| 19               | 25                | 25               | X      | X      | X    | X            | X   |           |         |
| 20               | 25                | 25               |        |        |      |              |     | X         | X       |
| 21               | 5                 | 8                | X      | X      | X    |              |     |           |         |
| 22               | 5                 | 9                |        |        |      | X            | X   | X         |         |
| 23               | 5                 | 7                |        |        |      |              |     |           | X       |
| 24               | 5                 | 7                |        |        |      |              |     |           | X       |

Notes: MLD = ~ 38

## WP2

CTD#\_\_\_\_52\_\_\_\_ / Station#\_\_\_\_19\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth 1430  
 Start Time: 00:15  
 Start Lat: 21 37.406'S  
 Start Lon: 168 39.452'E

Operator(s): Dan/Karen  
 Year Day: 023 UTC  
 Finish Time: 00:42  
 Finish Lat: 21 37.407'S  
 Finish Lon: 168 39.501'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Rob (HPLC/Chl) | Grazing | Prim Prod |
|------------------|-------------------|------------------|------------|----------------|---------|-----------|
| 1                | <b>140</b>        | 140              |            | Chl/HPLC #8    |         |           |
| 2                | <b>128</b>        | 128              | 1          |                | X-6     |           |
| 3                | <b>128</b>        | 127              | 1          | Chl/HPLC #6    | X       |           |
| 4                | <b>128</b>        | 127              | 1          |                | X       | X         |
| 5                | <b>DCM=105</b>    | 105              | 3          |                | X       |           |
| 6                | <b>DCM=105</b>    | 105              | 3          | Chl/HPLC #7    |         |           |
| 7                | <b>78</b>         | 78               | 6          |                | X-5     |           |
| 8                | <b>78</b>         | 78               | 6          | Chl/HPLC #5    | X       |           |
| 9                | <b>78</b>         | 78               | 6          |                | X       | X         |
| 10               | <b>60</b>         | 60               |            |                | X       |           |
| 11               | <b>48</b>         | 48               | 18         |                | X-4     |           |
| 12               | <b>48</b>         | 48               | 18         | Chl/HPLC #4    | X       |           |
| 13               | <b>48</b>         | 48               | 18         |                | X       | X         |
| 14               | <b>38</b>         | 38               | 25         |                | X-3N    |           |
| 15               | <b>38</b>         | 38               | 25         |                | X       |           |
| 16               | <b>38</b>         | 38               | 25         | Chl/HPLC #3    | X       |           |
| 17               | <b>38</b>         | 38               | 25         |                | X       | X         |
| 18               | <b>19</b>         | 19               | 50         |                | X-2     |           |
| 19               | <b>19</b>         | 19               | 50         | Chl/HPLC #2    | X       |           |
| 20               | <b>19</b>         | 19               | 50         |                | X       | X         |
| 21               | <b>9</b>          | 9                | 73         |                | X-1     |           |
| 22               | <b>9</b>          | 9                | 73         | Chl/HPLC #1    | X       |           |
| 23               | <b>9</b>          | 9                | 73         |                | X       | X         |
| 24               | <b>9</b>          | 9                | 73         |                | X       |           |

Notes: MLD ~30 m

## WP2

CTD# 53 / Station# 20 / Cast# 1

max CTD depth: 900 m  
 bottom depth: 3330 m  
 Start Time: 21:26  
 Start Lat: 25 40.302' S  
 Start Lon: 165 24.984' E

Operator(s): Kuhio/Rob  
 Year Day: 025 UTC  
 Finish Time: 22:18  
 Finish Lat: S 25 40.325  
 Finish Lon: E 165 25.086

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Gary DN A/R NA | Jeremy | Jeff | Audrey/ Janet | ZIJ | Ryan (GW) | Whit-ney | Eric W |
|------------------|-------------------|------------------|----------------|--------|------|---------------|-----|-----------|----------|--------|
| 1                | <b>500</b>        | 500              | X              | X      | X    | X             |     |           |          |        |
| 2                | <b>500</b>        | 500              |                |        | X    |               |     |           |          |        |
| 3                | <b>300</b>        | 300              | X              | X      | X    | X             |     |           |          |        |
| 4                | <b>200</b>        | 200              | X              | X      | X    | X             | X   |           |          |        |
| 5                | <b>150</b>        | 150              | X              | X      | X    |               |     |           |          |        |
| 6                | <b>150</b>        | 150              |                |        |      | X             | X   |           | X        |        |
| 7                | <b>150</b>        | 150              |                |        |      |               |     |           |          | X      |
| 8                | <b>135</b>        | 135              | X              | X      | X    | X             | X   |           |          |        |
| 9                | <b>115</b>        | 115              | X              | X      | X    | X             | X   |           |          |        |
| 10               | <b>DCM=110</b>    | 110              | X              | X      | X    |               |     |           |          |        |
| 11               | <b>DCM=110</b>    | 110              |                |        |      | X             | X   | X         |          |        |
| 12               | <b>DCM=110</b>    | 110              |                |        |      |               |     |           | X        | X      |
| 13               | <b>100</b>        | 100              | X              | X      | X    | X             | X   |           |          |        |
| 14               | <b>100</b>        | 100              |                |        |      |               |     | X         | X        | X      |
| 15               | <b>75</b>         | 75               | X              | X      | X    | X             | X   |           |          |        |
| 16               | <b>75</b>         | 75               |                |        |      |               |     | X         | X        | X      |
| 17               | <b>50</b>         | 50               | X              | X      | X    | X             | X   |           |          |        |
| 18               | <b>50</b>         | 50               |                |        |      |               |     | X         | X        | X      |
| 19               | <b>25</b>         | 25               | X              | X      | X    | X             | X   |           |          |        |
| 20               | <b>25</b>         | 25               |                |        |      |               |     | X         | X        | X      |
| 21               | <b>5</b>          | 7                | X              | X      | X    |               |     |           |          |        |
| 22               | <b>5</b>          | 7                |                |        |      | X             | X   |           |          |        |
| 23               | <b>5</b>          | 8                |                |        |      |               |     | X         | X        |        |
| 24               | <b>5</b>          | 8                |                |        |      |               |     |           |          | X      |

Notes: MLD = ~ 30 m

## WP2

CTD#\_\_\_\_54\_\_\_\_ / Station#\_\_\_\_20\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth 3463 m  
 Start Time: 01:16  
 Start Lat: 25 39.498'S  
 Start Lon: 165 27.228'E

Operator(s): Dan/Karen  
 Year Day: 026 UTC  
 Finish Time: 01:45  
 Finish Lat: 25 39.450' S  
 Finish Lon: 165 27.304' E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Rob (HPLC/Chl) | Grazing | Prim Prod | Gary (RNA) |
|------------------|-------------------|------------------|------------|----------------|---------|-----------|------------|
| 1                | <b>200</b>        | 200              |            |                |         |           | X          |
| 2                | <b>175</b>        | 175              |            | Chl/HPLC #8    |         |           |            |
| 3                | <b>128</b>        | 128              | 1          |                | X-6     |           |            |
| 4                | <b>128</b>        | 128              | 1          | Chl/HPLC #6    | X       |           |            |
| 5                | <b>128</b>        | 128              | 1          |                | X       | X         |            |
| 6                | <b>DCM=108</b>    | 108              | 2          | Chl/HPLC #7    |         |           |            |
| 7                | <b>DCM=108</b>    | 108              | 2          |                |         |           | X          |
| 8                | <b>78</b>         | 78               | 6          |                | X-5     |           |            |
| 9                | <b>78</b>         | 78               | 6          | Chl/HPLC #5    | X       |           |            |
| 10               | <b>78</b>         | 78               | 6          |                | X       | Ap-X      |            |
| 11               | <b>48</b>         | 48               | 18         |                | X-4     |           |            |
| 12               | <b>48</b>         | 48               | 18         | Chl/HPLC #4    | X       |           |            |
| 13               | <b>48</b>         | 48               | 18         |                | X       | X         |            |
| 14               | <b>38</b>         | 38               | 25         |                | X-3N    |           |            |
| 15               | <b>38</b>         | 38               | 25         |                | X       |           |            |
| 16               | <b>38</b>         | 38               | 25         | Chl/HPLC #3    | X       |           |            |
| 17               | <b>38</b>         | 38               | 25         |                | X       | Ap-X      |            |
| 18               | <b>19</b>         | 19               | 50         |                | X-2     |           |            |
| 19               | <b>19</b>         | 19               | 50         | Chl/HPLC #2    | X       |           |            |
| 20               | <b>19</b>         | 19               | 50         |                | X       | X         |            |
| 21               | <b>9</b>          | 9                | 73         |                | X-1     |           |            |
| 22               | <b>9</b>          | 9                | 73         | Chl/HPLC #1    | X       |           |            |
| 23               | <b>9</b>          | 9                | 73         |                | X       | Ap-X      |            |
| 24               | <b>9</b>          | 9                | 73         |                |         |           | X          |

Notes: MLD = ~30 m

## WP2

CTD# \_\_\_\_55\_\_\_\_ / Station# \_\_\_\_21\_\_\_\_ / Cast# \_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth 3394 m  
 Start Time: 21:13  
 Start Lat: 29 2.429' S  
 Start Lon: 164 20.271' E

Operator(s): Kuhio/Rob  
 Year Day: 026 UTC  
 Finish Time: 22:09  
 Finish Lat: S 29 2.462  
 Finish Lon: E 164 20.231

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Gary DN A/R NA | Jeremy | Jeff | Audrey/ Janet | ZIJ | Robert o (GW) | Whit-ney | Eric W |
|------------------|-------------------|------------------|----------------|--------|------|---------------|-----|---------------|----------|--------|
| 1                | 500               | 500              | X              |        | X    |               |     |               |          |        |
| 2                | 300               | 300              | X              | X      | X    |               |     |               |          |        |
| 3                | 200               | 200              | X              | X      | X    |               | X   |               |          |        |
| 4                | 150               | 150              | X              | X      | X    |               |     |               |          |        |
| 5                | 150               | 150              |                |        |      | X             | X   |               |          |        |
| 6                | 150               | 150              |                |        |      |               |     |               | X        | X      |
| 7                | 135               | 135              | X              | X      | X    | X             | X   |               |          |        |
| 8                | 115               | 114              | X              | X      | X    | X             | X   |               |          |        |
| 9                | DCM=108           | 108              | X              | X      | X    |               |     |               |          |        |
| 10               | DCM=108           | 108              |                |        |      | X             | X   | X             |          |        |
| 11               | DCM=108           | 108              |                |        |      |               |     |               | X        | X      |
| 12               | 100               | 100              | X              | X      | X    | X             | X   |               |          |        |
| 13               | 100               | 100              |                |        |      |               |     | X             | X        | X      |
| 14               | 75                | 75               | X              | X      | X    |               |     |               |          |        |
| 15               | 75                | 75               |                |        |      | X             | X   | X             |          |        |
| 16               | 75                | 75               |                |        |      |               |     |               | X        | X      |
| 17               | 50                | 50               | X              | X      | X    | X             | X   |               |          |        |
| 18               | 50                | 50               |                |        |      |               |     | X             | X        | X      |
| 19               | 25                | 25               | X              | X      | X    | X             | X   |               |          |        |
| 20               | 25                | 25               |                |        |      |               |     | X             | X        | X      |
| 21               | 25                | 25               |                |        | X    |               |     |               |          |        |
| 22               | 5                 | 8                | X              | X      | X    |               |     |               |          |        |
| 23               | 5                 | 8                |                |        |      | X             | X   | X             |          |        |
| 24               | 5                 | 8                |                |        |      |               |     |               | X        | X      |

Notes: MLD = ~ 20 m

## WP2

CTD#\_\_\_\_56\_\_\_\_ / Station#\_\_\_\_21\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth 3389m  
 Start Time: 01:16  
 Start Lat: 29 1.735'S  
 Start Lon: 164 19.822' E

Operator(s): Dan/Karen  
 Year Day: 027 UTC  
 Finish Time: 01:48  
 Finish Lat: 29 1.672' S  
 Finish Lon: 164 19.778' E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Ryan (HPLC/Chl) | Grzg | ZIJ Grow-out | Prim Prod | Gary (RNA) |
|------------------|-------------------|------------------|------------|-----------------|------|--------------|-----------|------------|
| 1                | <b>200</b>        | 200              |            |                 |      |              |           | X          |
| 2                | <b>118</b>        | 118              | 1          |                 | X-6  |              |           |            |
| 3                | <b>118</b>        | 118              | 1          | Chl/HPLC #6     | X    |              |           |            |
| 4                | <b>118</b>        | 118              | 1          |                 | X    |              | X         |            |
| 5                | <b>DCM=112</b>    | 112              |            |                 |      | X            |           |            |
| 6                | <b>DCM=112</b>    | 112              |            |                 |      | X            |           |            |
| 7                | <b>DCM=112</b>    | 112              |            |                 |      | X            |           |            |
| 8                | <b>DCM=112</b>    | 112              |            | Chl/HPLC #7     |      | X            |           |            |
| 9                | <b>DCM=112</b>    | 112              |            |                 |      |              |           | X          |
| 10               | <b>72</b>         | 72               | 6          |                 | X-5  |              |           |            |
| 11               | <b>72</b>         | 72               | 6          | Chl/HPLC #5     | X    |              |           |            |
| 12               | <b>72</b>         | 72               | 6          |                 | X    |              | Ap-X      |            |
| 13               | <b>44</b>         | 44               | 18         |                 | X-4  |              |           |            |
| 14               | <b>44</b>         | 44               | 18         | Chl/HPLC #4     | X    |              |           |            |
| 15               | <b>44</b>         | 44               | 18         |                 | X    |              | X         |            |
| 16               | <b>36</b>         | 36               | 25         |                 | X-3N |              |           |            |
| 17               | <b>36</b>         | 36               | 25         | Chl/HPLC #3     | X    |              |           |            |
| 18               | <b>36</b>         | 36               | 25         |                 | X    |              | Ap-X      |            |
| 19               | <b>18</b>         | 18               | 50         |                 | X-2  |              |           |            |
| 20               | <b>18</b>         | 18               | 50         | Chl/HPLC #2     | X    |              |           |            |
| 21               | <b>18</b>         | 18               | 50         |                 | X    |              | X         |            |
| 22               | <b>8</b>          | 8                | 73         |                 | X-1  |              |           |            |
| 23               | <b>8</b>          | 8                | 73         | Chl/HPLC #1     | X    |              | Ap-X      |            |
| 24               | <b>8</b>          | 8                | 73         |                 | X    |              |           | X          |

Notes: MLD = &lt;20 m



## WP2

CTD# \_\_\_\_57\_\_\_\_ / Station# \_\_\_\_22\_\_\_\_ / Cast# \_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth 1327 m  
 Start Time: 21:22  
 Start Lat: 31 55.318' S  
 Start Lon: 163 21.666' E

Operator(s): Kuhio/Rob  
 Year Day: 027 UTC  
 Finish Time: 22:16  
 Finish Lat: S 31 55.233  
 Finish Lon: E 163 21.711

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Gary DNA/ RNA | Jeremy | Jeff | Audrey/ Janet | ZIJ | Robert o (GW) | Whit-ney | Eric W |
|------------------|-------------------|------------------|---------------|--------|------|---------------|-----|---------------|----------|--------|
| 1                | 500               | 500              | X             |        | X    |               |     |               |          |        |
| 2                | 300               | 300              | X             | X      | X    |               |     |               |          |        |
| 3                | 200               | 200              | X             | X      | X    |               | X   |               |          |        |
| 4                | 150               | 150              | X             | X      | X    |               |     |               |          |        |
| 5                | 150               | 150              |               |        |      | X             | X   |               |          |        |
| 6                | 150               | 150              |               |        |      |               |     |               | X        | X      |
| 7                | 135               | 135              | X             | X      | X    | X             | X   |               |          |        |
| 8                | 115               | 115              | X             | X      | X    | X             | X   |               |          |        |
| 9                | 100               | 100              | X             | X      | X    | X             | X   |               |          |        |
| 10               | 100               | 100              |               |        |      |               |     | X             | X        | X      |
| 11               | 75                | 75               | X             | X      | X    |               |     |               |          |        |
| 12               | 75                | 75               |               |        |      | X             | X   | X             |          |        |
| 13               | 75                | 75               |               |        |      |               |     |               | X        | X      |
| 14               | DCM=65            | 65               | X             | X      | X    |               |     |               |          |        |
| 15               | DCM=65            | 65               |               |        |      | X             | X   | X             |          |        |
| 16               | DCM=65            | 65               |               |        |      |               |     |               | X        | X      |
| 17               | 50                | 49               | X             | X      | X    | X             | X   |               |          |        |
| 18               | 50                | 49               |               |        |      |               |     | X             | X        | X      |
| 19               | 25                | 25               | X             | X      |      | X             | X   |               |          |        |
| 20               | 25                | 25               |               |        | X    |               |     |               |          |        |
| 21               | 25                | 25               |               |        |      |               |     | X             | X        | X      |
| 22               | 5                 | 7                | X             | X      | X    |               |     |               |          |        |
| 23               | 5                 | 7                |               |        |      | X             | X   | X             |          |        |
| 24               | 5                 | 7                |               |        |      |               |     |               | X        | X      |

Notes: MLD = ~ 5m

## WP2

CTD#\_\_\_\_58\_\_\_\_ / Station#\_\_\_\_22\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth 1295m  
 Start Time: 01:07  
 Start Lat: 31 54.481S  
 Start Lon: 163 20.816E

Operator(s): Dan/Karen  
 Year Day: 028 UTC  
 Finish Time: 01:40  
 Finish Lat: 31 54.390'S  
 Finish Lon: 163 20.694'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Ryan (HPLC/Chl) | Grazing | Prim Prod | Gary (RNA) |
|------------------|-------------------|------------------|------------|-----------------|---------|-----------|------------|
| 1                | <b>200</b>        | 198              |            |                 |         |           | X          |
| 2                | <b>85</b>         | 85               | 1          |                 | X-6     |           |            |
| 3                | <b>85</b>         | 85               | 1          |                 | X       |           |            |
| 4                | <b>85</b>         | 85               | 1          | Chl/HPLC #6     | X       | X         |            |
| 5                | <b>72</b>         | 72               | 2          | Chl/HPLC #8     |         |           |            |
| 6                | <b>DCM=60</b>     | 60               | 3.6        | Chl/HPLC #7     |         |           |            |
| 7                | <b>DCM=60</b>     | 60               | 3.6        |                 |         |           | X          |
| 8                | <b>52</b>         | 52               | 6          |                 | X-5     |           |            |
| 9                | <b>52</b>         | 52               | 6          |                 | X       |           |            |
| 10               | <b>52</b>         | 52               | 6          | Chl/HPLC #5     | X       | Ap-X      |            |
| 11               | <b>32</b>         | 32               | 18         |                 | X-4     |           |            |
| 12               | <b>32</b>         | 32               | 18         |                 | X       |           |            |
| 13               | <b>32</b>         | 32               | 18         | Chl/HPLC #4     | X       | X         |            |
| 14               | <b>26</b>         | 26               | 25         |                 | X-3N    |           |            |
| 15               | <b>26</b>         | 26               | 25         |                 | X       |           |            |
| 16               | <b>26</b>         | 26               | 25         |                 | X       |           |            |
| 17               | <b>26</b>         | 26               | 25         | Chl/HPLC #3     | X       | Ap-X      |            |
| 18               | <b>13</b>         | 13               | 50         |                 | X-2     |           |            |
| 19               | <b>13</b>         | 13               | 50         |                 | X       |           |            |
| 20               | <b>13</b>         | 13               | 50         | Chl/HPLC #2     | X       | X         |            |
| 21               | <b>6</b>          | 6                | 73         |                 | X-1     |           |            |
| 22               | <b>6</b>          | 6                | 73         |                 | X       |           |            |
| 23               | <b>6</b>          | 6                | 73         | Chl/HPLC #1     | X       | Ap-X      |            |
| 24               | <b>6</b>          | 6                | 73         |                 |         |           | X          |

Notes: MLD = ~15 m

## WP2

CTD# 59 / Station# 23 / Cast# 1

max CTD depth: 500 m  
 bottom depth 863 m  
 Start Time: 21:07  
 Start Lat: 34 9.478'S  
 Start Lon: 162 33.086' E

Operator(s): Kuhio/Rob  
 Year Day: 028 UTC  
 Finish Time: 21:52  
 Finish Lat: S 34 9.542  
 Finish Lon: E 162 33.213

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Gary DNA/ RNA | Jeremy | Jeff | Audrey/ Janet | ZIJ | Robert o (GW) | Whit-ney | Eric W |
|------------------|-------------------|------------------|---------------|--------|------|---------------|-----|---------------|----------|--------|
| 1                | 500               | 500              | X             |        | X    |               |     |               |          |        |
| 2                | 300               | 300              | X             | X      | X    |               |     |               |          |        |
| 3                | 200               | 200              | X             | X      | X    |               | X   |               |          |        |
| 4                | 150               | 150              | X             | X      | X    |               |     |               |          |        |
| 5                | 150               | 150              |               |        |      | X             | X   |               |          |        |
| 6                | 150               | 150              |               |        |      |               |     |               | X        | X      |
| 7                | 135               | 135              | X             | X      | X    | X             | X   |               |          |        |
| 8                | 115               | 115              | X             | X      | X    | X             | X   |               |          |        |
| 9                | 100               | 100              | X             | X      | X    | X             | X   |               |          |        |
| 10               | 100               | 100              |               |        |      |               |     | X             | X        | X      |
| 11               | 75                | 75               | X             | X      | X    |               |     |               |          |        |
| 12               | 75                | 75               |               |        |      | X             | X   | X             |          |        |
| 13               | 75                | 75               |               |        |      |               |     |               | X        | X      |
| 14               | DCM=55            | 55               | X             | X      | X    |               |     |               |          |        |
| 15               | DCM=55            | 55               |               |        |      | X             | X   | X             |          |        |
| 16               | DCM=55            | 55               |               |        |      |               |     |               | X        | X      |
| 17               | 50                | 50               | X             | X      | X    | X             | X   |               |          |        |
| 18               | 50                | 50               |               |        |      |               |     | X             | X        | X      |
| 19               | 25                | 25               | X             | X      | X    |               |     |               |          |        |
| 20               | 25                | 25               |               |        |      | X             | X   | X             |          |        |
| 21               | 25                | 25               |               |        |      |               |     |               | X        | X      |
| 22               | 5                 | 8                | X             | X      | X    |               |     |               |          |        |
| 23               | 5                 | 8                |               |        |      | X             | X   | X             |          |        |
| 24               | 5                 | 8                |               |        |      |               |     |               | X        | X      |

Notes: MLD = ~ 10m

## WP2

CTD#\_\_\_\_60\_\_\_\_ / Station#\_\_\_\_23\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth 915m  
 Start Time: 01:12  
 Start Lat: 34 9.414S  
 Start Lon: 162 31.342E

Operator(s): Dan/Karen  
 Year Day: 029 UTC  
 Finish Time: 01:46  
 Finish Lat: 34 9.400'S  
 Finish Lon: 162 31.200'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Ryan (HPLC/Chl) | Grazing | Prim Prod | Gary (RNA) |
|------------------|-------------------|------------------|------------|-----------------|---------|-----------|------------|
| 1                | <b>200</b>        | 200              |            |                 |         |           | X          |
| 2                | <b>80</b>         | 80               | 0.5        | Chl/HPLC #8     |         |           |            |
| 3                | <b>71</b>         | 71               | 1          |                 | X-6     |           |            |
| 4                | <b>71</b>         | 71               | 1          |                 | X       |           |            |
| 5                | <b>71</b>         | 72               | 1          | Chl/HPLC #6     | X       | X         |            |
| 6                | <b>DCM=55</b>     | 55               | 3          | Chl/HPLC #7     |         |           |            |
| 7                | <b>DCM=55</b>     | 55               | 3          |                 |         |           | X          |
| 8                | <b>43</b>         | 43               | 6          |                 | X-5     |           |            |
| 9                | <b>43</b>         | 43               | 6          |                 | X       |           |            |
| 10               | <b>43</b>         | 43               | 6          | Chl/HPLC #5     | X       | Ap-X      |            |
| 11               | <b>26</b>         | 26               | 18         |                 | X-4     |           |            |
| 12               | <b>26</b>         | 26               | 18         |                 | X       |           |            |
| 13               | <b>26</b>         | 26               | 18         | Chl/HPLC #4     | X       | X         |            |
| 14               | <b>21</b>         | 21               | 25         |                 | X-3N    |           |            |
| 15               | <b>21</b>         | 21               | 25         |                 | X       |           |            |
| 16               | <b>21</b>         | 21               | 25         |                 | X       |           |            |
| 17               | <b>21</b>         | 21               | 25         | Chl/HPLC #3     | X       | Ap-X      |            |
| 18               | <b>11</b>         | 11               | 50         |                 | X-2     |           |            |
| 19               | <b>11</b>         | 11               | 50         |                 | X       |           |            |
| 20               | <b>11</b>         | 11               | 50         | Chl/HPLC #2     | X       | X         |            |
| 21               | <b>5</b>          | 5                | 73         |                 | X-1     |           |            |
| 22               | <b>5</b>          | 5                | 73         |                 | X       |           |            |
| 23               | <b>5</b>          | 5                | 73         | Chl/HPLC #1     | X       | Ap-X      |            |
| 24               | <b>5</b>          | 5                | 73         |                 |         |           | X          |

Notes: MLD = 25 m

## WP2

CTD# \_\_\_\_ 61 \_\_\_\_ / Station# \_\_\_\_ 24 \_\_\_\_ / Cast# \_\_\_\_ 1 \_\_\_\_

max CTD depth: 900 m  
 bottom depth 2703 m  
 Start Time: 21:27  
 Start Lat: 36 9.934'S  
 Start Lon: 161 47.490' E

Operator(s): Kuhio/Rob  
 Year Day: 029 UTC  
 Finish Time: 22:18  
 Finish Lat: S 36 9.911  
 Finish Lon: E 161 47.490

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Gary DNA/RNA | Jeremy | Jeff | Audrey/Janet | ZIJ | Robert o (GW) | Whitney | Eric W |
|------------------|-------------------|------------------|--------------|--------|------|--------------|-----|---------------|---------|--------|
| 1                | 500               | 500              | X            |        | X    |              |     |               |         |        |
| 2                | 300               | 300              | X            | X      | X    |              |     |               |         |        |
| 3                | 200               | 200              | X            | X      | X    |              | X   |               |         |        |
| 4                | 150               | 151              | X            | X      | X    |              |     |               |         |        |
| 5                | 150               | 150              |              |        |      | X            | X   |               |         |        |
| 6                | 150               | 150              |              |        |      |              |     |               | X       | X      |
| 7                | 135               | 135              | X            | X      | X    | X            | X   |               |         |        |
| 8                | 115               | 115              | X            | X      | X    | X            | X   |               |         |        |
| 9                | 100               | 100              | X            | X      | X    | X            | X   |               |         |        |
| 10               | 100               | 100              |              |        |      |              |     | X             | X       | X      |
| 11               | 75                | 75               | X            | X      | X    |              |     |               |         |        |
| 12               | 75                | 75               |              |        |      | X            | X   | X             |         |        |
| 13               | 75                | 75               |              |        |      |              |     |               | X       | X      |
| 14               | DCM=58            | 58               | X            | X      | X    |              |     |               |         |        |
| 15               | DCM=58            | 58               |              |        |      | X            | X   | X             |         |        |
| 16               | DCM=58            | 58               |              |        |      |              |     |               | X       | X      |
| 17               | 50                | 50               | X            | X      | X    | X            | X   |               |         |        |
| 18               | 50                | 50               |              |        |      |              |     | X             | X       | X      |
| 19               | 25                | 25               | X            | X      | X    |              |     |               |         |        |
| 20               | 25                | 25               |              |        |      | X            | X   | X             |         |        |
| 21               | 25                | 25               |              |        |      |              |     |               | X       | X      |
| 22               | 5                 | 6                | X            | X      | X    |              |     |               |         |        |
| 23               | 5                 | 6                |              |        |      | X            | X   | X             |         |        |
| 24               | 5                 | 5                |              |        |      |              |     |               | X       | X      |

Notes: MLD = ~ m

## WP2

CTD#\_\_\_\_62\_\_\_\_ / Station#\_\_\_\_24\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth 2694 m  
 Start Time: 01:18  
 Start Lat: 36 9.889'S  
 Start Lon: 161 45.957'E

Operator(s): Dan/Karen  
 Year Day: 030 UTC  
 Finish Time: 01:52  
 Finish Lat: 36 9.900'S  
 Finish Lon: 161 45.838'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Ryan (HPLC/Chl) | Grz | Prim Prod | H2O2 | Gary (RNA) |
|------------------|-------------------|------------------|------------|-----------------|-----|-----------|------|------------|
| 1                | <b>200</b>        | 200              |            |                 |     |           |      | X          |
| 2                | <b>90</b>         | 90               |            | Chl/HPLC        |     |           |      |            |
| 3                | <b>81</b>         | 81               | 1          |                 | X   |           |      |            |
| 4                | <b>81</b>         | 81               | 1          | Chl/HPLC #6     |     | X         |      |            |
| 5                | <b>DCM=67</b>     | 67               | 3          | Chl/HPLC        |     |           |      |            |
| 6                | <b>DCM=67</b>     | 67               | 3          |                 |     |           |      | X          |
| 7                | <b>49</b>         | 49               | 6          |                 | X-5 |           |      |            |
| 8                | <b>49</b>         | 49               | 6          |                 | X   |           |      |            |
| 9                | <b>49</b>         | 49               | 6          |                 | X   |           |      |            |
| 10               | <b>49</b>         | 49               | 6          |                 | X   |           |      |            |
| 11               | <b>49</b>         | 49               | 6          | Chl/HPLC        | X   | Ap-X      |      |            |
| 12               | <b>30</b>         | 30               | 18         |                 | X   |           |      |            |
| 13               | <b>30</b>         | 30               | 18         | Chl/HPLC        |     | X         |      |            |
| 14               | <b>24</b>         | 24               | 25         |                 | X-3 |           |      |            |
| 15               | <b>24</b>         | 24               | 25         |                 | X   |           |      |            |
| 16               | <b>24</b>         | 24               | 25         |                 | X   |           |      |            |
| 17               | <b>24</b>         | 24               | 25         |                 | X   |           |      |            |
| 18               | <b>24</b>         | 24               | 25         | Chl/HPLC        | X   | Ap-X      | X    |            |
| 19               | <b>12</b>         | 12               | 50         |                 | X   |           |      |            |
| 20               | <b>12</b>         | 12               | 50         | Chl/HPLC        |     | X         |      |            |
| 21               | <b>6</b>          | 6                | 73         |                 | X   |           |      |            |
| 22               | <b>6</b>          | 6                | 73         | Chl/HPLC        |     | Ap-X      |      |            |
| 23               | <b>6</b>          | 6                | 73         |                 |     |           | X    |            |
| 24               | <b>6</b>          | 6                | 73         |                 |     |           |      | X          |

Notes: MLD = 30 m

Linearity Dilution Experiment at two depths

## WP20

CTD# 63 / Station# 24 / Cast# 03

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 17:05  
 Start Lat: 36 9.636' S  
 Start Lon: 161 46.253' E

Operator(s): Kuhio/Karen  
 Year Day: 030 UTC  
 Finish Time: 17:29  
 Finish Lat: 36 9.602'S  
 Finish Lon: 161 46.214' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC | Anna/ VPL | Big STf | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod |
|----------|-------------------|------------------|-----|----------|-----------|---------|------------|-----------|-------------|-----------|
| 1        | 150               | 150              | 0.2 |          |           |         |            |           |             |           |
| 2        | 150               | 150              | 0.2 |          |           |         |            |           | X           | X         |
| 3        | 81                | 81               | 1   |          | X         |         |            |           |             |           |
| 4        | 81                | 81               | 1   | X        |           |         |            |           |             |           |
| 5        | 81                | 81               | 1   |          |           |         |            | X         |             |           |
| 6        | 67=DCM            | 67               | 3   |          |           |         |            |           | X           | X         |
| 7        | 67=DCM            | 67               | 3   |          |           |         |            |           |             |           |
| 8        | 49                | 49               | 6   |          | X         | X       |            |           |             |           |
| 9        | 49                | 49               | 6   |          |           |         |            |           | X           |           |
| 10       | 49                | 49               | 6   |          |           |         |            | X         |             |           |
| 11       | 49                | 49               | 6   | X-Ap     |           |         | X          |           |             |           |
| 12       | 30                | 30               | 18  |          | X         |         |            |           |             |           |
| 13       | 30                | 30               | 18  | X        |           |         |            |           |             |           |
| 14       | 30                | 30               | 18  |          |           |         |            | X         |             | X         |
| 15       | 24                | 24               | 25  |          | X         | X       |            |           |             |           |
| 16       | 24                | 24               | 25  | X-Ap     |           |         | X          |           |             |           |
| 17       | 24                | 24               | 25  |          |           |         |            | X         | X           | X         |
| 18       | 12                | 12               | 50  |          | X         |         |            |           |             |           |
| 19       | 12                | 12               | 50  | X        |           |         |            |           |             |           |
| 20       | 12                | 12               | 50  |          |           |         |            | X         |             |           |
| 21       | 6                 | 6                | 73  |          | X         | X       |            |           |             |           |
| 22       | 6                 | 7                | 73  | X-Ap     |           |         |            |           |             |           |
| 23       | 6                 | 7                | 73  |          |           |         |            | X         | X           | X         |
| 24       | 6                 | 6                | 73  |          |           |         |            | X         |             |           |

Notes: First Diel Cast, Light Levels determined on Cast 2 at this station, as was DCM  
 Ship depth recorder not on – this position was ~2700 m earlier in the day  
 MLD = 20 m  
 DCM = 67 m

## WP2

CTD# 64 / Station# 24 / Cast# 04

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 19:00  
 Start Lat: 36 9.577' S  
 Start Lon: 161 46.257' E

Operator(s): Karen/Kuhio  
 Year Day: 030 UTC  
 Finish Time: 19:26  
 Finish Lat: 36 9.568' S  
 Finish Lon: 161 46.253' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | WK |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.2 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.2 |      |          |         |            |           | X           | X         |    |
| 3        | 81                | 81               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 81                | 81               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 67=DCM            | 67               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 67=DCM            | 67               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 49                | 49               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 49                | 49               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 49                | 49               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 49                | 49               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 30                | 30               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 30                | 30               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 24                | 24               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 24                | 23.5             | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 24                | 24               | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 24                | 24               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 12                | 12               | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 12                | 12               | 50  |      |          |         |            | X         |             |           |    |
| 19       | 12                | 12               | 50  |      |          |         |            |           |             |           |    |
| 20       | 6                 | 6                | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 6                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 6                | 73  |      |          |         |            | X         |             |           |    |
| 23       | 6                 | 6                | 73  |      |          |         |            |           | X           | X         |    |
| 24       | 6                 | 6                | 73  |      |          |         |            | X         |             |           | X  |

Notes: DCM was 67 m on Cast 2 at this station

MLD = 25 m



## WP2

CTD#\_\_65\_\_ / Station#\_\_24\_\_ / Cast#\_\_05\_\_

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 21:04  
 Start Lat: 36 9.530' S  
 Start Lon: 161 46.316' E

Operator(s): Kuhio/Karen  
 Year Day: 030 UTC  
 Finish Time: 21:25  
 Finish Lat: 36 9.534' S  
 Finish Lon: 161 46.311' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC | Anna/ VPL | Big STf | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod |
|----------|-------------------|------------------|-----|----------|-----------|---------|------------|-----------|-------------|-----------|
| 1        | 150               | 150              | 0.2 |          |           |         |            |           |             |           |
| 2        | 150               | 150              | 0.2 |          |           |         |            |           | X           | X         |
| 3        | 81                | 81               | 1   |          | X         |         |            |           |             |           |
| 4        | 81                | 81               | 1   | X        |           |         |            |           |             |           |
| 5        | 81                | 81               | 1   |          |           |         |            | X         |             |           |
| 6        | 67=DCM            | 67               | 3   |          |           |         |            |           | X           | X         |
| 7        | 67=DCM            | 67               | 3   |          |           |         |            |           |             |           |
| 8        | 49                | 49               | 6   |          | X         | X       |            |           |             |           |
| 9        | 49                | 49               | 6   |          |           |         |            |           | X           |           |
| 10       | 49                | 49               | 6   |          |           |         |            | X         |             |           |
| 11       | 49                | 49               | 6   | X-Ap     |           |         | X          |           |             |           |
| 12       | 30                | 30               | 18  |          | X         |         |            |           |             |           |
| 13       | 30                | 30               | 18  | X        |           |         |            |           |             |           |
| 14       | 30                | 30               | 18  |          |           |         |            | X         |             | X         |
| 15       | 24                | 24               | 25  |          | X         | X       |            |           |             |           |
| 16       | 24                | 24               | 25  | X-Ap     |           |         | X          |           |             |           |
| 17       | 24                | 24               | 25  |          |           |         |            | X         | X           | X         |
| 18       | 12                | 12               | 50  |          | X         |         |            |           |             |           |
| 19       | 12                | 12               | 50  | X        |           |         |            |           |             |           |
| 20       | 12                | 12               | 50  |          |           |         |            | X         |             |           |
| 21       | 6                 | 6                | 73  |          | X         | X       |            |           |             |           |
| 22       | 6                 | 7                | 73  | X-Ap     |           |         |            |           |             |           |
| 23       | 6                 | 6                | 73  |          |           |         |            | X         | X           | X         |
| 24       | 6                 | 6                | 73  |          |           |         |            | X         |             |           |

Notes: Third diel Cast

MLD = ~28 m

DCM = 67 m

## WP2

CTD#\_\_\_\_66\_\_\_\_ / Station#\_\_\_\_24\_\_\_\_ / Cast#\_\_06\_\_

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 22:58  
 Start Lat: 36 9.503S  
 Start Lon: 161 46.356E

Operator(s): Erik/Kuhio  
 Year Day: 030 UTC  
 Finish Time: 23:20  
 Finish Lat: 36 9.506S  
 Finish Lon: 161 46.358E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | WK |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 151              | 0.2 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.2 |      |          |         |            |           | X           | X         |    |
| 3        | 81                | 82               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 81                | 82               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 67                | 67               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 67                | 67               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 49                | 50               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 49                | 49               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 49                | 49               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 49                | 49               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 30                | 30               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 30                | 30               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 24                | 24               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 24                | 24               | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 24                | 24               | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 24                | 24               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 12                | 12               | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 12                | 12               | 50  |      |          |         |            | X         |             |           |    |
| 19       | 12                | 12               | 50  |      |          |         |            |           |             |           |    |
| 20       | 6                 | 6                | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 6                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 6                | 73  |      |          |         |            | X         |             |           |    |
| 23       | 6                 | 6                | 73  |      |          |         |            |           | X           | X         |    |
| 24       | 6                 | 6                | 73  |      |          |         |            | X         |             |           | X  |

Notes: 4<sup>th</sup> diel cast

MLD~30m

DCM~65m

# WP2-NOON CAST

CTD#\_\_67\_\_ / Station#\_\_24\_\_ / Cast#\_\_07\_\_

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 01:01  
 Start Lat: 36 9.457S  
 Start Lon: 161 46.416 E

Operator(s): Erik/Dan  
 Year Day: 031UTC  
 Finish Time: 01:33  
 Finish Lat: 36 9.430S  
 Finish Lon: 161 46.397E

<sup>a</sup>

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC Ap     | Anna/VPL | Big STf  | Slides Grz | QPCR     | Viruses Chl | Bact Prod | WK       |
|----------|-------------------|------------------|-----|-------------|----------|----------|------------|----------|-------------|-----------|----------|
| 1        | <b>150</b>        | 150              | 0.2 |             |          |          |            |          | <b>X</b>    | <b>X</b>  | <b>X</b> |
| 2        | <b>81</b>         | 81               | 1   |             |          |          |            | <b>X</b> |             |           | <b>X</b> |
| 3        | <b>81</b>         | 81               | 1   | <b>X</b>    | <b>X</b> |          | <b>X</b>   |          |             |           |          |
| 4        | <b>81</b>         | 81               | 1   |             |          |          | <b>X</b>   |          |             |           |          |
| 5        | <b>67</b>         | 67               | 3   |             |          |          |            |          | <b>X</b>    | <b>X</b>  | <b>X</b> |
| 6        | <b>49</b>         | 49               | 6   |             | <b>X</b> | <b>X</b> |            |          |             |           | <b>X</b> |
| 7        | <b>49</b>         | 49               | 6   | <b>X-Ap</b> |          |          |            | <b>X</b> | <b>X</b>    | <b>X</b>  |          |
| 8        | <b>49</b>         | 49               | 6   |             |          |          | <b>X</b>   |          |             |           |          |
| 9        | <b>49</b>         | 49               | 6   |             |          |          | <b>X</b>   |          |             |           |          |
| 10       | <b>30</b>         | 30               | 18  | <b>X</b>    |          |          |            | <b>X</b> |             |           |          |
| 11       | <b>30</b>         | 30               | 18  |             | <b>X</b> |          | <b>X</b>   |          |             |           |          |
| 12       | <b>30</b>         | 30               | 18  |             |          |          | <b>X</b>   |          |             |           |          |
| 13       | <b>24</b>         | 24               | 25  |             | <b>X</b> | <b>X</b> |            |          |             |           |          |
| 14       | <b>24</b>         | 24               | 25  | <b>X</b>    |          |          |            | <b>X</b> | <b>X</b>    | <b>X</b>  | <b>X</b> |
| 15       | <b>24</b>         | 24               | 25  | <b>Ap</b>   |          |          | <b>X</b>   |          |             |           |          |
| 16       | <b>24</b>         | 24               | 25  |             |          |          | <b>X</b>   |          |             |           |          |
| 17       | <b>12</b>         | 12               | 50  | <b>X</b>    |          |          |            | <b>X</b> |             |           |          |
| 18       | <b>12</b>         | 12               | 50  |             | <b>X</b> |          | <b>X</b>   |          |             |           |          |
| 19       | <b>12</b>         | 12               | 50  |             |          |          | <b>X</b>   |          |             |           |          |
| 20       | <b>6</b>          | 6                | 73  |             | <b>X</b> | <b>X</b> |            |          |             |           |          |
| 21       | <b>6</b>          | 6                | 73  | <b>X-Ap</b> |          |          |            | <b>X</b> | <b>X</b>    | <b>X</b>  |          |
| 22       | <b>6</b>          | 6                | 73  |             |          |          | <b>X</b>   |          |             |           |          |
| 23       | <b>6</b>          | 6                | 73  |             |          |          | <b>X</b>   |          |             |           |          |
| 24       | <b>6</b>          | 6                | 73  |             |          |          |            | <b>X</b> |             |           | <b>X</b> |

Notes: 5<sup>th</sup> diel cast  
 MLD~30m  
 DCM~70m

WP2

14:00

CTD#\_\_\_\_68\_\_\_\_ / Station#\_\_\_\_24\_\_\_\_ / Cast#\_\_\_\_08\_\_\_\_

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 02:58  
 Start Lat: 36 9.434S  
 Start Lon: 161 46.470E

Operator(s): Erik/Dan  
 Year Day: 031 UTC  
 Finish Time: 03:21  
 Finish Lat: 36 9.409S  
 Finish Lon: 161 46.451E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | WK |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.2 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.2 |      |          |         |            |           | X           | X         |    |
| 3        | 81                | 81               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 81                | 81               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 67                | 67               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 67                | 67               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 49                | 49               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 49                | 49               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 49                | 49               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 49                | 49               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 30                | 30               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 30                | 31               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 24                | 24               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 24                | 24               | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 24                | 24               | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 24                | 24               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 12                | 12               | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 12                | 12               | 50  |      |          |         |            | X         |             |           |    |
| 19       | 12                | 12               | 50  |      |          |         |            |           |             |           |    |
| 20       | 6                 | 6                | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 6                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 6                | 73  |      |          |         |            | X         |             |           |    |
| 23       | 6                 | 5                | 73  |      |          |         |            |           | X           | X         |    |
| 24       | 6                 | 6                | 73  |      |          |         |            | X         |             |           | X  |

Notes: 6<sup>th</sup> diel cast  
 MLD~30m  
 DCM~65m

## WP2

CTD#\_69\_ / Station#\_24\_ / Cast#\_09\_

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 05:03  
 Start Lat: 36 9.389' S  
 Start Lon: 161 46.519' E

Operator(s): Dan/Karen  
 Year Day: 031 UTC  
 Finish Time: 05:31  
 Finish Lat: 36 0.339' S  
 Finish Lon: 161 46.500' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC | Anna/ VPL | Big STf | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod |
|----------|-------------------|------------------|-----|----------|-----------|---------|------------|-----------|-------------|-----------|
| 1        | 150               | 150              | 0.2 |          |           |         |            |           |             |           |
| 2        | 150               | 150              | 0.2 |          |           |         |            |           | X           | X         |
| 3        | 81                | 81               | 1   |          | X         |         |            |           |             |           |
| 4        | 81                | 81               | 1   | X        |           |         |            |           |             |           |
| 5        | 81                | 81               | 1   |          |           |         |            | X         |             |           |
| 6        | 67                | 67               | 3   |          |           |         |            |           | X           | X         |
| 7        | 67                | 67               | 3   |          |           |         |            |           |             |           |
| 8        | 49                | 49               | 6   |          | X         | X       |            |           |             |           |
| 9        | 49                | 49               | 6   |          |           |         |            |           | X           |           |
| 10       | 49                | 49               | 6   |          |           |         |            | X         |             |           |
| 11       | 49                | 49               | 6   | X-Ap     |           |         | X          |           |             |           |
| 12       | 30                | 30               | 18  |          | X         |         |            |           |             |           |
| 13       | 30                | 30               | 18  | X        |           |         |            |           |             |           |
| 14       | 30                | 30               | 18  |          |           |         |            | X         |             | X         |
| 15       | 24                | 24               | 25  |          | X         | X       |            |           |             |           |
| 16       | 24                | 24               | 25  | X-Ap     |           |         | X          |           |             |           |
| 17       | 24                | 24               | 25  |          |           |         |            | X         | X           | X         |
| 18       | 12                | 12               | 50  |          | X         |         |            |           |             |           |
| 19       | 12                | 11.6             | 50  | X        |           |         |            |           |             |           |
| 20       | 12                | 12               | 50  |          |           |         |            | X         |             |           |
| 21       | 6                 | 6                | 73  |          | X         | X       |            |           |             |           |
| 22       | 6                 | 6                | 73  | X-Ap     |           |         |            |           |             |           |
| 23       | 6                 | 6                | 73  |          |           |         |            | X         | X           | X         |
| 24       | 6                 | 6                | 73  |          |           |         |            | X         |             |           |

Notes:

MLD = 20 m

## WP2

CTD# 70 / Station# 24 / Cast# 10

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 07:00  
 Start Lat: 36 9.356' S  
 Start Lon: 161 46.553' E

Operator(s): Karen/Dan  
 Year Day: 031 UTC  
 Finish Time: 07:24  
 Finish Lat: 36 9.353' S  
 Finish Lon: 161 46.554' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC     | Anna/VPL | Big STf  | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | WK       |
|----------|-------------------|------------------|-----|----------|----------|----------|------------|-----------|-------------|-----------|----------|
| 1        | <b>150</b>        | 150              | 0.2 |          |          |          |            |           |             |           | <b>X</b> |
| 2        | <b>150</b>        | 150              | 0.2 |          |          |          |            |           | <b>X</b>    | <b>X</b>  |          |
| 3        | <b>81</b>         | 81               | 1   | <b>X</b> | <b>X</b> |          |            | <b>X</b>  |             |           |          |
| 4        | <b>81</b>         | 81               | 1   |          |          |          |            |           |             |           | <b>X</b> |
| 5        | <b>67</b>         | 67               | 3   |          |          |          |            |           |             |           | <b>X</b> |
| 6        | <b>67</b>         | 67               | 3   |          |          |          |            |           | <b>X</b>    | <b>X</b>  |          |
| 7        | <b>49</b>         | 49               | 6   |          | <b>X</b> | <b>X</b> |            |           |             |           |          |
| 8        | <b>49</b>         | 49               | 6   |          |          |          |            | <b>X</b>  | <b>X</b>    | <b>X</b>  |          |
| 9        | <b>49</b>         | 49               | 6   | <b>X</b> |          |          | <b>X</b>   |           |             |           |          |
| 10       | <b>49</b>         | 49               | 6   |          |          |          |            |           |             |           | <b>X</b> |
| 11       | <b>30</b>         | 30               | 18  | <b>X</b> | <b>X</b> |          |            |           |             |           |          |
| 12       | <b>30</b>         | 30               | 18  |          |          |          |            | <b>X</b>  |             |           |          |
| 13       | <b>24</b>         | 24               | 25  |          | <b>X</b> | <b>X</b> |            |           |             |           |          |
| 14       | <b>24</b>         | 24               | 25  | <b>X</b> |          |          | <b>X</b>   |           |             |           |          |
| 15       | <b>24</b>         | 24               | 25  |          |          |          |            | <b>X</b>  | <b>X</b>    | <b>X</b>  |          |
| 16       | <b>24</b>         | 24               | 25  |          |          |          |            |           |             |           | <b>X</b> |
| 17       | <b>12</b>         | 12               | 50  | <b>X</b> | <b>X</b> |          |            |           |             |           |          |
| 18       | <b>12</b>         | 12               | 50  |          |          |          |            | <b>X</b>  |             |           |          |
| 19       | <b>12</b>         | 12               | 50  |          |          |          |            |           |             |           |          |
| 20       | <b>6</b>          | 6                | 73  |          | <b>X</b> | <b>X</b> |            |           |             |           |          |
| 21       | <b>6</b>          | 6                | 73  | <b>X</b> |          |          |            |           |             |           |          |
| 22       | <b>6</b>          | 6                | 73  |          |          |          |            | <b>X</b>  |             |           |          |
| 23       | <b>6</b>          | 6                | 73  |          |          |          |            |           | <b>X</b>    | <b>X</b>  |          |
| 24       | <b>6</b>          | 6                | 73  |          |          |          |            | <b>X</b>  |             |           | <b>X</b> |

Notes: MLD ~17 m

Bottle 2 did not have a spigot on recovery

## WP2

CTD#\_\_71\_\_ / Station#\_\_24\_\_ / Cast#\_\_11\_\_

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 09:02  
 Start Lat: 36 9.306' S  
 Start Lon: 161 46.587' E

Operator(s): Dan/Karen  
 Year Day: 031 UTC  
 Finish Time: 09:22  
 Finish Lat: 36 9.306'S  
 Finish Lon: 161 46.585' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC | Anna/ VPL | Big STf | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod |
|----------|-------------------|------------------|-----|----------|-----------|---------|------------|-----------|-------------|-----------|
| 1        | 150               | 150              | 0.2 |          |           |         |            |           |             |           |
| 2        | 150               | 150              | 0.2 |          |           |         |            |           | X           | X         |
| 3        | 81                | 81               | 1   |          | X         |         |            |           |             |           |
| 4        | 81                | 81               | 1   | X        |           |         |            |           |             |           |
| 5        | 81                | 81               | 1   |          |           |         |            | X         |             |           |
| 6        | 67                | 67               | 3   |          |           |         |            |           | X           | X         |
| 7        | 67                | 67               | 3   |          |           |         |            |           |             |           |
| 8        | 49                | 49               | 6   |          | X         | X       |            |           |             |           |
| 9        | 49                | 49               | 6   |          |           |         |            |           | X           |           |
| 10       | 49                | 49               | 6   |          |           |         |            | X         |             |           |
| 11       | 49                | 49               | 6   | X-Ap     |           |         | X          |           |             |           |
| 12       | 30                | 30               | 18  |          | X         |         |            |           |             |           |
| 13       | 30                | 30               | 18  | X        |           |         |            |           |             |           |
| 14       | 30                | 30               | 18  |          |           |         |            | X         |             | X         |
| 15       | 24                | 24               | 25  |          | X         | X       |            |           |             |           |
| 16       | 24                | 24               | 25  | X-Ap     |           |         | X          |           |             |           |
| 17       | 24                | 24               | 25  |          |           |         |            | X         | X           | X         |
| 18       | 12                | 12               | 50  |          | X         |         |            |           |             |           |
| 19       | 12                | 12               | 50  | X        |           |         |            |           |             |           |
| 20       | 12                | 12               | 50  |          |           |         |            | X         |             |           |
| 21       | 6                 | 6                | 73  |          | X         | X       |            |           |             |           |
| 22       | 6                 | 6                | 73  | X-Ap     |           |         |            |           |             |           |
| 23       | 6                 | 6                | 73  |          |           |         |            | X         | X           | X         |
| 24       | 6                 | 6                | 73  |          |           |         |            | X         |             |           |

Notes:

MLD = 22 m

## WP2

CTD#\_72\_ / Station#\_24\_ / Cast#\_12\_

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 11:05  
 Start Lat: 36 9.274' S  
 Start Lon: 161 46.641' E

Operator(s): Karen/Dan  
 Year Day: 031 UTC  
 Finish Time: 11:27  
 Finish Lat: 36 9.267' S  
 Finish Lon: 161 46.639' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | WK |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.2 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.2 |      |          |         |            |           | X           | X         |    |
| 3        | 81                | 81               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 81                | 81               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 67                | 67               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 67                | 67               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 49                | 49               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 49                | 49               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 49                | 49               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 49                | 49               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 30                | 30               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 30                | 30               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 24                | 24               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 24                | 24               | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 24                | 23.5             | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 24                | 24               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 12                | 11.6             | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 12                | 12               | 50  |      |          |         |            | X         |             |           |    |
| 19       | 12                | 12               | 50  |      |          |         |            |           |             |           |    |
| 20       | 6                 | 6                | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 6                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 6                | 73  |      |          |         |            | X         |             |           |    |
| 23       | 6                 | 6                | 73  |      |          |         |            |           | X           | X         |    |
| 24       | 6                 | 6                | 73  |      |          |         |            | X         |             |           | X  |

Notes: MLD ~20 m, DCM ~70 m

Bottle 4 did not close



## WP2

CTD#\_73\_ / Station#\_24\_ / Cast#\_13\_

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 13:01  
 Start Lat: 36 9.236' S  
 Start Lon: 161 46.487' E

Operator(s): Kuhio/Karen  
 Year Day: 031 UTC  
 Finish Time: 13:28  
 Finish Lat: 36 9.229' S  
 Finish Lon: 161 46.692' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod |
|----------|-------------------|------------------|-----|---------|----------|---------|------------|-----------|-------------|-----------|
| 1        | 150               | 150              | 0.2 |         |          |         |            |           |             |           |
| 2        | 150               | 150              | 0.2 |         |          |         |            |           | X           | X         |
| 3        | 81                | 81               | 1   |         | X        |         |            |           |             |           |
| 4        | 81                | 81               | 1   | X       |          |         |            |           |             |           |
| 5        | 81                | 81               | 1   |         |          |         |            | X         |             |           |
| 6        | 67                | 67               | 3   |         |          |         |            |           | X           | X         |
| 7        | 67                | 67               | 3   |         |          |         |            |           |             |           |
| 8        | 49                | 49               | 6   |         | X        | X       |            |           |             |           |
| 9        | 49                | 49               | 6   |         |          |         |            |           | X           |           |
| 10       | 49                | 49               | 6   |         |          |         |            | X         |             |           |
| 11       | 49                | 49               | 6   | X-Ap    |          |         | X          |           |             |           |
| 12       | 30                | 30               | 18  |         | X        |         |            |           |             |           |
| 13       | 30                | 30               | 18  | X       |          |         |            |           |             |           |
| 14       | 30                | 30               | 18  |         |          |         |            | X         |             | X         |
| 15       | 24                | 24               | 25  |         | X        | X       |            |           |             |           |
| 16       | 24                | 24               | 25  | X-Ap    |          |         | X          |           |             |           |
| 17       | 24                | 25               | 25  |         |          |         |            | X         | X           | X         |
| 18       | 12                | 12               | 50  |         | X        |         |            |           |             |           |
| 19       | 12                | 12               | 50  | X       |          |         |            |           |             |           |
| 20       | 12                | 12               | 50  |         |          |         |            | X         |             |           |
| 21       | 6                 | 6                | 73  |         | X        | X       |            |           |             |           |
| 22       | 6                 | 6                | 73  | X-Ap    |          |         |            |           |             |           |
| 23       | 6                 | 7                | 73  |         |          |         |            | X         | X           | X         |
| 24       | 6                 | 7                | 73  |         |          |         |            | X         |             |           |

## Notes:

MLD = 20 m

DCM = ~72 m

## WP2—02:00

CTD#\_\_\_\_74\_\_\_\_ / Station#\_\_\_\_24\_\_\_\_ / Cast#\_\_\_\_14\_\_\_\_

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 15:04  
 Start Lat: 36 9.194 S  
 Start Lon: 161 46.719E

Operator(s): Erik/Kuhio  
 Year Day: 031 UTC  
 Finish Time: 15:29  
 Finish Lat: 36 9.188S  
 Finish Lon: 161 46.746E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | WK |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.2 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.2 |      |          |         |            |           | X           | X         |    |
| 3        | 81                | 81               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 81                | 81               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 67                | 67               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 67                | 67               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 49                | 49               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 49                | 49               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 49                | 49               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 49                | 49               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 30                | 30               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 30                | 30               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 24                | 24               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 24                | 24               | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 24                | 24               | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 24                | 24               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 12                | 12               | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 12                | 12               | 50  |      |          |         |            | X         |             |           |    |
| 19       | 12                | 12               | 50  |      |          |         |            |           |             |           |    |
| 20       | 6                 | 6                | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 6                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 6                | 73  |      |          |         |            | X         |             |           |    |
| 23       | 6                 | 6                | 73  |      |          |         |            |           | X           | X         |    |
| 24       | 6                 | 6                | 73  |      |          |         |            | X         |             |           | X  |

Notes: MLD~20m

DCM~64m

WP2: 04:00

CTD# \_\_\_\_75\_\_\_\_ / Station# \_\_\_\_24\_\_\_\_ / Cast# \_\_\_\_15\_\_\_\_

max CTD depth: 200 m  
 bottom depth: ?m  
 Start Time: 17:03  
 Start Lat: 36 9.154 S  
 Start Lon: 161 46.798 E

Operator(s): Erik/Kuhio  
 Year Day: 031UTC  
 Finish Time: 17:33  
 Finish Lat: 36 9.153S  
 Finish Lon: 161 46.784E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC | Anna/ VPL | Big STf | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod |
|----------|-------------------|------------------|-----|----------|-----------|---------|------------|-----------|-------------|-----------|
| 1        | 150               | 150              | 0.2 |          |           |         |            |           |             |           |
| 2        | 150               | 150              | 0.2 |          |           |         |            |           | X           | X         |
| 3        | 81                | 81               | 1   |          | X         |         |            |           |             |           |
| 4        | 81                | 81               | 1   | X        |           |         |            |           |             |           |
| 5        | 81                | 81               | 1   |          |           |         |            | X         |             |           |
| 6        | 67                | 67               | 3   |          |           |         |            |           | X           | X         |
| 7        | 67                | 67               | 3   |          |           |         |            |           |             |           |
| 8        | 49                | 49               | 6   |          | X         | X       |            |           |             |           |
| 9        | 49                | 49               | 6   |          |           |         |            |           | X           |           |
| 10       | 49                | 49               | 6   |          |           |         |            | X         |             |           |
| 11       | 49                | 49               | 6   | X-Ap     |           |         | X          |           |             |           |
| 12       | 30                | 30               | 18  |          | X         |         |            |           |             |           |
| 13       | 30                | 30               | 18  | X        |           |         |            |           |             |           |
| 14       | 30                | 30               | 18  |          |           |         |            | X         |             | X         |
| 15       | 24                | 24               | 25  |          | X         | X       |            |           |             |           |
| 16       | 24                | 24               | 25  | X-Ap     |           |         | X          |           |             |           |
| 17       | 24                | 24               | 25  |          |           |         |            | X         | X           | X         |
| 18       | 12                | 12               | 50  |          | X         |         |            |           |             |           |
| 19       | 12                | 12               | 50  | X        |           |         |            |           |             |           |
| 20       | 12                | 12               | 50  |          |           |         |            | X         |             |           |
| 21       | 6                 | 6                | 73  |          | X         | X       |            |           |             |           |
| 22       | 6                 | 6                | 73  | X-Ap     |           |         |            |           |             |           |
| 23       | 6                 | 6                | 73  |          |           |         |            | X         | X           | X         |
| 24       | 6                 | 7                | 73  |          |           |         |            | X         |             |           |

Notes:

MLD = ~20m

DCM = ~70m

## WP2—06:00

CTD#\_\_\_\_76\_\_\_\_ / Station#\_\_\_\_24\_\_\_\_ / Cast#\_\_\_\_16\_\_\_\_

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 18:54  
 Start Lat: 36 9.115S  
 Start Lon: 161 46.827E

Operator(s): Erik/Kuhio  
 Year Day: 031 UTC  
 Finish Time: 19:21  
 Finish Lat: 36 9.115S  
 Finish Lon: 161 46.835E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | HPLC | Anna/VPL | Big STf | Slides Grz | QPCR H2O2 | Viruses Chl | Bact Prod | WK |
|----------|-------------------|------------------|-----|------|----------|---------|------------|-----------|-------------|-----------|----|
| 1        | 150               | 150              | 0.2 |      |          |         |            |           |             |           | X  |
| 2        | 150               | 150              | 0.2 |      |          |         |            |           | X           | X         |    |
| 3        | 81                | 81               | 1   | X    | X        |         |            | X         |             |           |    |
| 4        | 81                | 81               | 1   |      |          |         |            |           |             |           | X  |
| 5        | 67                | 68               | 3   |      |          |         |            |           |             |           | X  |
| 6        | 67                | 68               | 3   |      |          |         |            |           | X           | X         |    |
| 7        | 49                | 49               | 6   |      | X        | X       |            |           |             |           |    |
| 8        | 49                | 49               | 6   |      |          |         |            | X         | X           | X         |    |
| 9        | 49                | 49               | 6   | X    |          |         | X          |           |             |           |    |
| 10       | 49                | 49               | 6   |      |          |         |            |           |             |           | X  |
| 11       | 30                | 30               | 18  | X    | X        |         |            |           |             |           |    |
| 12       | 30                | 30               | 18  |      |          |         |            | X         |             |           |    |
| 13       | 24                | 24               | 25  |      | X        | X       |            |           |             |           |    |
| 14       | 24                | 24               | 25  | X    |          |         | X          |           |             |           |    |
| 15       | 24                | 24               | 25  |      |          |         |            | X         | X           | X         |    |
| 16       | 24                | 24               | 25  |      |          |         |            |           |             |           | X  |
| 17       | 12                | 12               | 50  | X    | X        |         |            |           |             |           |    |
| 18       | 12                | 12               | 50  |      |          |         |            | X         |             |           |    |
| 19       | 12                | 12               | 50  |      |          |         |            |           |             |           |    |
| 20       | 6                 | 6                | 73  |      | X        | X       |            |           |             |           |    |
| 21       | 6                 | 6                | 73  | X    |          |         |            |           |             |           |    |
| 22       | 6                 | 7                | 73  |      |          |         |            | X         |             |           |    |
| 23       | 6                 | 6                | 73  |      |          |         |            |           | X           | X         |    |
| 24       | 6                 | 6                | 73  |      |          |         |            | X         |             |           | X  |

Notes: MLD~24m

DCM~75m

## WP2

CTD# 77 / Station# 24 / Cast# 17

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 21:00  
 Start Lat: 36 9.082' S  
 Start Lon: 161 46.886' E

Operator(s): Kuhio/Karen  
 Year Day: 031 UTC  
 Finish Time: 21:24  
 Finish Lat: 36 9.082' S  
 Finish Lon: 161 46.878' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | %I  | Ap/ HPLC    | Anna/ VPL | Big STf  | Slides Grz | QPCR H202 | Viruses Chl | Bact Prod |
|----------|-------------------|------------------|-----|-------------|-----------|----------|------------|-----------|-------------|-----------|
| 1        | <b>150</b>        | 150              | 0.2 |             |           |          |            |           |             |           |
| 2        | <b>150</b>        | 150              | 0.2 |             |           |          |            |           | <b>X</b>    | <b>X</b>  |
| 3        | <b>81</b>         | 81               | 1   |             | <b>X</b>  |          |            |           |             |           |
| 4        | <b>81</b>         | 81               | 1   | <b>X</b>    |           |          |            |           |             |           |
| 5        | <b>81</b>         | 81               | 1   |             |           |          |            | <b>X</b>  |             |           |
| 6        | <b>67</b>         | 67               | 3   |             |           |          |            |           | <b>X</b>    | <b>X</b>  |
| 7        | <b>67</b>         | 66.7             | 3   |             |           |          |            |           |             |           |
| 8        | <b>67</b>         | 67               | 3   |             |           |          |            |           |             |           |
| 9        | <b>49</b>         | 49               | 6   |             |           |          |            |           | <b>X</b>    |           |
| 10       | <b>49</b>         | 49               | 6   |             | <b>X</b>  | <b>X</b> |            | <b>X</b>  |             |           |
| 11       | <b>49</b>         | 49               | 6   | <b>X-Ap</b> |           |          | <b>X</b>   |           |             |           |
| 12       | <b>30</b>         | 30               | 18  |             | <b>X</b>  |          |            |           |             |           |
| 13       | <b>30</b>         | 30               | 18  | <b>X</b>    |           |          |            |           |             |           |
| 14       | <b>30</b>         | 30               | 18  |             |           |          |            | <b>X</b>  |             | <b>X</b>  |
| 15       | <b>24</b>         | 24               | 25  |             | <b>X</b>  | <b>X</b> |            |           |             |           |
| 16       | <b>24</b>         | 24               | 25  | <b>X-Ap</b> |           |          | <b>X</b>   |           |             |           |
| 17       | <b>24</b>         | 24               | 25  |             |           |          |            | <b>X</b>  | <b>X</b>    | <b>X</b>  |
| 18       | <b>12</b>         | 12               | 50  |             | <b>X</b>  |          |            |           |             |           |
| 19       | <b>12</b>         | 12               | 50  | <b>X</b>    |           |          |            |           |             |           |
| 20       | <b>12</b>         | 12               | 50  |             |           |          |            | <b>X</b>  |             |           |
| 21       | <b>6</b>          | 7                | 73  |             | <b>X</b>  | <b>X</b> |            |           |             |           |
| 22       | <b>6</b>          | 7                | 73  | <b>X-Ap</b> |           |          |            |           |             |           |
| 23       | <b>6</b>          | 7                | 73  |             |           |          |            | <b>X</b>  | <b>X</b>    | <b>X</b>  |
| 24       | <b>6</b>          | 7                | 73  |             |           |          |            | <b>X</b>  |             |           |

Notes: accidentally tripped an extra bottle at 67 m

MLD = 25 m

DCM = 70 m

Bottle 15 did not close

## WP2

CTD#\_\_\_\_78\_\_\_\_ / Station#\_\_\_\_24\_\_\_\_ / Cast#\_\_\_\_18\_\_\_\_

max CTD depth: 200 m  
 bottom depth: ? m  
 Start Time: 00:00  
 Start Lat: 36 9.050'S  
 Start Lon: 161 46.932'E

Operator(s): Kuhio/Karen  
 Year Day: 032 UTC  
 Finish Time: 00:20  
 Finish Lat: 36 9.049'S  
 Finish Lon: 161 46.932'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Rob (HPLC/Chl) | Grazing |
|------------------|-------------------|------------------|------------|----------------|---------|
| 1                | 81                | 81               | 1          |                | X-6     |
| 2                | 81                | 81               | 1          |                | X       |
| 3                | 81                | 81               | 1          |                | X       |
| 4                | 81                | 81               | 1          | Chl/HPLC #6    | X       |
| 5                | 49                | 49               | 6          |                | X-5     |
| 6                | 49                | 49               | 6          |                | X       |
| 7                | 49                | 49               | 6          |                | X       |
| 8                | 49                | 49               | 6          | Chl/HPLC #5    | X       |
| 9                | 30                | 30               | 18         |                | X-4     |
| 10               | 30                | 30               | 18         |                | X       |
| 11               | 30                | 30               | 18         |                | X       |
| 12               | 30                | 30               | 18         | Chl/HPLC #4    | X       |
| 13               | 24                | 24               | 25         |                | X-3     |
| 14               | 24                | 24               | 25         |                | X       |
| 15               | 24                | 24               | 25         |                | X       |
| 16               | 24                | 24               | 25         | Chl/HPLC #3    | X       |
| 17               | 12                | 12               | 50         |                | X-2     |
| 18               | 12                | 12               | 50         |                | X       |
| 19               | 12                | 12               | 50         |                | X       |
| 20               | 12                | 12               | 50         | Chl/HPLC #2    | X       |
| 21               | 6                 | 6                | 73         |                | X-1     |
| 22               | 6                 | 6                | 73         |                | X       |
| 23               | 6                 | 7                | 73         |                | X       |
| 24               | 6                 | 7                | 73         | Chl/HPLC #1    | X       |

Notes: MLD = 35 m , DCM ~80 m

Upon recovery, discover that most of the vents were not closed. Proceeded with experimental setup in any case.

## WP2

CTD# \_\_\_\_79\_\_\_\_ / Station# \_\_\_\_25\_\_\_\_ / Cast# \_\_\_\_1\_\_\_\_

max CTD depth: 900 m  
 bottom depth >1500 m  
 Start Time: 21:20  
 Start Lat: 34 14.088'S  
 Start Lon: 160 21.277'E

Operator(s): Kuhio/Rob  
 Year Day: 032 UTC  
 Finish Time: 22:22  
 Finish Lat: S 34 14.097  
 Finish Lon: E 160 21.278

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Gary DNA/ RNA | Jeremy | Jeff | Audrey/ Janet | ZIJ | Robert o (GW) | Whit-ney | Eric W |
|------------------|-------------------|------------------|---------------|--------|------|---------------|-----|---------------|----------|--------|
| 1                | 500               | 500              | X             |        | X    |               |     |               |          |        |
| 2                | 300               | 301              | X             | X      | X    |               |     |               |          |        |
| 3                | 200               | 200              | X             | X      | X    |               | X   |               |          |        |
| 4                | 150               | 150              | X             | X      | X    |               |     |               |          |        |
| 5                | 150               | 150              |               |        |      | X             | X   |               |          |        |
| 6                | 150               | 150              |               |        |      |               |     |               | X        | X      |
| 7                | 135               | 135              | X             | X      | X    | X             | X   |               |          |        |
| 8                | 115               | 115              | X             | X      | X    | X             | X   |               |          |        |
| 9                | 100               | 100              | X             | X      | X    | X             | X   |               |          |        |
| 10               | 100               | 100              |               |        |      |               |     | X             | X        | X      |
| 11               | 75                | 75               | X             | X      | X    |               |     |               |          |        |
| 12               | 75                | 75               |               |        |      | X             | X   | X             |          |        |
| 13               | 75                | 75               |               |        |      |               |     |               | X        | X      |
| 14               | DCM=70            | 70               | X             | X      | X    |               |     |               |          |        |
| 15               | DCM=70            | 70               |               |        |      | X             | X   | X             |          |        |
| 16               | DCM=70            | 70               |               |        |      |               |     |               | X        | X      |
| 17               | 50                | 50               | X             | X      | X    | X             | X   |               |          |        |
| 18               | 50                | 50               |               |        |      |               |     | X             | X        | X      |
| 19               | 25                | 25               | X             | X      | X    |               |     |               |          |        |
| 20               | 25                | 25               |               |        |      | X             | X   | X             |          |        |
| 21               | 25                | 25               |               |        |      |               |     |               | X        | X      |
| 22               | 5                 | 9                | X             | X      | X    |               |     |               |          |        |
| 23               | 5                 | 9                |               |        |      | X             | X   | X             |          |        |
| 24               | 5                 | 9                |               |        |      |               |     |               | X        | X      |

Notes: MLD = ~ 20m

DCM incorrectly identified on this cast – it was actually at ~45 m.

## WP2

CTD# 80 / Station# 25 / Cast# 02

max CTD depth: 300 m  
 bottom depth: ? m  
 Start Time: 01:04  
 Start Lat: 34 14.094'S  
 Start Lon: 160 21.253' E

Operator(s): Dan/Karen  
 Year Day: 033 UTC  
 Finish Time: 01:34  
 Finish Lat: 34 14.167'S  
 Finish Lon: 160 21.325'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Ryan (HPLC/Chl) | Grazing | Prim Prod | Gary (RNA) |
|------------------|-------------------|------------------|------------|-----------------|---------|-----------|------------|
| 1                | <b>200</b>        | 200              |            |                 |         |           | X          |
| 2                | <b>96</b>         | 96               | ~0.1       | Chl/HPLC #8     |         |           |            |
| 3                | <b>60</b>         | 60               | 1          |                 | X-6     |           |            |
| 4                | <b>60</b>         | 60               | 1          |                 | X       |           |            |
| 5                | <b>60</b>         | 60               | 1          | Chl/HPLC #6     | X       | X         |            |
| 6                | <b>DCM=45</b>     | 45               | 3          | Chl/HPLC #7     |         |           |            |
| 7                | <b>DCM=45</b>     | 45               | 3          |                 |         |           | X          |
| 8                | <b>37</b>         | 37               | 6          |                 | X-5     |           |            |
| 9                | <b>37</b>         | 37               | 6          |                 | X       |           |            |
| 10               | <b>37</b>         | 37               | 6          | Chl/HPLC #5     | X       | Ap-X      |            |
| 11               | <b>23</b>         | 23               | 18         |                 | X-4     |           |            |
| 12               | <b>23</b>         | 23               | 18         |                 | X       |           |            |
| 13               | <b>23</b>         | 23               | 18         | Chl/HPLC #4     | X       | X         |            |
| 14               | <b>18</b>         | 18               | 25         |                 | X-3N    |           |            |
| 15               | <b>18</b>         | 18               | 25         |                 | X       |           |            |
| 16               | <b>18</b>         | 18               | 25         | Chl/HPLC #3     | X       | Ap-X      |            |
| 17               | <b>9</b>          | 9                | 50         |                 |         |           |            |
| 18               | <b>9</b>          | 9                | 50         |                 | X-2     |           |            |
| 19               | <b>9</b>          | 9                | 50         | Chl/HPLC #2     | X       | X         |            |
| 20               | <b>4</b>          | 4                | 73         |                 |         |           |            |
| 21               | <b>4</b>          | 4                | 73         |                 | X-1     |           |            |
| 22               | <b>4</b>          | 4                | 73         |                 | X       |           |            |
| 23               | <b>4</b>          | 4                | 73         | Chl/HPLC #1     | X       | Ap-X      |            |
| 24               | <b>4</b>          | 4                | 73         |                 |         |           | X          |

Notes: DCM = 45 m, MLD = 50 m, small fluorescence hump at 96 m.  
 Niskin Bottle No. 21 did not close



## WP2

CTD# 81 / Station# 26 / Cast# 1

max CTD depth: 900 m  
 bottom depth: ? m  
 Start Time: 21:03  
 Start Lat: 32 25.274'S  
 Start Lon: 159 5.336' E

Operator(s): Kuhio/Rob  
 Year Day: 033 UTC  
 Finish Time: 21:59  
 Finish Lat: S 32 25.292  
 Finish Lon: E 159 5.330

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Gary DNA/ RNA | Jeremy       | Jeff         | Audrey/ Janet | ZIJ          | Robert o (GW) | Whit-ney | Eric W |
|------------------|-------------------|------------------|---------------|--------------|--------------|---------------|--------------|---------------|----------|--------|
| 1                | 500               | 500              | X             |              | X            |               |              |               |          |        |
| 2                | 300               | 300              | X             | X            | X            |               |              |               |          |        |
| 3                | 200               | 200              | X             | X            | X            |               | X            |               |          |        |
| 4                | 150               | 150              | X             | X            | X            |               |              |               |          |        |
| 5                | 150               | 150              |               |              |              | X             | X            |               |          |        |
| 6                | 150               | 150              |               |              |              |               |              |               | X        | X      |
| 7                | <del>135</del>    | <del>135</del>   | <del>X</del>  | <del>X</del> | <del>X</del> | <del>X</del>  | <del>X</del> |               |          |        |
| 8                | 115               | 115              | X             | X            | X            | X             | X            |               |          |        |
| 9                | 100               | 100              | X             | X            | X            | X             | X            |               |          |        |
| 10               | 100               | 100              |               |              |              |               |              | X             | X        | X      |
| 11               | DCM=90            | 90               | X             | X            | X            |               |              |               |          |        |
| 12               | DCM=90            | 90               |               |              |              | X             | X            | X             |          |        |
| 13               | DCM=90            | 90               |               |              |              |               |              |               | X        | X      |
| 14               | 75                | 75               | X             | X            | X            |               |              |               |          |        |
| 15               | 75                | 75               |               |              |              | X             | X            | X             |          |        |
| 16               | 75                | 75               |               |              |              |               |              |               | X        | X      |
| 17               | 50                | 50               | X             | X            | X            | X             | X            |               |          |        |
| 18               | 50                | 50               |               |              |              |               |              | X             | X        | X      |
| 19               | 25                | 25               | X             | X            | X            |               |              |               |          |        |
| 20               | 25                | 25               |               |              |              | X             | X            | X             |          |        |
| 21               | 25                | 25               |               |              |              |               |              |               | X        | X      |
| 22               | 5                 | 9                | X             | X            | X            |               |              |               |          |        |
| 23               | 5                 | 9                |               |              |              | X             | X            | X             |          |        |
| 24               | 5                 | 9                |               |              |              |               |              |               | X        | X      |

Notes: MLD = ~ 60m

Niskin Bottle #7 did not close

## WP2

CTD#\_\_\_\_82\_\_\_\_ / Station#\_\_\_\_26\_\_\_\_ / Cast#\_\_\_\_02\_\_\_\_

max CTD depth: 300 m  
 bottom depth: ? m  
 Start Time: 01:20  
 Start Lat: 32 25.289 S  
 Start Lon: 159 5.327 E

Operator(s): Dan/Karen  
 Year Day: 034 UTC  
 Finish Time: 01:50  
 Finish Lat: 32 25.319'S  
 Finish Lon: 159 5.365'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | Ryan (HPLC/Chl) | Grazing | Prim Prod | Gary (RNA) |
|------------------|-------------------|------------------|------------|-----------------|---------|-----------|------------|
| 1                | <b>200</b>        | 200              |            |                 |         |           | X          |
| 2                | <b>122</b>        | 122              | 1          |                 | X       |           |            |
| 3                | <b>122</b>        | 122              | 1          |                 | X       |           |            |
| 4                | <b>122</b>        | 122              | 1          | Chl/HPLC #6     |         | X         |            |
| 5                | <b>DCM=93</b>     | 93               | 3          | Chl/HPLC #8     |         |           |            |
| 6                | <b>DCM=93</b>     | 93               | 3          |                 |         |           | X          |
| 7                | <b>74</b>         | 74               | 6          |                 | X       |           |            |
| 8                | <b>74</b>         | 74               | 6          | Chl/HPLC #5     |         | Ap-X      |            |
| 9                | <b>74</b>         | 74               | 6          |                 |         |           |            |
| 10               | <b>63</b>         | 63               | 9          | Chl/HPLC #7     |         |           |            |
| 11               | <b>45</b>         | 45               | 18         |                 | X       |           |            |
| 12               | <b>45</b>         | 45               | 18         |                 | X       |           |            |
| 13               | <b>45</b>         | 45               | 18         | Chl/HPLC #4     |         | X         |            |
| 14               | <b>37</b>         | 37               | 25         |                 | X       |           |            |
| 15               | <b>37</b>         | 37               | 25         |                 | X       |           |            |
| 16               | <b>37</b>         | 37               | 25         | Chl/HPLC #3     |         | Ap-X      |            |
| 17               | <b>18</b>         | 18               | 50         |                 | X       |           |            |
| 18               | <b>18</b>         | 18               | 50         |                 | X       |           |            |
| 19               | <b>18</b>         | 18               | 50         | Chl/HPLC #2     |         | X         |            |
| 20               | <b>8</b>          | 8                | 73         |                 |         | Anna's!   |            |
| 21               | <b>8</b>          | 8                | 73         |                 | X       |           |            |
| 22               | <b>8</b>          | 8                | 73         |                 | X       |           |            |
| 23               | <b>8</b>          | 8                | 73         | Chl/HPLC #1     |         | Ap-X      |            |
| 24               | <b>8</b>          | 9                | 73         |                 |         |           | X          |

Notes: MLD = 60 m

Niskin Bottle #9 did not close

## WP2: TRIEL

16:00

CTD# 83 / Station# 26 / Cast# 3

max CTD depth: 600 m  
 bottom depth: ? m  
 Start Time: 05:03  
 Start Lat: 32 25.325S  
 Start Lon: 159 5.358 E

Operator(s): Erik/Dan  
 Year Day: 34 UTC  
 Finish Time: 05:49  
 Finish Lat: 32 25.305S  
 Finish Lon: 159 5.354 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | JM | JC | GL | JR | EW | ANNA | WK | ROSE Y |
|----------|-------------------|------------------|----|----|----|----|----|------|----|--------|
| 1        | 500               | 500              | X  |    |    |    |    |      |    | X      |
| 2        | 200               | 200              |    |    | X  |    |    |      |    |        |
| 3        | 200               | 200              | X  |    |    |    |    |      |    | X      |
| 4        | 150               | 149              |    |    |    |    | X  |      |    |        |
| 5        | 150               | 150              | X  |    |    |    |    |      | X  | X      |
| 6        | 100               | 100              |    |    |    |    | X  |      |    |        |
| 7        | 100               | 100              | X  |    |    |    |    |      | X  | X      |
| 8        | 90                | 90               | X  | X  |    |    |    |      |    |        |
| 9        | 90                | 90               |    |    | X  |    |    |      |    |        |
| 10       | 90                | 90               |    |    |    |    | X  |      |    |        |
| 11       | 90                | 90               |    |    |    |    |    | X    | X  | X      |
| 12       | 90                | 90               |    |    |    |    |    |      |    |        |
| 13       | 75                | 75               |    |    |    |    | X  |      |    |        |
| 14       | 75                | 75               | X  |    |    |    |    |      | X  | X      |
| 15       | 50                | 50               |    |    |    |    | X  |      |    |        |
| 16       | 50                | 50               | X  |    |    |    |    |      | X  | X      |
| 17       | 50                | 50               |    |    |    |    |    | X    |    |        |
| 18       | 25                | 25               |    |    |    |    | X  |      |    |        |
| 19       | 25                | 25               | X  | X  |    |    |    |      | X  | X      |
| 20       | 6                 | 6                | X  | X  |    |    |    |      |    |        |
| 21       | 6                 | 6                |    |    | X  |    |    |      |    |        |
| 22       | 6                 | 6                |    |    |    |    | X  |      |    |        |
| 23       | 6                 | 6                |    |    |    |    | X  |      |    |        |
| 24       | 6                 | 6                |    |    |    |    |    | X    | X  | X      |

Notes:

MLD = 60m

DCM = 100m

## WP2

CTD# \_\_\_\_ 85 \_\_\_\_ / Station# \_\_\_\_ 26 \_\_\_\_ / Cast# \_\_\_\_ 5 \_\_\_\_

max CTD depth: 200 m  
 bottom depth ? m  
 Start Time: 17:00  
 Start Lat: 32 25.290'S  
 Start Lon: 159 5.334' E

Operator(s): Kuhio/Karen  
 Year Day: 34 UTC  
 Finish Time:  
 Finish Lat: 32 S  
 Finish Lon: 159 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | Grazing | ZIJ |
|----------|-------------------|------------------|---------|-----|
| 1        |                   |                  |         |     |
| 2        |                   |                  |         |     |
| 3        |                   |                  |         |     |
| 4        |                   |                  |         |     |
| 5        |                   |                  |         |     |
| 6        |                   |                  |         |     |
| 7        |                   |                  |         |     |
| 8        |                   |                  |         |     |
| 9        |                   |                  |         |     |
| 10       |                   |                  |         |     |
| 11       |                   |                  |         |     |
| 12       |                   |                  |         |     |
| 13       |                   |                  |         |     |
| 14       |                   |                  |         |     |
| 15       |                   |                  |         |     |
| 16       |                   |                  |         |     |
| 17       |                   |                  |         |     |
| 18       |                   |                  |         |     |
| 19       |                   |                  |         |     |
| 20       |                   |                  |         |     |
| 21       |                   |                  |         |     |
| 22       |                   |                  |         |     |
| 23       |                   |                  |         |     |
| 24       |                   |                  |         |     |

**Notes:****MLD = ~60m****DCM = ~95m**

## WP2

CTD# \_\_\_\_ 85 \_\_\_\_ / Station# \_\_\_\_ 26 \_\_\_\_ / Cast# \_\_\_\_ 5 \_\_\_\_

max CTD depth: 200 m  
 bottom depth ? m  
 Start Time: 17:00  
 Start Lat: 32 25.290' S  
 Start Lon: 159 5.334' E

Operator(s): Kuhio/Karen  
 Year Day: 34 UTC  
 Finish Time: 17:22  
 Finish Lat: 32 25.295' S  
 Finish Lon: 159 5.340' E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | Grazing | ZIJ (FCM/FIRE) |
|----------|-------------------|------------------|---------|----------------|
| 1        | 90                | 90               | X       | X              |
| 2        | 90                | 90               | X       |                |
| 3        | 90                | 90               | X       |                |
| 4        | 90                | 90               | X       |                |
| 5        | 90                | 90               | X       |                |
| 6        | 90                | 90               | X       |                |
| 7        | 90                | 90               | X       |                |
| 8        | 90                | 90               | X       |                |
| 9        | 90                | 90               | X       |                |
| 10       | 90                | 90               | X       |                |
| 11       | 90                | 90               | X       |                |
| 12       | 90                | 90               | X       |                |
| 13       | 90                | 90               | X       |                |
| 14       | 90                | 90               | X       |                |
| 15       | 90                | 90               | X       |                |
| 16       | 90                | 90               | X       |                |
| 17       | 90                | 90               | X       |                |
| 18       | 90                | 90               | X       |                |
| 19       | 90                | 90               | X       |                |
| 20       | 90                | 90               | X       |                |
| 21       | 90                | 90               | X       |                |
| 22       | 90                | 90               | X       |                |
| 23       | 90                | 90               | X       |                |
| 24       | 90                | 90               | X       |                |

## Notes:

MLD = 55 m

DCM = 90 m

## WP2: TRIEL

08:00

CTD#\_\_\_\_86\_\_\_\_ / Station#\_\_\_\_26\_\_\_\_ / Cast#\_\_\_\_6\_\_\_\_

max CTD depth: 600 m  
 bottom depth: ? m  
 Start Time: 21:03  
 Start Lat: 32 25.298 S  
 Start Lon: 159 5.335 E

Operator(s): Kuhio/Erik  
 Year Day: 34 UTC  
 Finish Time: 21:41  
 Finish Lat: 32 25.289 S  
 Finish Lon: 159 5.332 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | JM   | JC | GL | JR | EW | ANNA | WK | ROSE Y |
|----------|-------------------|------------------|------|----|----|----|----|------|----|--------|
| 1        | 500               | 500              | X    |    |    |    |    |      |    | X      |
| 2        | 200               | 200              | X    |    | X  |    |    |      |    |        |
| 3        | 150               | 150              | X    |    |    | X  |    |      |    | X      |
| 4        | 150               | 150              |      |    |    |    | X  |      |    |        |
| 5        | 100               | 100              |      |    |    |    | X  |      |    |        |
| 6        | 100               | 100              | X    |    |    |    |    |      |    | X      |
| 7        | 90                | 90               | X    |    |    |    |    |      |    |        |
| 8        | 90                | 90               |      |    | X  |    |    |      |    |        |
| 9        | 90                | 90               |      |    |    |    | X  |      |    |        |
| 10       | 90                | 90               |      |    |    | X  |    | X    |    | X      |
| 11       | 90                | 90               | X    | X  |    |    |    |      |    |        |
| 12       | 75                | 75               |      |    |    |    | X  |      |    |        |
| 13       | 75                | 75               | X    |    |    |    |    |      |    | X      |
| 14       | 50                | 50               | X    |    |    |    |    | X    |    | X      |
| 15       | 50                | 50               |      |    |    |    | X  |      |    |        |
| 16       | 25                | 25               | X    | X  |    |    |    |      |    |        |
| 17       | 25                | 25               | X(5L |    |    | X  |    |      |    | X      |
| 18       | 25                | 25               |      |    |    |    | X  |      |    |        |
| 19       | 6                 | 6                | X    | X  |    |    |    |      |    |        |
| 20       | 6                 | 7                |      |    | X  |    |    |      |    |        |
| 21       | 6                 | 6                |      |    |    | X  |    | X    |    | X      |
| 22       | 6                 | 6                |      |    |    |    | X  |      |    |        |
| 23       | 6                 | 6                |      |    |    |    | X  |      |    |        |
| 24       | 6                 | 6                | X    |    |    |    |    |      |    |        |

Notes:

MLD = ~60m

DCM = ~90m

## WP2

CTD#\_\_\_\_87\_\_\_\_ / Station#\_\_\_\_26\_\_\_\_ / Cast#\_\_\_\_07\_\_\_\_

max CTD depth: 300 m  
 bottom depth: ? m  
 Start Time: 01:10  
 Start Lat: 32 25.307'S  
 Start Lon: 159 5.374'E

Operator(s): Dan/Karen  
 Year Day: 035 UTC  
 Finish Time: 01:38  
 Finish Lat: 32 25.323'S  
 Finish Lon: 159 5.462'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | % incident | ZIJ (PvE etc) |
|------------------|-------------------|------------------|------------|---------------|
| 1                | 64                | 64               | 6          | X             |
| 2                | 64                | 64               | 6          |               |
| 3                | 64                | 64               | 6          |               |
| 4                | 32                | 32               | 25         | X             |
| 5                | 32                | 32               | 25         |               |
| 6                | 32                | 32               | 25         |               |
| 7                | 7                 | 7                | 73         | X             |
| 8                | 7                 | 7                | 73         | X             |
| 9                | 7                 | 7                | 73         | X             |
| 10               | 7                 | 7                | 73         | X             |
| 11               | 7                 | 7                | 73         | X             |
| 12               | 7                 | 7                | 73         | X             |
| 13               | 7                 | 7                | 73         | X             |
| 14               | 7                 | 7                | 73         | X             |
| 15               | 7                 | 7                | 73         | X             |
| 16               | 7                 | 7                | 73         | X             |
| 17               | 7                 | 7                | 73         | X             |
| 18               | 7                 | 7                | 73         | X             |
| 19               | 7                 | 7                | 73         | X             |
| 20               | 7                 | 7                | 73         | X             |
| 21               | 7                 | 7                | 73         | X             |
| 22               | 7                 | 7                | 73         | X             |
| 23               | 7                 | 7                | 73         | X             |
| 24               | 7                 | 7                | 73         | X             |

Notes: MLD = 60 m, DCM = 85 m

## WP2: TRIEL

16:00

CTD# 88 / Station# 26 / Cast# 08

max CTD depth: 600 m  
 bottom depth: N/A  
 Start Time: 05:00  
 Start Lat: 32 25.298 S  
 Start Lon: 159 5.338E

Operator(s): Anna/Dan  
 Year Day: 35 UTC  
 Finish Time: 05:47  
 Finish Lat: 32 26.295S  
 Finish Lon: 159 5.341 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | JM | JC | GL | JR | EW An | ANNA | WK | ROSE Y |
|----------|-------------------|------------------|----|----|----|----|-------|------|----|--------|
| 1        | 500               | 500              | X  |    |    |    |       |      |    | X      |
| 2        | 200               | 200              |    |    | X  |    |       |      |    |        |
| 3        | 200               | 200              | X  |    |    |    |       |      |    | X      |
| 4        | 150               | 149              |    |    |    |    | X     |      |    |        |
| 5        | 150               | 150              | X  |    |    |    |       |      | X  | X      |
| 6        | 100               | 100              |    |    |    |    | X     |      |    |        |
| 7        | 100               | 100              | X  |    |    |    |       |      | X  | X      |
| 8        | 90                | 90               | X  | X  |    |    |       |      |    |        |
| 9        | 90                | 90               |    |    | X  |    |       |      |    |        |
| 10       | 90                | 90               |    |    |    |    | X     |      |    |        |
| 11       | 90                | 90               |    |    |    |    |       | X    | X  | X      |
| 12       | 90                | 90               |    |    |    |    |       |      |    |        |
| 13       | 75                | 75               |    |    |    |    | X     |      |    |        |
| 14       | 75                | 75               | X  |    |    |    |       |      | X  | X      |
| 15       | 50                | 50               |    |    |    |    | X     |      |    |        |
| 16       | 50                | 50               | X  |    |    |    |       |      | X  | X      |
| 17       | 50                | 50               |    |    |    |    |       | X    |    |        |
| 18       | 25                | 24               |    |    |    |    | X     |      |    |        |
| 19       | 25                | 24               | X  | X  |    |    |       |      | X  | X      |
| 20       | 6                 | 6                | X  | X  |    |    |       |      |    |        |
| 21       | 6                 | 6                |    |    | X  |    |       |      |    |        |
| 22       | 6                 | 6                |    |    |    |    | X     |      |    |        |
| 23       | 6                 | 6                |    |    |    |    | X     |      |    |        |
| 24       | 6                 | 6                |    |    |    |    |       | X    | X  | X      |

Notes:

MLD = 60m

DCM = 90m



## WP2: TRIEL

00:00

CTD# 89 / Station# 26 / Cast# 09

max CTD depth: 600 m  
 bottom depth: ? m  
 Start Time: 13:08  
 Start Lat: 32 25.449 S  
 Start Lon: 159 5.530 E

Operator(s): Kuhio/Erik  
 Year Day: 35 UTC  
 Finish Time: 13:40  
 Finish Lat: 32 25.550 S  
 Finish Lon: 159 5.603 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | JM | JC | GLeC | JR | EW | AN-NA | WK | ROSE Y |
|----------|-------------------|------------------|----|----|------|----|----|-------|----|--------|
| 1        | 500               | 500              | X  |    |      |    |    |       |    | X      |
| 2        | 200               | 200              |    |    | X    |    |    |       |    |        |
| 3        | 200               | 200              | X  |    |      |    |    |       |    | X      |
| 4        | 150               | 150              |    |    |      |    | X  |       |    |        |
| 5        | 150               | 150              | X  |    |      |    |    |       |    | X      |
| 6        | 100               | 100              |    |    |      |    | X  |       |    |        |
| 7        | 100               | 100              | X  |    |      |    |    |       |    | X      |
| 8        | 90                | 90               | X  | X  |      |    |    |       |    |        |
| 9        | 90                | 90               |    |    | X    |    |    |       |    |        |
| 10       | 90                | 90               |    |    |      |    | X  |       |    |        |
| 11       | 90                | 90               |    |    |      |    |    | X     |    | X      |
| 12       | 90                | 90               |    |    |      |    |    |       |    |        |
| 13       | 75                | 75               |    |    |      |    | X  |       |    |        |
| 14       | 75                | 75               | X  |    |      |    |    |       |    | X      |
| 15       | 50                | 50               |    |    |      |    | X  |       |    |        |
| 16       | 50                | 50               | X  |    |      |    |    |       |    | X      |
| 17       | 50                | 50               |    |    |      |    |    | X     |    |        |
| 18       | 25                | 25               |    |    |      |    | X  |       |    |        |
| 19       | 25                | 25               | X  | X  |      |    |    |       |    | X      |
| 20       | 6                 | 6                | X  | X  |      |    |    |       |    |        |
| 21       | 6                 | 6                |    |    | X    |    |    |       |    |        |
| 22       | 6                 | 6                |    |    |      |    | X  |       |    |        |
| 23       | 6                 | 6                |    |    |      |    | X  |       |    |        |
| 24       | 6                 | 6                |    |    |      |    |    | X     |    | X      |

Notes:

MLD = 60m

DCM = 95m

## WP2: TRIEL

08:00

CTD# 90 / Station# 26 / Cast# 10

max CTD depth: 600 m  
 bottom depth: ?m  
 Start Time: 21:07  
 Start Lat: 32 2.289 S  
 Start Lon: 159 5.343E

Operator(s): Kuhio/Erik  
 Year Day: 35UTC  
 Finish Time: 21:45  
 Finish Lat: 32 25.295S  
 Finish Lon: 159 5.326 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | JM   | JC | GLeC | JR | EW | AN-NA | WK | ROSE Y |
|----------|-------------------|------------------|------|----|------|----|----|-------|----|--------|
| 1        | 500               | 500              | X    |    |      |    |    |       |    | X      |
| 2        | 200               | 200              | X    |    | X    |    |    |       |    |        |
| 3        | 150               | 150              | X    |    |      | X  |    |       |    | X      |
| 4        | 150               | 150              |      |    |      |    | X  |       |    |        |
| 5        | 100               | 100              |      |    |      |    | X  |       |    |        |
| 6        | 100               | 100              | X    |    |      |    |    |       |    | X      |
| 7        | 90                | 90               | X    |    |      |    |    |       |    |        |
| 8        | 90                | 90               |      |    | X    |    |    |       |    |        |
| 9        | 90                | 90               |      |    |      |    | X  |       |    |        |
| 10       | 90                | 90               |      |    |      | X  |    | X     |    | X      |
| 11       | 90                | 90               | X    | X  |      |    |    |       |    |        |
| 12       | 75                | 75               |      |    |      |    | X  |       |    |        |
| 13       | 75                | 74               | X    |    |      |    |    |       |    | X      |
| 14       | 50                | 50               | X    |    |      |    |    | X     |    | X      |
| 15       | 50                | 50               |      |    |      |    | X  |       |    |        |
| 16       | 25                | 25               | X    | X  |      |    |    |       |    |        |
| 17       | 25                | 25               | X(5L |    |      | X  |    |       |    | X      |
| 18       | 25                | 25               |      |    |      |    | X  |       |    |        |
| 19       | 6                 | 6                | X    | X  |      |    |    |       |    |        |
| 20       | 6                 | 6                |      |    | X    |    |    |       |    |        |
| 21       | 6                 | 6                |      |    |      | X  |    | X     |    | X      |
| 22       | 6                 | 6                |      |    |      |    | X  |       |    |        |
| 23       | 6                 | 6                |      |    |      |    | X  |       |    |        |
| 24       | 6                 | 6                | X    |    |      |    |    |       |    |        |

Notes:

MLD = ~65m

DCM = ~85m

## WP2: TRIEL

16:00

CTD#\_91\_\_\_\_\_ / Station#\_26\_\_\_\_\_ / Cast#\_11\_\_\_\_\_

max CTD depth: 600 m  
 bottom depth: N/A  
 Start Time: 5:00  
 Start Lat: 32 25.298 S  
 Start Lon: 159 5.340 E

Operator(s): Anna/Dan  
 Year Day: 36 UTC  
 Finish Time: 05:44  
 Finish Lat: 32 25.319S  
 Finish Lon: 159 5.339E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | JM | JC | GL | JR | EW | ANNA | WK | ROSE Y |
|----------|-------------------|------------------|----|----|----|----|----|------|----|--------|
| 1        | 500               | 500              | X  |    |    |    |    |      |    | X      |
| 2        | 200               | 199              |    |    | X  |    |    |      |    |        |
| 3        | 200               | 199              | X  |    |    |    |    |      |    | X      |
| 4        | 150               | 150              |    |    |    |    | X  |      |    |        |
| 5        | 150               | 149              | X  |    |    |    |    |      | X  | X      |
| 6        | 100               | 100              |    |    |    |    | X  |      |    |        |
| 7        | 100               | 100              | X  |    |    |    |    |      | X  | X      |
| 8        | 90                | 90               | X  | X  |    |    |    |      |    |        |
| 9        | 90                | 90               |    |    | X  |    |    |      |    |        |
| 10       | 90                | 90               |    |    |    |    | X  |      |    |        |
| 11       | 90                | 90               |    |    |    |    |    | X    | X  | X      |
| 12       | 90                | 90               |    |    |    |    |    |      |    |        |
| 13       | 75                | 74               |    |    |    |    | X  |      |    |        |
| 14       | 75                | 74               | X  |    |    |    |    |      | X  | X      |
| 15       | 50                | 49               |    |    |    |    | X  |      |    |        |
| 16       | 50                | 50               | X  |    |    |    |    |      | X  | X      |
| 17       | 50                | 49               |    |    |    |    |    | X    |    |        |
| 18       | 25                | 25               |    |    |    |    | X  |      |    |        |
| 19       | 25                | 25               | X  | X  |    |    |    |      | X  | X      |
| 20       | 6                 | 6                | X  | X  |    |    |    |      |    |        |
| 21       | 6                 | 6                |    |    | X  |    |    |      |    |        |
| 22       | 6                 | 6                |    |    |    |    | X  |      |    |        |
| 23       | 6                 | 6                |    |    |    |    | X  |      |    |        |
| 24       | 6                 | 6                |    |    |    |    |    | X    | X  | X      |

Notes:

MLD = 60m

DCM = 90m

## WP2: TRIEL

00:00

CTD# \_\_\_\_ 92 \_\_\_\_ / Station# \_\_\_\_ 26 \_\_\_\_ / Cast# \_\_\_\_ 12 \_\_\_\_

max CTD depth: 600 m  
 bottom depth: ? m  
 Start Time: 12:58  
 Start Lat: 32 25.299 S  
 Start Lon: 159 5.350 E

Operator(s): Kuhio/Erik  
 Year Day: 36 UTC  
 Finish Time: 13:31  
 Finish Lat: 32 25.324 S  
 Finish Lon: 159 5.343 E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | JM | JC | GLeC | JR | EW | A-N-N-A | WK | ROSE Y |
|----------|-------------------|------------------|----|----|------|----|----|---------|----|--------|
| 1        | 500               | 500              | X  |    |      |    |    |         |    | X      |
| 2        | 200               | 200              |    |    | X    |    |    |         |    |        |
| 3        | 200               | 200              | X  |    |      |    |    |         |    | X      |
| 4        | 150               | 150              |    |    |      |    | X  |         |    |        |
| 5        | 150               | 150              | X  |    |      |    |    |         |    | X      |
| 6        | 100               | 100              |    |    |      |    | X  |         |    |        |
| 7        | 100               | 100              | X  |    |      |    |    |         |    | X      |
| 8        | 90                | 90               | X  | X  |      |    |    |         |    |        |
| 9        | 90                | 90               |    |    | X    |    |    |         |    |        |
| 10       | 90                | 90               |    |    |      |    | X  |         |    |        |
| 11       | 90                | 90               |    |    |      |    |    | X       |    | X      |
| 12       | 90                | 90               |    |    |      |    |    |         |    |        |
| 13       | 75                | 75               |    |    |      |    | X  |         |    |        |
| 14       | 75                | 75               | X  |    |      |    |    |         |    | X      |
| 15       | 50                | 50               |    |    |      |    | X  |         |    |        |
| 16       | 50                | 50               | X  |    |      |    |    |         |    | X      |
| 17       | 50                | 50               |    |    |      |    |    | X       |    |        |
| 18       | 25                | 25               |    |    |      |    | X  |         |    |        |
| 19       | 25                | 25               | X  | X  |      |    |    |         |    | X      |
| 20       | 6                 | 6                | X  | X  |      |    |    |         |    |        |
| 21       | 6                 | 7                |    |    | X    |    |    |         |    |        |
| 22       | 6                 | 6                |    |    |      |    | X  |         |    |        |
| 23       | 6                 | 7                |    |    |      |    | X  |         |    |        |
| 24       | 6                 | 7                |    |    |      |    |    | X       |    | X      |

Notes:

MLD = 50m

DCM = 85m

## WP2:

CTD#\_\_\_\_93\_\_\_\_ / Station#\_\_\_\_27\_\_\_\_ / Cast#\_\_\_\_01\_\_\_\_

max CTD depth: 900 m  
 bottom depth 3231 m  
 Start Time: 13:04  
 Start Lat: 30 42.910 S  
 Start Lon: 157 56.475 E

Operator(s): Kuhio/Erik  
 Year Day: 37UTC  
 Finish Time: 13:53  
 Finish Lat: 30 42.499S  
 Finish Lon: 157 56.771E

a

| Rose Pos | Desired Depth (m) | Actual Depth (m) | JM |  |  |  |  |  |  |  |
|----------|-------------------|------------------|----|--|--|--|--|--|--|--|
| 1        | <b>900</b>        | 901              | X  |  |  |  |  |  |  |  |
| 2        | <b>900</b>        | 901              | X  |  |  |  |  |  |  |  |
| 3        | <b>900</b>        | 901              | X  |  |  |  |  |  |  |  |
| 4        | <b>900</b>        | 901              | X  |  |  |  |  |  |  |  |
| 5        | <b>900</b>        | 901              | X  |  |  |  |  |  |  |  |
| 6        | <b>900</b>        | 901              | X  |  |  |  |  |  |  |  |
| 7        | <b>85</b>         | 85               | X  |  |  |  |  |  |  |  |
| 8        | <b>85</b>         | 85               | X  |  |  |  |  |  |  |  |
| 9        | <b>85</b>         | 85               | X  |  |  |  |  |  |  |  |
| 10       | <b>85</b>         | 85               | X  |  |  |  |  |  |  |  |
| 11       | <b>85</b>         | 85               | X  |  |  |  |  |  |  |  |
| 12       | <b>85</b>         | 85               | X  |  |  |  |  |  |  |  |
| 13       | <b>25</b>         | 25               | X  |  |  |  |  |  |  |  |
| 14       | <b>25</b>         | 25               | X  |  |  |  |  |  |  |  |
| 15       | <b>25</b>         | 25               | X  |  |  |  |  |  |  |  |
| 16       | <b>25</b>         | 25               | X  |  |  |  |  |  |  |  |
| 17       | <b>25</b>         | 25               | X  |  |  |  |  |  |  |  |
| 18       | <b>25</b>         | 25               | X  |  |  |  |  |  |  |  |
| 19       | <b>6</b>          | 6                | X  |  |  |  |  |  |  |  |
| 20       | <b>6</b>          | 6                | X  |  |  |  |  |  |  |  |
| 21       | <b>6</b>          | 6                | X  |  |  |  |  |  |  |  |
| 22       | <b>6</b>          | 6                | X  |  |  |  |  |  |  |  |
| 23       | <b>6</b>          | 6                | X  |  |  |  |  |  |  |  |
| 24       | <b>6</b>          | 6                | X  |  |  |  |  |  |  |  |

Notes:

MLD = ~30m

DCM =85m

## WP2

CTD# 94 / Station# 28 / Cast# 01

max CTD depth: 900 m  
 bottom depth: ? m  
 Start Time: 23:01  
 Start Lat: 30 15.504'S  
 Start Lon: 157 18.193' E

Operator(s): Kuhio/Karen  
 Year Day: 037 UTC  
 Finish Time: 23:53  
 Finish Lat: 30 15.501'S  
 Finish Lon: 157 18.251'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Gary DNA/ RNA | Audrey/ Janet | Anna | Andrew | Eric W |
|------------------|-------------------|------------------|---------------|---------------|------|--------|--------|
| 1                | 500               | 500              | X             |               |      |        |        |
| 2                | 300               | 299.             | X             |               |      |        |        |
| 3                | 200               | 200              | X             |               | X    |        |        |
| 4                | 150               | 150              | X             |               |      |        |        |
| 5                | 150               | 150              |               | X             | X    |        |        |
| 6                | 150               | 150              |               |               |      | X      | X      |
| 7                | 135               | 135              | X             | X             | X    |        |        |
| 8                | 115               | 115              | X             | X             | X    |        |        |
| 9                | 100               | 100              | X             | X             | X    |        |        |
| 10               | 100               | 100              |               |               |      | X      | X      |
| 11               | DCM=90            | 90               | X             |               |      |        |        |
| 12               | DCM=90            | 90               |               | X             | X    |        |        |
| 13               | DCM=90            | 90               |               |               |      | X      | X      |
| 14               | 75                | 75               | X             |               |      |        |        |
| 15               | 75                | 75               |               | X             | X    |        |        |
| 16               | 75                | 76               |               |               |      | X      | X      |
| 17               | 50                | 50               | X             | X             | X    |        |        |
| 18               | 50                | 50               |               |               |      | X      | X      |
| 19               | 25                | 25               | X             |               |      |        |        |
| 20               | 25                | 25               |               | X             | X    |        |        |
| 21               | 25                | 25               |               |               |      | X      | X      |
| 22               | 5                 | 5                | X             |               |      |        |        |
| 23               | 5                 | 5                |               | X             | X    |        |        |
| 24               | 5                 | 5                |               |               |      | X      | X      |

Notes: MLD = ~ 30 m, DCM = 90 m

## WP2

CTD#\_\_\_\_95\_\_\_\_ / Station#\_\_\_\_29\_\_\_\_ / Cast#\_\_\_\_01\_\_\_\_

max CTD depth: 900 m  
 bottom depth 2000 fathoms  
 Start Time: 23:01  
 Start Lat: 29 45.615'S  
 Start Lon: 156 37.485'E

Operator(s): Kuhio/Karen  
 Year Day: 038 UTC  
 Finish Time: 23:55  
 Finish Lat: 29 45.535'S  
 Finish Lon: 156 37.422'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Gary DNA/ RNA | Audrey/ Janet | Anna | Andrew | Eric W |
|------------------|-------------------|------------------|---------------|---------------|------|--------|--------|
| 1                | 500               | 499              | X             |               |      |        |        |
| 2                | 300               | 300              | X             |               |      |        |        |
| 3                | 200               | 199.             | X             |               | X    |        |        |
| 4                | 150               | 149              | X             |               |      |        |        |
| 5                | 150               | 149              |               | X             | X    |        |        |
| 6                | 150               | 149              |               |               |      | X      | X      |
| 7                | 135               | 134.             | X             | X             | X    |        |        |
| 8                | 115               | 115              | X             | X             | X    |        |        |
| 9                | 100               | 100              | X             | X             | X    |        |        |
| 10               | 100               | 100              |               |               |      | X      | X      |
| 11               | DCM=85            | 82               | X             |               | X    |        |        |
| 12               | DCM=85            | 82               |               | X             |      |        |        |
| 13               | DCM=85            | 82               |               |               | X    | X      | X      |
| 14               | 75                | 75               | X             |               |      |        |        |
| 15               | 75                | 75               |               | X             | X    |        |        |
| 16               | 75                | 75               |               |               |      | X      | X      |
| 17               | 50                | 49               | X             | X             | X    |        |        |
| 18               | 50                | 49               |               |               |      | X      | X      |
| 19               | 25                | 25               | X             |               |      |        |        |
| 20               | 25                | 25               |               | X             | X    |        |        |
| 21               | 25                | 25               |               |               |      | X      | X      |
| 22               | 5                 | 5                | X             |               |      |        |        |
| 23               | 5                 | 5                |               | X             | X    |        |        |
| 24               | 5                 | 5                |               |               |      | X      | X      |

Notes: MLD = ~35 m, DCM = 82 m

# WP2

CTD#\_\_\_\_96\_\_\_\_ / Station#\_\_\_\_30\_\_\_\_ / Cast#\_\_\_\_01\_\_\_\_

max CTD depth: 900 m  
 bottom depth 1000 – 2000 fathoms  
 Start Time: 23:05  
 Start Lat: 28 45.782'S  
 Start Lon: 155 22.208'E

Operator(s): Kuhio/Karen  
 Year Day: 039 UTC  
 Finish Time: 23:59  
 Finish Lat: 28 45.779'S  
 Finish Lon: 155 22.190'E

| Rosette Position | Desired Depth (m) | Actual Depth (m) | Gary DNA/ RNA | Audrey/ Janet | Andrew | Whitney |
|------------------|-------------------|------------------|---------------|---------------|--------|---------|
| 1                | 500               | 500              | X             |               |        |         |
| 2                | 300               | 300              | X             |               |        |         |
| 3                | 200               | 200              | X             |               |        |         |
| 4                | 150               | 150              | X             |               |        |         |
| 5                | 150               | 150              |               | X             |        |         |
| 6                | 150               | 150              |               |               | X      | X       |
| 7                | 135               | 135              | X             | X             |        |         |
| 8                | 115               | 114.             | X             | X             |        |         |
| 9                | 100               | 100              | X             | X             |        |         |
| 10               | 100               | 100              |               |               | X      | X       |
| 11               | DCM=85            | 85               | X             |               |        |         |
| 12               | DCM=85            | 85               |               | X             |        |         |
| 13               | DCM=85            | 85               |               |               | X      | X       |
| 14               | 75                | 74.9             | X             |               |        |         |
| 15               | 75                | 75               |               | X             |        |         |
| 16               | 75                | 75               |               |               | X      | X       |
| 17               | 50                | 50               | X             | X             |        |         |
| 18               | 50                | 50               |               |               | X      | X       |
| 19               | 25                | 25               | X             |               |        |         |
| 20               | 25                | 25               |               | X             |        |         |
| 21               | 25                | 25               |               |               | X      | X       |
| 22               | 5                 | 5                | X             |               |        |         |
| 23               | 5                 | 5                |               | X             |        |         |
| 24               | 5                 | 5                |               |               | X      | X       |

Notes: MLD = ~20 m, DCM = 85 m