

# RB1904 CTD Cast Sheet

Station Number: A5      CTD cast #: 001      Transect #: 1  
 Start time (UTC): 2137z      End time (UTC): 2205      Bottom Depth: 82m (MB)  
 Start date (UTC): 5/12/2019      End date (UTC): 5/12/2019      Initials: LRMS

| Floater ID    | Bottle      | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|---------------|-------------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|               | 1           | 72.9         | ✓   | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS            | 2           | 60.1m        | ✓   | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
| HS<br>chl max | 3           | 40           | ✓   | ✓    |                 | ✓         |           | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|               | 4           | 40           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS            | 5           | 30           | ✓   | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
| HS            | 6           | 20           | ✓   | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
| HS            | 7           | 10           | ✓   | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|               | 8           |              | ✓   |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|               | 9           |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 10          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 11          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 12          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 13          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 14          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 15          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 16          |              | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|               | 17          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 18          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 19          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 20          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 21          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 22          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 23          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 24          | 10m          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | Sam<br>pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

# RB1904 CTD Cast Sheet

Station Number: A6      CTD cast #: 002      Transect #: 1  
 Start time (UTC): 23:24      End time (UTC): 23:45      Bottom Depth: 90m  
 Start date (UTC): 2019-05-12      End date (UTC): 2019-05-12      Initials: WZ

| Floater ID | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| 10mab      | 1       | 80           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| 10mab      | 2       | 80           |     | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 3       | 60           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 4       | 60           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 5       | 40           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 6       | 40           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
| chl max    | 7       | 30           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS chl max | 8       | 30           |     | ✓    |                 | ✓         |           | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|            | 9       | 20           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 10      | 20           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 11      | 10           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 12      | 10           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 13      | sfc          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 14      | sfc          |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 15      | sfc          |     |      |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   | ✓    |
|            | 16      | sfc          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 17      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 18      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 19      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 20      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 21      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

Sampling depths – Fixed: sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

# RB1904 CTD Cast Sheet

Station Number: A7      CTD cast #: 003      Transect #: 1  
 Start time (UTC): 0109      End time (UTC): 0127      Bottom Depth: 96  
 Start date (UTC): 2019-5-13      End date (UTC): 20190513      Initials: MS

| Floater ID | Bottle   | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|----------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| WS         | 1        | 98           |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 2        | 98           |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 3        | 80           |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 4        | 80           |     | ✓    |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   |      |
|            | 5        | 60           |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 6        | 60           |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 7        | 40           |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 8        | 40           |     | ✓    |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   |      |
|            | 9        | 30           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 10       | 30           |     | ✓    |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   |      |
|            | 11       | 25           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 12       | 25           |     | ✓    |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   |      |
|            | 13       | 20           |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 14       | 20           |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 15       | 10           |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 16       | 10           |     | ✓    |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   |      |
|            | 17       | sfc          | ✓   |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 18       | sfc          |     | ✓    |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   | ✓    |
|            | 19       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 20       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 21       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sam pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, <sup>25</sup>80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

*Before this stn, found SB532 pelican position #14 had loose screws.  
 tightened the screws - pelican worked.*

# RB1904 CTD Cast Sheet

Station Number: AG      CTD cast #: 064      Transect #: 1  
 Start time (UTC): 0248      End time (UTC): 0304      Bottom Depth: 121 m  
 Start date (UTC): 20190513      End date (UTC): 20190513      Initials: MS

| Floater ID | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1       | 115          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 2       | 115          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3       | 100          | ✓   |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 4       | 100          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 5       | 80           | ✓   |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 6       | 80           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 7       | 60           | ✓   |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 8       | 60           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 9       | 40           | ✓   |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 10      | 40           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 11      | 30           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 12      | 30           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 13      | 20           |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 14      | 20           |     | ✓    |                 | ✓         |           |     | ✓       |          |                 |     | ✓   | ✓    |
|            | 15      | 10           |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 16      | 10           |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 17      | sfc          | ✓   |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 18      | sfc          |     | ✓    |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   | ✓    |
|            | 19      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 20      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 21      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

# RB1904 CTD Cast Sheet

Station Number: A9      CTD cast #: 005      Transect #: 1  
 Start time (UTC): 04:51:46      End time (UTC): 5:16:56      Bottom Depth: 129 m  
 Start date (UTC): 20190513      End date (UTC): 20190513      Initials: Ho

| Floater ID | Bottle   | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|----------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1        | 120          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 2        | 120          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3        | 100          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 4        | 100          |     | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 5        | 80           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 6        | 80           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 7        | 60           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 8        | 60           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 9        | 40           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 10       | 40           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 11       | 30           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 12       | 30           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 13       | 20           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 14       | 20           |     | ✓    |                 | ✓         |           | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|            | 15       | 10           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 16       | 10           |     | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 17       | sfc          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 18       | sfc          |     | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|            | 19       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 20       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 21       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sam pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab      ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

# RB1904 CTD Cast Sheet

Station Number: A10      CTD cast #: 006      Transect #: 1  
 Start time (UTC): 6:29:54      End time (UTC): 7:17:54      Bottom Depth: \_\_\_\_\_  
 Start date (UTC): 5/13/19      End date (UTC): 5/13/19      Initials: Ho

| Floater ID        | Bottle  | Target Depth | TOI          | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|-------------------|---------|--------------|--------------|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| <del>10 mab</del> | 1       | 128          |              |      |                 |           |           |     |         |          |                 |     |     |      |
| 10 mab            | 2       | 128          | <del>4</del> | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|                   | 3       | 120          | ✓            |      |                 |           |           |     |         |          |                 |     |     |      |
|                   | 4       | 120          |              | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|                   | 5       | 100          | ✓            |      |                 |           |           |     |         |          |                 |     |     |      |
| HS                | 6       | 100          |              | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   |      |
|                   | 7       | 80           | ✓            |      |                 |           |           |     |         |          |                 |     |     |      |
| HS                | 8       | 80           |              | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   |      |
|                   | 9       | 60           | ✓            |      |                 |           |           |     |         |          |                 |     |     |      |
| HS                | 10      | 60           |              | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|                   | 11      | 40           | ✓            |      |                 |           |           |     |         |          |                 |     |     |      |
| HS                | 12      | 40           |              | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|                   | 13      | 30           |              |      |                 |           |           |     |         |          |                 |     |     |      |
|                   | 14      | 30           |              | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|                   | 15      | 20           | ✓            |      |                 |           |           |     |         |          |                 |     |     |      |
| HS                | 16      | 20           |              | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   |      |
|                   | 17      | 10           |              |      |                 |           |           |     |         |          |                 |     |     |      |
|                   | 18      | 10           |              | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| <del>HS</del>     | 19      | sfc          | ✓            |      |                 |           |           |     |         |          |                 |     |     |      |
| HS                | 20      | sfc          |              | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|                   | 21      |              |              |      |                 |           |           |     |         |          |                 |     |     |      |
|                   | 22      |              |              |      |                 |           |           |     |         |          |                 |     |     |      |
|                   | 23      |              |              |      |                 |           |           |     |         |          |                 |     |     |      |
|                   | 24      |              |              |      |                 |           |           |     |         |          |                 |     |     |      |
|                   | Sampler |              |              |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

# RB1904 CTD Cast Sheet

Station Number: All      CTD cast #: 007      Transect #: 1  
 Start time (UTC): 08:19      End time (UTC): 08:36      Bottom Depth: 154m  
 Start date (UTC): 2019-05-13      End date (UTC): 2019-05-13      Initials: WZ

| Floater ID | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| 10mab      | 1       | 144          |     |      |                 |           |           |     |         |          |                 |     |     |      |
| 10mab      | 2       | 144          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 3       | 120          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 4       | 120          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 5       | 100          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 6       | 100          |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 7       | 80           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 8       | 80           |     |      |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 9       | 60           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 10      | 60           |     |      |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 11      | 40           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 12      | 40           |     |      |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 13      | 30           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 14      | 30           |     |      |                 | ✓         |           |     | ✓       |          |                 |     | ✓   | ✓    |
|            | 15      | 20           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 16      | 20           |     |      |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 17      | 10           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 18      | 10           |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 19      | sfc          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 20      | sfc          |     |      |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|            | 21      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, <sup>144</sup>150, 200, 250, 300  
 Floating: Chl max, 10mab

# RB1904 CTD Cast Sheet

Station Number: A12      CTD cast #: 008      Transect #: 1  
 Start time (UTC): 10:14      End time (UTC): 10:39      Bottom Depth: 280  
 Start date (UTC): 2019-05-13      End date (UTC): 2019-05-13      Initials: W2

| Floater ID | Bottle   | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|----------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| 10 mab     | 1        | 260          |     |      |                 |           |           |     |         |          |                 |     |     |      |
| 10 mab     | 2        | 260          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3        | 200          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 4        | 200          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 5        | 150          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 6        | 150          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 7        | 120          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 8        | 120          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 9        | 100          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 10       | 100          |     | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 11       | 80           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 12       | 80           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 13       | 60           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 14       | 60           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 15       | 40           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 16       | 40           |     | ✓    |                 | ✓         |           | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|            | 17       | 30           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 18       | 30           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 19       | 20           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 20       | 20           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 21       | 10           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22       | 10           |     | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 23       | sfc          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 24       | sfc          |     | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|            | Sam pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: ~~Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300~~  
 Floating: Chl max, 10mab      ✓



# RB1904 CTD Cast Sheet

Station Number: AB      CTD cast #: 009      Transect #: 1  
 Start time (UTC): 13:01      End time (UTC): 13:47      Bottom Depth: 470  
 Start date (UTC): 2019-05-13      End date (UTC): 2019-05-13      Initials: WZ

| Floater ID   | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|--------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|              | 1       | 300          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|              | 2       | 250          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|              | 3       | 200          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|              | 4       | 150          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|              | 5       | 120          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|              | 6       | 100          |     | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|              | 7       | 80           |     | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   |      |
| WS/HS<br>1ZS | 8       | 64           |     | ✓    |                 | ✓         | ✓         | ✓   |         |          |                 | ✓   |     |      |
| WS/HS<br>1Z6 | 9       | 42           |     | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   |      |
| DC           | 10      | 42           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC           | 11      | 42           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|              | 12      | 42           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS<br>1ZS | 13      | 27           |     | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
| DC           | 14      | 27           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC           | 15      | 27           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|              | 16      | 27           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS<br>1ZS | 17      | 17           |     | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   |      |
| JT           | 18      | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| JT           | 19      | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS<br>1ZS | 20      | 7            |     | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   |      |
| WS/HS<br>1ZS | 21      | sfc          | ✓   | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
| DC           | 22      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC           | 23      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|              | 24      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|              | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths – Fixed:** Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
**Floating:** Chl max, 10mab

sfc 7 ✓ 17 ✓ 27 ✓ 42 ✓ 64 ✓  
 sfc 17 ✓ 27 ✓ 42 ✓  
 sfc 17 ✓ 27 ✓ 42 ✓  
 sfc 17 ✓ 27 ✓ 42 ✓

(grazing water)

# RB1904 CTD Cast Sheet

Station Number: A13 CTD cast #: 010 Transect #: 1  
Start time (UTC): 16:44:38 End time (UTC): 16:51:07 Bottom Depth: \_\_\_\_\_  
Start date (UTC): 5-13-19 End date (UTC): 5-13-19 Initials: Ho

| Floater ID | Bottle      | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|-------------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1           | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 2           | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 3           | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 4           | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 5           | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 6           | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 7           | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 8           | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 9           | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 10          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 11          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 12          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 13          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 14          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 15          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 16          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 17          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 18          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 19          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 20          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 21          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24          | 17           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sam<br>pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
Floating: Chl max, 10mab

17

# RB1904 CTD Cast Sheet

Station Number: A121      CTD cast #: 011      Transect #: 1  
 Start time (UTC): 18:11:51      End time (UTC): 18:57:17      Bottom Depth: 697  
 Start date (UTC): 5-13-19      End date (UTC): 5-13-19      Initials: HO

| Floater ID | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1       | 300          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 2       | 250          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3       | 200          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 4       | 150          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| ZS, HS     | 5       | 120          | ✓   | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 6       | 100          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| ZS         | 7       | 100          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 8       | 80           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| ZS         | 9       | 80           | ✓   |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 10      | 60           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| ZS         | 11      | 60           | ✓   |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 12      | 40           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| ZS         | 13      | 40           | ✓   |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 14      | 30           |     | ✓    |                 | ✓         |           |     | ✓       |          |                 |     | ✓   | ✓    |
|            | 15      | 30           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 16      | 20           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| ZS         | 17      | 20           | ✓   |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| HS         | 18      | 10           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 19      | 10           |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 20      | sfc          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| ZS         | 21      | sfc          |     |      |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 22      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 23      | sfc          | ✓   | ✓    |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   | ✓    |
| DC         | 24      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

VPR stopped working before CTD goes in water.

# RB1904 CTD Cast Sheet

Station Number: A15      CTD cast #: 012      Transect #: 1  
 Start time (UTC): 20:28      End time (UTC): 20:48      Bottom Depth: 1147  
 Start date (UTC): 2019-05-13      End date (UTC): 2019-05-13      Initials: WZ

| Floater ID | Bottle | Target Depth   | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|--------|----------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1      | 300            |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 2      | 250            |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3      | <del>200</del> |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 4      | 150            |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 5      | 120            |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 6      | 100            |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
| WS/HS      | 7      | 80             |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
| WS/HS      | 8      | 60             |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
| DC         | 9      | 60             |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 10     | 60             |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 11     | 60             |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 12     | 40             |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
| WS/HS      | 13     | 30             |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS/HS      | 14     | 20             |     | ✓    |                 | ✓         |           | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
| DC         | 15     | 20             |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 16     | 20             |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 17     | 20             |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 18     | 10             |     | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| ZS         | 19     | sfc            | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 20     | sfc            |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 21     | sfc            |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22     | sfc            |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 23     | sfc            |     | ✓    |                 | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|            | 24     | sfc            |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sam    |                |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | pler   |                |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths – Fixed:** sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300 ✓  
**Floating:** Chl max, 10mab

sfc 20 ✓ 60 ✓  
 sfc 20 ✓ 60 ✓  
 sfc 20 ✓ 60 ✓  
 sfc  
 sfc

SUNA power on @ 114630  
off @ 121930

# RB1904 CTD Cast Sheet

Station Number: A5 CTD cast #: 013 Transect #: 3  
 Start time (UTC): 10:53 End time (UTC): 11:20 Bottom Depth: 80  
 Start date (UTC): 2019-05-14 End date (UTC): 2019-05-14 Initials: WZ

| Floater ID | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| 10mab      | 1       | 70           | ✓   |      | ✓               | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
| 10mab      | 2       | 70           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| ws/HS      | 3       | 53           | ✓   |      | ✓               | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 4       | 53           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 5       | 53           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| ws/HS      | 6       | 35           | ✓   |      | ✓               | ✓         |           | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
| DC         | 7       | 35           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 8       | 35           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| ws/HS      | 9       | 23           | ✓   |      | ✓               | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
| DC         | 10      | 23           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 11      | 23           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| ws/HS      | 12      | 15           | ✓   |      | ✓               | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 13      | 15           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 14      | 15           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| ws/HS      | 15      | 8            | ✓   |      | ✓               | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 16      | 8            |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 17      | 8            |     |      |                 |           |           |     |         |          |                 |     |     |      |
| ws/HS      | 18      | sfc          | ✓   |      | ✓               | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
| DC         | 19      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 20      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 21      | sfc          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

sfc 8 15 22 25 53 70  
 -sfc 8 15 23 35 53 70  
 -sfc 8 15 23 35 53

# RB1904 CTD Cast Sheet

Station Number: AG      CTD cast #: 014      Transect #: 3  
 Start time (UTC): 13:10      End time (UTC): 13:27      Bottom Depth: 89  
 Start date (UTC): 20190514      End date (UTC): 20190514      Initials: WZ

| Floater ID | Bottle   | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|----------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| 10mab      | 1        | 78           |     | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
|            | 2        | 60           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
| WS/HS      | 3        | 49           |     | ✓    | ✓               | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 4        | 49           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 5        | 33           |     | ✓    | ✓               | ✓         |           | ✓   |         |          |                 | ✓   | ✓   | ✓    |
|            | 6        | 33           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 7        | 21           |     | ✓    | ✓               | ✓         |           | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
|            | 8        | 21           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 9        | 14           |     | ✓    | ✓               | ✓         |           | ✓   |         |          |                 | ✓   | ✓   | ✓    |
| JT         | 10       | 14           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| JT         | 11       | 14           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 12       | 14           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 13       | 6            |     | ✓    | ✓               | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 14       | 6            |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 15       | sfc          |     | ✓    | ✓               | ✓         | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
| DC         | 16       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 17       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
| ZS         | 18       | sfc          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 19       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 20       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 21       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sam pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths – Fixed:** ~~Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300~~

**Floating:** Chl max, 10mab

SV 60 ✓  
 SV 14 ✓  
 SV 21 ✓  
 SV 33 ✓  
 SV 49 ✓  
 SV 60 ✓  
 SV 78 ✓  
 SV 14 ✓  
 SV 33 ✓  
 SV 49 ✓  
 SV 14 ✓  
 SV 14 ✓

# RB1904 CTD Cast Sheet

Station Number: A6      CTD cast #: 015      Transect #: 3  
 Start time (UTC): 14:48      End time (UTC): 14:53      Bottom Depth: 87  
 Start date (UTC): 20190514      End date (UTC): 20190514      Initials: WZ

| Floater ID | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1       | 14           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 2       | 14           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 3       | 14           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 4       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 5       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 6       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 7       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 8       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 9       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 10      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 11      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 12      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 13      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 14      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 15      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 16      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 17      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 18      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 19      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 20      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 21      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23      | 14           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24      | 14           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: ~~Sfe, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300~~  
 Floating: Chl max, 10mab

14

# RB1904 CTD Cast Sheet

Station Number: A7      CTD cast #: 016      Transect #: 3  
 Start time (UTC): 16:00      End time (UTC): 16:20      Bottom Depth: 100  
 Start date (UTC): 2019-05-14      End date (UTC): 2019-05-14      Initials: WJ

| Floater ID | Bottle   | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|----------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| 10mab      | 1        | 90           |     | ✓    |                 |           |           | ✓   |         |          |                 | ✓   |     |      |
| 10mab      | 2        | 90           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 3        | 80           |     | ✓    |                 | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 4        | 80           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 5        | 53           |     | ✓    | ✓               | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 6        | 53           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WF/HS      | 7        | 36           |     | ✓    | ✓               | ✓         |           | ✓   |         |          |                 | ✓   | ✓   | ✓    |
| DC         | 8        | 36           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 9        | 36           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 10       | 36           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 11       | 24           |     | ✓    | ✓               | ✓         |           | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
| DC         | 12       | 24           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 13       | 24           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 14       | 24           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 15       | 15           |     | ✓    | ✓               | ✓         |           | ✓   |         |          |                 | ✓   | ✓   | ✓    |
|            | 16       | 15           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 17       | 9            |     | ✓    | ✓               | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 18       | 9            |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 19       | 5            |     | ✓    | ✓               | ✓         |           | ✓   |         |          |                 | ✓   |     |      |
|            | 20       | 5            |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WF/HS      | 21       | sfc          |     |      | ✓               |           | ✓         | ✓   | ✓       |          |                 | ✓   | ✓   | ✓    |
| DC         | 22       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 23       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
| ZS         | 24       | sfc          | ✓   | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | Sam pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths – Fixed:** ~~Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300~~

**Floating:** Chl max, 10mab

0, 5, 9, 15, 24, 36, 53, 80, 90  
 0, 5, 9, 15, 24, 36, 53, 80, 90  
 0, 24, 36  
 0, 24, 36



### RB1904 CTD Cast Sheet

Station Number: A18 CTD cast #: 017 Transect #: 6  
 Start time (UTC): 003250 End time (UTC): \_\_\_\_\_ Bottom Depth: 2285  
 Start date (UTC): 20190515 End date (UTC): 20190515 Initials: MS

| Floater ID | Bottle      | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|-------------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1           | 300          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 2           | 250          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3           | 250          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 4           | 203          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 5           | 150          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 6           | 120          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 7           | 100          | ✓   | ✓    |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| WS/HS      | 8           | 80           | ✓   | ✓    |                 | ✓         |           | ✓   |         |          | ✓               | ✓   |     |      |
| WS         | 9           | 50           | ✓   |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 10          | 50           | ✓   | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| DC         | 11          | 50           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 12          | 50           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 13          | 40           | ✓   |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 14          | 40           | ✓   | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS/HS      | 15          | 30           | ✓   | ✓    |                 | ✓         |           |     | ✓       | ✓        |                 |     | ✓   | ✓    |
| DC         | 16          | 30           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| DL         | 17          | 30           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 18          | 20           | ✓   |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 19          | 20           | ✓   | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS/HS      | 20          | 10           | ✓   | ✓    |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| DL         | 21          | surf         | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| DL         | 22          |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS      | 23          |              | ✓   | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     |     |      |
| WS         | 24          | surf         | ✓   | ✓    |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | Sam<br>pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

Sampling depths – Fixed: <sup>13</sup>Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

# RB1904 CTD Cast Sheet

Station Number: A17      CTD cast #: 018      Transect #: 6  
 Start time (UTC): 0208      End time (UTC): 0237      Bottom Depth: 2122  
 Start date (UTC): 20190515      End date (UTC): 20190515      Initials: WS

| Floater ID | Bottle   | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|----------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1        | 300          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 2        | 260          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3        | 250          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 4        | 200          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 5        | 150          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 6        | 120          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 7        | 100          | ✓   |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 8        | 100          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 9        | 80           | ✓   |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 10       | 80           | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 11       | 60           | ✓   |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 12       | 60           | ✓   | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     |     |      |
| HS         | 13       | 50           | ✓   | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     |     |      |
| HS         | 14       | 40           | ✓   | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   | ✓    |
| WS         | 15       | 40           | ✓   |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 16       | 27 30        | ✓   | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   | ✓    |
|            | 17       | 27 36        | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 18       | 20           | ✓   | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   | ✓    |
| WS         | 19       | 20           | ✓   |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 20       | 10           | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 21       | 10           | ✓   |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 22       | Surf         | ✓   | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   | ✓    |
| ZS         | 23       | Surf         | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 24       | Surf         | ✓   |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | Sam pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

SUNNY water 0.523 @ 0210z

# RB1904 CTD Cast Sheet

Station Number: A16      CTD cast #: 19      Transect #: 6  
 Start time (UTC): 0339      End time (UTC): 04      Bottom Depth: ~1829  
 Start date (UTC): 20190515      End date (UTC): 20190515      Initials: MS

| Floater ID | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1       | 300 ✓        |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 2       | 250 ✓        |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3       | 200 ✓        |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 4       | 150 ✓        |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 5       | 120 ✓        |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 6       | 100 ✓        |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 7       | 100 ✓        |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 8       | 80 ✓         |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 9       | 80 ✓         |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 10      | 60 ✓         |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 11      | 60 ✓         |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 12      | 50 ✓         |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 13      | 40 ✓         |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 14      | 40 ✓         |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 15      | 30 ✓         |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 16      | 30 ✓         |     | ✓    |                 | ✓         |           |     | ✓       | ✓        |                 |     | ✓   | ✓    |
|            | 17      | 20 ✓         |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 18      | 20 ✓         |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 19      | 10 ✓         |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 20      | 10 ✓         |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 21      | surf ✓       |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 22      | surf ✓       |     | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   | ✓    |
|            | 23      | surf ✓       |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 24      | surf ✓       |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

# RB1904 CTD Cast Sheet

Station Number: A 15      CTD cast #: 20      Transect #: 6  
 Start time (UTC): 05:25:08      End time (UTC): 05:55:59      Bottom Depth: 1115  
 Start date (UTC): 5-15-2019      End date (UTC): 5-15-2019      Initials: HO

| Floater ID | Bottle   | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|----------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1        | 300          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 2        | 250          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3        | 200          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 4        | 150          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 5        | 120          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 6        | 100          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 7        | 100          |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 8        | 80           |     | ✓    |                 | ✓         |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 9        | 80           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 10       | 60           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 11       | 60           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 12       | 40           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 13       | 40           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 14       | 30           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 15       | 30           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 16       | 20           |     | ✓    |                 | ✓         |           | ✓   | ✓       | ✓        |                 |     | ✓   | ✓    |
|            | 17       | 20           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 18       | 10           |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 19       | 10           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 20       | sfc          | ✓   | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   | ✓    |
|            | 21       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 22       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23       | sfc          |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 24       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sam pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300

Floating: Chl max, 10mab

13  
 10 20 30 40 60 80 100 120 150 200 250 300 ✓  
 10 20 30 40 60 80 100 ✓  
 10 20 30 40 60 80 100 ✓

## RB1904 CTD Cast Sheet

Station Number: A14      CTD cast #: 021      Transect #: 6  
 Start time (UTC): 06:58:58      End time (UTC): 07:30:21      Bottom Depth: 6.95  
 Start date (UTC): 5-15-2019      End date (UTC): 5-15-19      Initials: LD

| Floater ID | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1       | 300          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 2       | 250          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3       | 200          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 4       | 150          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 5       | 120          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 6       | 100          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 7       | 100          |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 8       | 80           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 9       | 80           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 10      | 60           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 11      | 60           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 12      | 40           |     | ✓    |                 | ✓         |           |     | ✓       | ✓        |                 |     | ✓   | ✓    |
|            | 13      | 40           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 14      | 30           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 15      | 30           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 16      | 20           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 17      | 20           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 18      | 10           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 19      | 10           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 20      | Sfc          | ✓   | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 21      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 22      |              |     | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   | ✓    |
|            | 23      |              |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 24      | Sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab      ✓   ✓   ✓   ✓   ✓   ✓   ✓   ✓   ✓   ✓   ✓   ✓   ✓   ✓

# RB1904 CTD Cast Sheet

Station Number: A13      CTD cast #: 022      Transect #: 6  
 Start time (UTC): 08:25      End time (UTC): 08:52      Bottom Depth: 480  
 Start date (UTC): 2015-05-15      End date (UTC): 2015-05-15      Initials: WZ

| Floater ID | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1       | 300          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 2       | 250          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3       | 200          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 4       | 150          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 5       | 120          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 6       | 100          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 7       | 100          |     |      |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 8       | 80           |     | ✓    |                 | ✓         |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 9       | 80           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 10      | 60           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 11      | 60           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 12      | 40           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 13      | 40           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 14      | 30           |     | ✓    |                 | ✓         |           |     | ✓       | ✓        |                 |     | ✓   | ✓    |
|            | 15      | 30           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 16      | 20           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 17      | 20           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 18      | 10           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
|            | 19      | 10           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 20      | sfc          | ✓   | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   | ✓    |
|            | 21      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22      | sfc          |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 23      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab  
 sfc ✓ 10 ✓ 20 ✓ 30 ✓ 40 ✓ 60 ✓ 80 ✓ 100 ✓  
 sfc ✓

# RB1904 CTD Cast Sheet

Station Number: A12 CTD cast #: 023 Transect #: 6  
 Start time (UTC): 09:42 End time (UTC): 10:05 Bottom Depth: 272  
 Start date (UTC): 2019-05-15 End date (UTC): 2019-05-15 Initials: WD

| Floater ID | Bottle      | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|-------------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| 10mab      | 1           | 260          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 2           | 200          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 3           | 150          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 4           | 120          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 5           | 100          |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
|            | 6           | 100          |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 7           | 80           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 8           | 80           |     | ✓    |                 | ✓         | ✓         |     |         |          |                 |     |     |      |
|            | 9           | 60           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 10          | 60           |     | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   |      |
|            | 11          | 40           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 12          | 40           |     | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   |      |
|            | 13          | 30           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 14          | 30           |     | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   |      |
|            | 15          | 20           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 16          | 20           |     | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   | ✓    |
|            | 17          | 10           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 18          | 10           |     | ✓    |                 |           |           |     | ✓       | ✓        |                 |     |     |      |
|            | 19          | sfc          |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 20          | sfc          | ✓   | ✓    |                 | ✓         | ✓         |     | ✓       | ✓        |                 |     | ✓   | ✓    |
|            | 21          | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22          |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23          |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24          |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sam<br>pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

Sampling depths - Fixed: <sup>12</sup> Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab  
 sfc 10, 20, 30, 40, 60, 80, 100, 260  
 sfc





MA for DIC

### RB1904 CTD Cast Sheet

Station Number: A10 CTD cast #: 025 Transect #: 6  
 Start time (UTC): 1216 End time (UTC): 123 Bottom Depth: 137  
 Start date (UTC): 20190515 End date (UTC): 20190515 Initials: MS

| Floater ID | Bottle   | Target Depth | TOI | Nuts       | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|----------|--------------|-----|------------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1        | 127 ✓        |     | ✓          |                 |           |           |     |         |          |                 |     |     |      |
| HS/WS      | 2        | 100 ✓        |     | ✓          | ✓               | ✓         |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS/WS      | 3        | 80 ✓         |     | ✓          | ✓               | ✓         |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS/WS      | DC       | 56 ✓         |     | ✓          | ✓               | ✓         | ✓         | ✓   | ✓       |          | ✓               | ✓   | ✓   | ✓    |
| MA/DC      | DC       | 56 ✓         |     |            |                 |           |           |     |         |          | ✓               |     |     |      |
|            | 6        | 56 ✓         |     |            |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 7        | 56 ✓         |     |            |                 |           |           |     |         |          |                 |     |     |      |
| JT         | JT       | 56 ✓         |     |            |                 |           |           |     |         |          |                 |     |     |      |
| JT         | JT       | 56 ✓         |     |            |                 |           |           |     |         |          |                 |     |     |      |
|            | 9        | 36 ✓         |     |            | ✓               |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|            | 10       | 36 ✓         |     |            |                 |           |           |     |         |          |                 |     |     |      |
| HS/WS      |          | 36 ✓         |     | ✓          |                 | ✓         | ✓         | ✓   | ✓       |          |                 |     | ✓   | ✓    |
|            | 12       | 36 ✓         |     |            |                 |           |           |     |         |          |                 |     |     |      |
| MA         |          | 30 ✓         |     | ✓          |                 |           |           |     |         |          | ✓               |     |     |      |
| HS/WS      | 14       | 25 ✓         |     | ✓          | ✓               | ✓         | ✓         | ✓   | ✓       |          | ✓               | ✓   | ✓   | ✓    |
|            | 15       | 25 ✓         |     |            |                 |           |           |     |         |          |                 |     |     |      |
| HS/WS      | 16       | 17 ✓         |     | ✓          |                 |           |           |     |         |          |                 |     |     |      |
| MA/HS/WS   | 17       | 16 ✓         |     | ✓          | ✓               | ✓         | ✓         | ✓   | ✓       |          | ✓               | ✓   | ✓   |      |
|            | 18       | 8 ✓          |     |            |                 |           |           |     |         |          |                 |     |     |      |
| W/H/W      | 19       | 8 ✓          |     | ✓          | ✓               | ✓         | ✓         | ✓   | ✓       |          | ✓               | ✓   | ✓   |      |
|            | 20       | 5 ✓          |     |            |                 |           |           |     |         |          |                 |     |     |      |
| W/H/W      | 21       | 5 ✓          |     | ✓          | ✓               |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| DC         | DC       | Suf          |     | Water gone | ✓               | ✓         | ✓         | ✓   | ✓       |          | ✓               | ✓   | ✓   | ✓    |
| DC         | DC       | Suf          |     |            |                 |           |           |     |         |          |                 |     |     |      |
| DC         |          | Suf          | ✓   |            |                 |           |           |     |         |          |                 |     |     |      |
|            | Sam pler |              |     |            |                 |           |           |     |         |          |                 |     |     |      |

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300

Floating: Chl max, 10mab

Chl max @ ~54m.

# RB1904 CTD Cast Sheet

Station Number: A102      CTD cast #: 026      Transect #: 6  
 Start time (UTC): 1421      End time (UTC): 1434      Bottom Depth: 132  
 Start date (UTC): 20150515      End date (UTC): 20150516      Initials: MC

| Floater ID | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
|            | 1       | 56           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 2       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 3       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 4       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 5       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 6       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 7       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 8       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 9       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 10      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 11      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 12      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 13      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 14      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 15      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 16      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 17      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 18      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 19      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 20      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 21      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24      | 56           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths – Fixed:** Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
**Floating:** Chl max, 10mab  
*\* 4 AT SURFACE EXCEPT BY PRIOR AGREEMENT.*

# RB1904 CTD Cast Sheet

Station Number: A9 CTD cast #: 027 Transect #: 6  
 Start time (UTC): 1532Z End time (UTC): \_\_\_\_\_ Bottom Depth: 129m  
 Start date (UTC): 20190515 End date (UTC): 20190515 Initials: MS

| Floater ID | Bottle      | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|-------------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| HS         | 1           | 118          | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| HS/WS      | 2           | 100          | ✓   | ✓    | ✓               | ✓         |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS/WS      | 3           | 80           | ✓   | ✓    | ✓               | ✓         |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 4           | 72           | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 5           | 72           | ✓   |      | ✓               | ✓         |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 6           | 60           | ✓   | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS         | 7           | 48           | ✓   | ✓    | ✓               | ✓         |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 8           | 48           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 9           | 40           | ✓   | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| HS         | 10          | 40           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 11          | 31           | ✓   | ✓    | ✓               | ✓         |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 12          | 31           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 13          | 20           | ✓   | ✓    | ✓               | ✓         |           | ✓   | ✓       |          | ✓               | ✓   | ✓   | ✓    |
| HS         | 14          | 20           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 15          | 10           | ✓   | ✓    | ✓               | ✓         |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 16          | 10           | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 17          | 6            | ✓   | ✓    | ✓               |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 18          | 6            | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 19          | SURF         | ✓   | ✓    | ✓               | ✓         | ✓         | ✓   | ✓       |          | ✓               | ✓   | ✓   | ✓    |
| ZS         | 20          | SURF         | ✓   | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| HS         | 21          | SURF         | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22          | SURF         | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 23          | SURF         | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 24          | SURF         | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sam<br>pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

\* 4 AT SURFACE EXCEPT BY PRIOR AGREEMENT

# RB1904 CTD Cast Sheet

Station Number: A8      CTD cast #: 28      Transect #: 6  
 Start time (UTC): 17:09:20      End time (UTC): 17:34:39      Bottom Depth: 121  
 Start date (UTC): 5-15-19      End date (UTC): 5-15-19      Initials: JD

*BTR update*

| Floater ID | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| 10mab      | 1       | 110          | 110 | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| 10mab      | 2       | 110          | 110 |      |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 3       | 100          | 101 |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 4       | 100          | 101 | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 5       | 80           | 81  |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 6       | 80           | 81  | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 7       | 60           | 61  |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 8       | 60           | 61  | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS         | 9       | 40           | 41  |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 10      | 40           | 41  | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS         | 11      | 30           | 31  |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 12      | 30           | 31  | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS         | 13      | 20           | 20  |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 14      | 20           | 20  | ✓    |                 | ✓         |           |     | ✓       |          |                 |     | ✓   | ✓    |
| WS         | 15      | 10           | 10  |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 16      | 10           | 10  | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS         | 17      | Sfc          | 4   |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 18      | Sfc          | 4   | ✓    |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   | ✓    |
| ZS         | 19      | Sfc          | ✓4  |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 20      | Sfc          | 3   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 21      | Sfc          | 3   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22      | Sfc          | 3   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 23      | Sfc          | 3   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 24      | Sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths** – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300  
 Floating: Chl max, 10mab

*110*

# RB1904 CTD Cast Sheet

Station Number: A7      CTD cast #: 029      Transect #: 6  
 Start time (UTC): 19:02:02      End time (UTC): 19:24:45      Bottom Depth: 121  
 Start date (UTC): 5-15-2019      End date (UTC): 5-15-19      Initials: HS

| Floater ID | Bottle   | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|------------|----------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| WS 10mab   | 1        | 92           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| 10mab      | 2        | 92           |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| WS         | 3        | 80           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 4        | 80           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS         | 5        | 60           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 6        | 60           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS         | 7        | 40           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 8        | 40           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS         | 9        | 30           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 10       | 30           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS         | 11       | 20           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 12       | 20           |     | ✓    |                 | ✓         |           |     | ✓       |          |                 |     | ✓   | ✓    |
| WS         | 13       | 10           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 14       | 10           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS         | 15       | sfc          |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| HS         | 16       |              |     | ✓    |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   | ✓    |
| ZS         | 17       |              | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 18       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 19       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 20       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 21       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | 22       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 23       |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
| DC         | 24       | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|            | Sam pler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths – Fixed:** <sup>8</sup> Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300

**Floating:** Chl max, 10mab

92  
 92  
 92  
 sfc 10 20 30 40 60 80  
 sfc 10 20 30 40 60 80

# RB1904 CTD Cast Sheet

Station Number: A6      CTD cast #: 030      Transect #: 6  
 Start time (UTC): 20:30      End time (UTC): 20:47      Bottom Depth: 90  
 Start date (UTC): 2019-05-15      End date (UTC): 2019-05-15      Initials: WZ

| Floater ID    | Bottle  | Target Depth | TOI | Nuts | <sup>14</sup> C | Chl a vol | Chl b vol | BSi | HPLC ID | HPLC vol | CO <sub>2</sub> | C/N | FCM | IFCB |
|---------------|---------|--------------|-----|------|-----------------|-----------|-----------|-----|---------|----------|-----------------|-----|-----|------|
| WS/HS 10mab   | 1       | 80           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| 10mab         | 2       | 80           |     | ✓    |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS         | 3       | 60           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|               | 4       | 60           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS/HS         | 5       | 40           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| DC            | 6       | 40           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| DC            | 7       | 40           |     |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 8       | 40           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS         | 9       | 30           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|               | 10      | 30           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| chl max WS/HS | 11      | 21           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| DC            | 12      | 21           |     | ✓    |                 | ✓         |           |     | ✓       |          |                 |     | ✓   | ✓    |
| DC            | 13      | 21           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| chl max       | 14      | 21           |     |      |                 |           |           |     |         |          |                 |     |     |      |
| WS/HS         | 15      | 10           |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
|               | 16      | 10           |     | ✓    |                 | ✓         |           |     |         |          |                 |     |     |      |
| WS/HS         | 17      | sfc          |     |      |                 |           |           | ✓   |         |          | ✓               | ✓   |     |      |
| DC            | 18      | sfc          |     | ✓    |                 | ✓         | ✓         |     | ✓       |          |                 |     | ✓   | ✓    |
| ZS/DC         | 19      | sfc          | ✓   |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 20      | sfc          |     |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 21      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 22      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 23      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|               | 24      |              |     |      |                 |           |           |     |         |          |                 |     |     |      |
|               | Sampler |              |     |      |                 |           |           |     |         |          |                 |     |     |      |

**Sampling depths – Fixed:** 7 Sfc, 10<sup>v</sup>, 20<sup>v</sup>, 30<sup>v</sup>, 40<sup>v</sup>, 60<sup>v</sup>, 80<sup>v</sup>, 100, 120, 150, 200, 250, 300  
**Floating:** Chl max, 10mab  
 sfc 10<sup>v</sup> 21<sup>v</sup> 30<sup>v</sup> 40<sup>v</sup> 60<sup>v</sup> 80<sup>v</sup>  
 sfc 21<sup>v</sup> 40<sup>v</sup>  
 sfc 21<sup>v</sup> 40<sup>v</sup>