

**NAAMES**  
**Cruise AT32**  
**Ship R/V Atlantis**

| YYYY | MM | DD | Station | Cast | Investigator |
|------|----|----|---------|------|--------------|
| 2015 | 11 | 12 | 1       | Deep | Nils         |

| Hour (UTC) | Minute | Latitude   | Longitude   |
|------------|--------|------------|-------------|
| 14         | 00     | 51°28'26"N | 43°37.307'W |

|   | Depth (dBar) |             | Wind (knots) |           | Sea state |
|---|--------------|-------------|--------------|-----------|-----------|
|   | Bottom       | Max profile | Speed        | Direction | (bft)     |
| <input checked="" type="checkbox"/> Day<br><input type="checkbox"/> Night | +4000        | 1500        | 13           |           | 4         |

CTD-Rosette reference file AT32003

**Bottles**

| # | Bottle # | Volume (mL) |                           | Concentrat <sup>o</sup> | Notes |
|---|----------|-------------|---------------------------|-------------------------|-------|
|   |          | Filtered    | Concentrated              | Factor                  |       |
| 1 | 9        | 1000 ± 10   | 33                        |                         | 200m  |
| 2 | 11       | 1000 ± 10   | 41                        |                         | 150   |
| 3 | 13 & 12  | 1000 ± 10   | 37                        |                         | 100   |
| 4 | 16       | 1000 ± 10   | 27                        |                         | 75    |
| 5 | 18       | 1000 ± 10   | 43                        |                         | 50    |
| 6 | 20       | 1000 ± 10   | 28 (includes<br>w/5 lost) |                         | 25    |
| 7 | 22       | 1000 ± 10   | 30 ml                     |                         | 10    |
| 8 | 23       | 1000 ± 10   | 30                        |                         | 5     |

Filtred  
 faster than  
 than the  
 others

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| YYYY | MM | DD | Station | Cast | Investigator     |
|------|----|----|---------|------|------------------|
| 2015 | 11 | 14 | 2       | Deep | Nils<br>Emmanuel |

| Hour (UTC) | Minute | Latitude    | Longitude  |
|------------|--------|-------------|------------|
| 13         | 00     | 54° 6.381 N | 40° 10.992 |

|   | Depth (dBar) |             | Wind (knots) |           | Sea state |
|---|--------------|-------------|--------------|-----------|-----------|
|   | Bottom       | Max profile | Speed        | Direction | (bft)     |
| <input checked="" type="checkbox"/> Day<br><input type="checkbox"/> Night | 3450         | 1500        | ~20          | 320       | 4         |

CTD-Rosette reference file AT32006

**IFCB Bottles**

| # | Bottle # | Depth | Volume (mL)          |              | Concentrat <sup>o</sup> | IFCB file                  |
|---|----------|-------|----------------------|--------------|-------------------------|----------------------------|
|   |          |       | Filtered             | Concentrated |                         |                            |
| 1 | 9        | 200   | 1000 F 10ml          | 43 F 1ml     |                         | D20151114T192649 - IFCB107 |
| 2 | 11       | 150   | 990 F 10ml           | 37.5 F 1ml   |                         | D20151114T185017 - IFCB107 |
| 3 | 12/13    | 100   | 1000 F 10ml          | 25 F 1ml     |                         | D20151114T181432 - IFCB107 |
| 4 | 16       | 75    | 1000 F 10ml          | 34 F 1ml     |                         | D20151114T174811 - IFCB107 |
| 5 | 18       | 50    | 1000 F 10ml          | 34 F 1ml     |                         | D20151114T170539 - IFCB107 |
| 6 | 20       | 25    | 995 F 10             | 45 F 1ml     |                         | D20151114T164016 - IFCB107 |
| 7 | 22       | 10    | 1000 F 10            | 37.5 F 1ml   |                         | D20151114T160843 - IFCB107 |
| 8 | 23       | 5     | <del>1000 F 10</del> | 43 F 1ml     |                         | D20151114T154138 - IFCB107 |

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| YYYY | MM | DD | Station | Cast | Investigator     |
|------|----|----|---------|------|------------------|
| 2015 | 11 | 16 | 3       | Day  | Nils<br>Emmerson |

| Hour (UTC) | Minute | Latitude    | Longitude   |
|------------|--------|-------------|-------------|
| 13         | 00     | 57° 8.427'N | 40° 3.464'W |

|   | Depth (dBar) |             | Wind (knots) |           | Sea state |
|---|--------------|-------------|--------------|-----------|-----------|
|   | Bottom       | Max profile | Speed        | Direction | (bft)     |
| <input checked="" type="checkbox"/> Day<br><input type="checkbox"/> Night | 4180         | 1500        | 13           | 100       | 5         |

CTD-Rosette reference file AT32011

**IFCB Bottles**

| #   | Bottle # | Depth | Volume (mL) |              | Concentrat <sup>o</sup> | IFCB file                | # Targets          |
|-----|----------|-------|-------------|--------------|-------------------------|--------------------------|--------------------|
|     |          |       | Filtered    | Concentrated |                         |                          |                    |
| 1   | 9        | 200   | 1000 F10ml  | 42 F1ml      |                         |                          |                    |
| 2   | 11       | 150   | 1000 F1ml   | 40 F1ml      |                         |                          |                    |
| 3   | 13 & 12  | 100   | 1000 F10ml  | 21 F1ml      |                         |                          |                    |
| α 4 | 16       | 75    | 1000 F10ml  | 43 F1ml      | 1                       | D20151116T153239-IFCB107 | 130<br>85<br>108   |
| ± 5 | 18 & 17  | 50    | 1000 F10ml  | 45 F1ml      | 1                       | D20151116T170626-IFCB107 | 1031<br>872<br>875 |
| 6   | 20 & 21  | 25    | 1000 F10ml  | 44 F1ml      |                         |                          |                    |
| ± 7 | 22       | 10    | 940 F10ml   | 47.5 F1ml    | 3                       |                          |                    |
| 8   | 23       | 5     | 980 F10ml   | 45 F1ml      | 1                       | D20151116T183115-IFCB107 | 961<br>706<br>834  |

IFCB isn't working properly today  
 ↳ the sample are consistent between bottles but not with the other stations

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| YYYY | MM | DD | Station | Cast | Investigator   |
|------|----|----|---------|------|----------------|
| 2015 | 11 | 18 | 4       | Deep | Nils Einarsson |

| Hour (UTC) | Minute | Latitude      | Longitude     |
|------------|--------|---------------|---------------|
| 13         | 00     | 46° 11.993' N | 37° 52.060' W |

|   | Depth (dBar) |             | Wind (knots) |           | Sea state |
|---|--------------|-------------|--------------|-----------|-----------|
|   | Bottom       | Max profile | Speed        | Direction | (bft)     |
| <input checked="" type="checkbox"/> Day<br><input type="checkbox"/> Night | 4562         | 1500        | 13           | 61        | 3         |

CTD-Rosette reference file AT32014

**IFCB Bottles**

| Tide | # | Bottle # | Depth | Volume (mL)  |              | Concentration Factor | IFCB file                 | ROI # |
|------|---|----------|-------|--------------|--------------|----------------------|---------------------------|-------|
|      |   |          |       | Filtered     | Concentrated |                      |                           |       |
| 1    | 1 | 9        | 200   | 1000 ± 10 mL | 27 ± 1 mL    |                      | 170630                    | 48    |
| 5    | 2 | 11       | 150   | 450 ± 10 mL  | 25 ± 1 mL    | 1                    | 2015-11-18-163118-IFCB107 | 4     |
|      |   |          |       |              |              |                      | 145647 Not concentrated   | 7     |
|      |   |          |       |              |              |                      | 152216 Not concentrated   | 3     |
| 2    | 3 | 13 & 12  | 100   | 1000 ± 10 mL | 20 ± 1 mL    |                      | 180650                    | 151   |
| 3    | 4 | 16       | 75    | 1000 ± 10 mL | 25 ± 1 mL    |                      | 184851                    | 789   |
| 4    | 5 | 18       | 50    | 1000 ± 10 mL | 20 ± 1 mL    |                      | 155760                    | 1079  |
| 6    | 6 | 18 & 20  | 25    | 1000 ± 10 mL | 17 ± 1 mL    |                      | 192041                    | 1210  |
| 7    | 7 | 22       | 10    | 1000 ± 10 mL | 25 ± 1 mL    |                      | 163724                    | 1119  |
| 8    | 8 | 23       | 5     | 1000 ± 10 mL | 25 ± 1 mL    |                      | 209704                    | 870   |

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| YYYY | MM | DD | Station | Cast | Investigator      |
|------|----|----|---------|------|-------------------|
| 2015 | 11 | 20 | 5       | Deep | Emmanuel<br>Mills |

| Hour (UTC) | Minute | Latitude      | Longitude     |
|------------|--------|---------------|---------------|
| 10         | 55     | 13° 50.302' N | 37° 31.020' W |

|   | Depth (dBar) |             | Wind (knots) |           | Sea state |
|---|--------------|-------------|--------------|-----------|-----------|
|   | Bottom       | Max profile | Speed        | Direction | (bft)     |
| <input checked="" type="checkbox"/> Day<br><input type="checkbox"/> Night | 4002         | 1500        | 23           | 85        | 5-6       |

CTD-Rosette reference file AT32015

IFCB Bottles

| # | Bottle # | Depth | Volume (mL) |              | Concentration Factor | IFCB file   | RDI #      |
|---|----------|-------|-------------|--------------|----------------------|---|------------|
|   |          |       | Filtered    | Concentrated |                      |   |            |
| 1 | 8        | 200   | 1000 Filml  | 32 Filml     |                      | concentrated 142708                                   | 250        |
| 2 | 11       | 150   | 1000 Filml  | 30 Filml     |                      | concentrated 150411                                   | 167        |
| 3 | 12 & 13  | 100   | 1000 Filml  | 38 Filml     |                      | concentrated 151155                                   | 134        |
| 4 | 16       | 75    | 1000 Filml  | 25 Filml     |                      | concentrated 161803                                   | 473        |
| 5 | 18       | 50    | 1000 Filml  | 32 Filml     |                      | Run prod concentrated: 132365<br>concentrated: 173801 | 241<br>406 |
| 6 | 20       | 25    | 900 Filml   | 30 Filml     |                      | Run prod concentrated: 130102<br>concentrated: 180618 | 226<br>491 |
| 7 | 22       | 10    | 970 Filml   | 30 Filml     |                      | Run prod concentrated: 193733<br>concentrated: 183551 | 290<br>487 |
| 8 | 23       | 5     | 1000 Filml  | 35 Filml     |                      | Run prod concentrated: 123143<br>concentrated: 190909 | 214<br>327 |

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|------|----|----|---------|------|--------------|
| 2015 | 11 | 22 | 6       | B101 | Emmanuel M/S |

| Hour (UTC) | Minute | Latitude | Longitude |
|------------|--------|----------|-----------|
|            |        |          |           |

|   | Depth (dBar) |             | Wind (knots) |           | Sea state |
|---|--------------|-------------|--------------|-----------|-----------|
|   | Bottom       | Max profile | Speed        | Direction | (bft)     |
| <input type="checkbox"/> Day              |              |             |              |           |           |
| <input checked="" type="checkbox"/> Night |              |             |              |           |           |

CTD-Rosette reference file AT32018

**IFCB Bottles**

| # | Bottle # | Depth | Volume (mL) |              | Concentration | IFCB file          |        |     |
|---|----------|-------|-------------|--------------|---------------|--------------------|--------|-----|
|   |          |       | Filtered    | Concentrated |               |                    |        |     |
| 1 | 2        | 30    | 1l          | 20ml         |               | D20151122T_IFCB109 | 120511 | 700 |
| 2 |          |       |             |              |               |                    |        |     |
| 3 | 8        | 40    | 1l          | 28ml         |               | T113659            |        | 819 |
| 4 |          |       |             |              |               |                    |        |     |
| 5 | inline   | 5     | 1l          | 33ml         |               |                    | 126609 | 723 |
| 6 |          |       |             |              |               |                    |        |     |
| 7 |          |       |             |              |               |                    |        |     |
| 8 |          |       |             |              |               |                    |        |     |

*all bottles are from a negative layer of cell*  
 MLD = 29m  
 No DC Min  
 No DC Max

[on back of page]

2015/11/21 Run concentrated sample from inline

| Filename                 | ROI# |
|--------------------------|------|
| D20151121T161739_IFCB107 | 864  |
| D20151121T164308_IFCB107 | 812  |
| D20151121T170837_IFCB107 | 674  |

NAAMES  
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| YYYY | MM | DD | Station | Cast      | Investigator  | DAY |
|------|----|----|---------|-----------|---------------|-----|
| 2015 | 11 | 22 | 6       | 3<br>Deep | N/S<br>Emmond | 2   |

| Hour (UTC) | Minute | Latitude      | Longitude     |
|------------|--------|---------------|---------------|
| 13         | 12     | 43° 13.069' N | 60° 10.655' W |

|   | Depth (dBar) |             | Wind (knots) |           | Sea state |
|---|--------------|-------------|--------------|-----------|-----------|
|   | Bottom       | Max profile | Speed        | Direction | (bft)     |
| <input checked="" type="checkbox"/> Day<br><input type="checkbox"/> Night | 5923         | 1500        | 15           | 14°       | 3         |

CTD-Rosette reference file AT32020

IFCB Bottles

| # | Bottle # | Depth | Volume (mL) |              | Concentrat <sup>o</sup><br>Factor | IFCB file  |            |
|---|----------|-------|-------------|--------------|-----------------------------------|--|------------|
|   |          |       | Filtered    | Concentrated |                                   |  |            |
| 1 | 9        | 200   | 1000 Fil    | 37 Fil ml    |                                   | Concentrated: 160871                             | 5          |
| 2 | 11       | 150   | 1000 Fil    | 49 ml        |                                   | Concentrated: 183456                             | 8          |
| 3 | 12B      | 100   | 1000 Fil ml | 40 ml        |                                   | Concentrated: 171355                             | 79         |
| 4 | 16       | 75    | 1000 Fil ml | 32 ml        |                                   | Not concentrated: 134626<br>Concentrated: 181026 | 182107     |
| 5 | 18       | 50    | 1000 Fil ml | 32 ml        |                                   | Concentrated: 201445                             | 366        |
| 6 | 20       | 25    | 1000 Fil ml | 40 ml        |                                   | Not concentrated: 118058<br>Concentrated: 212939 | 418<br>628 |
| 7 | 22       | 10    | 1000 Fil ml | 37 ml        |                                   | Not concentrated: 152354<br>Concentrated: 221516 | 225<br>605 |
| 8 | 23       | 5     | 1000 Fil ml | 38 ml        |                                   | Concentrated: 231631                             | 941        |

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| YYYY | MM | DD | Station | Cast | Investigator   |
|------|----|----|---------|------|----------------|
| 2015 | 11 | 23 | 6       | 6    | W's<br>Bennett |

| Hour (UTC) | Minute | Latitude    | Longitude     |
|------------|--------|-------------|---------------|
| 11         | 34     | 12° 58.930N | 60° 11.625' W |

|   | Depth (dBar) |             | Wind (knots) |           | Sea state |
|---|--------------|-------------|--------------|-----------|-----------|
|   | Bottom       | Max profile | Speed        | Direction | (bft)     |
| <input checked="" type="checkbox"/> Day<br><input type="checkbox"/> Night | 5700         | 1500        | 25           | 34        | 5         |

CTD-Rosette reference file AT32023

IFCB Bottles

| # | Bottle # | <sup>Extended</sup> Depth | Volume (mL)<br>Filtered | Concentrated | Concentrat <sup>o</sup><br>Factor | IFCB file                                     | IFCB107                 | Ros #                    |
|---|----------|---------------------------|-------------------------|--------------|-----------------------------------|---|-------------------------|--------------------------|
| 1 | 9        | 200                       | 990 Fil ml              | 32 Fil ml    |                                   | 190221  |                         | 68                       |
| 2 | 11       | 150                       | 1000 Fil ml             | 42 Fil ml    |                                   | 155636  |                         | 14                       |
| 3 | 13       | 100                       | 1000 Fil ml             | 36 Fil ml    |                                   | 165826  |                         | 164                      |
| 4 | 16       | 75                        | 1000 Fil ml             | 39 Fil ml    |                                   | 172355  |                         | 385                      |
| 5 | 18       | 50                        | 1000 Fil ml             | 42 Fil ml    |                                   | 175931  |                         | 584                      |
| 6 | 20       | 25                        | 1000 Fil ml             | 41 Fil ml    |                                   | 482952  | Power failure<br>190532 | 231                      |
| 7 | 22       | 10                        | 975 Fil ml              | 44 Fil ml    |                                   | 205620  |                         | 597                      |
| 8 | 23       | 5                         | 1000 Fil ml             | 34 Fil ml    |                                   | Not concentrated: 1130855<br>110111<br>112640 |                         | 315<br>252<br>285<br>889 |

concentrated 214303

Note that Niskin 23 is at same depth than 22, =D 5m



NAAMES  
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| YYYY | MM | DD | Station | Cast      | Investigator     |
|------|----|----|---------|-----------|------------------|
| 2015 | 11 | 24 | 7       | 3<br>Deep | Emmanuel<br>Nils |

| Hour (UTC) | Minute | Latitude     | Longitude     |
|------------|--------|--------------|---------------|
| 12         | 58     | 40° 30.92' N | 40° 27.875' W |

|   | Depth (dBar) |             | Wind (knots) |           | Sea state |
|---|--------------|-------------|--------------|-----------|-----------|
|   | Bottom       | Max profile | Speed        | Direction | (bft)     |
| <input checked="" type="checkbox"/> Day<br><input type="checkbox"/> Night | 4806         | 1600        | 25           | 148       | 5         |

CTD-Rosette reference file AT 32026

IFCB Bottles

| # | Bottle # | Depth | Volume (mL)   |              | Concentration Factor | IFCB file  |                   |
|---|----------|-------|---------------|--------------|----------------------|--|-------------------|
|   |          |       | Filtered      | Concentrated |                      |  |                   |
| 1 | 9        | 200   | 1000 Filtered | 29 Filtered  |                      | 151703   | 25'               |
| 2 | 11       | 250   | 996 Filtered  | 27 Filtered  |                      | 161259   | 18'               |
| 3 | 13       | 100   | 996 Filtered  | 25 Filtered  |                      | 164140   | 221'              |
| 4 | 16       | 25    | 1000 Filtered | 25 Filtered  |                      | Not concentrated: 1335.31<br>Concentrated: 121002 → 655   1406.08<br>14.3137 | 150<br>152<br>114 |
| 5 | 18       | 50    | 995 Filtered  | 32 Filtered  |                      | 174252   | 582'              |
| 6 | 20       | 25    | 1000 Filtered | 25 Filtered  |                      | 182125   | 479'              |
| 7 | 22       | 10    | 1000 Filtered | 28 Filtered  |                      | 184756   | 661'              |
| 8 | 23       | 5     | 1000 Filtered | 35 Filtered  |                      | Not concentrated: 154307 → 286<br>201401                                     | 458'              |

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| YYYY | MM | DD | Station | Cast   | Investigator  |
|------|----|----|---------|--------|---------------|
| 2015 | 11 | 25 | 7       | 6 Deep | Egan and Nils |

| Hour (UTC) | Minute | Latitude      | Longitude     |
|------------|--------|---------------|---------------|
| 11         | 57     | 40° 41.507' N | 40° 26.145' W |

|   | Depth (dBar) |             | Wind (knots) |           | Sea state |
|---|--------------|-------------|--------------|-----------|-----------|
|   | Bottom       | Max profile | Speed        | Direction | (bft)     |
| <input checked="" type="checkbox"/> Day<br><input type="checkbox"/> Night | 4806         | 1500        | 22           | 156       | 4-5       |

CTD-Rosette reference file AT 32029

IFCB Bottles

| # | Bottle # | Depth | Volume (mL) |              | Concentration Factor | IFCB file   | RDI#           |
|---|----------|-------|-------------|--------------|----------------------|---|----------------|
|   |          |       | Filtered    | Concentrated |                      |   |                |
| 1 | 9        | 200   | low flow    | 33 Filml     |                      | Skipped   |                |
| 2 | 11       | 150   | low flow    | 28 Filml     |                      | 142050  | 57             |
| 3 | 13       | 100   | low flow    | 37 Filml     |                      | 144731  | 130            |
| 4 | 16       | 75    | 950+10ml    | 32 Filml     |                      | Not concentrated 182200<br>available: 151523   124723<br>131252<br>6235 | 74<br>63<br>46 |
| 5 | 18       | 50    | low flow    | 25 Filml     |                      | 154749  | 417            |
| 6 | 20       | 25    | low flow    | 34 Filml     |                      | 171520  | 655            |
| 7 | 22       | 10    | low flow    | 27 Filml     |                      | 174314  | Ø              |
| 8 | 23       | 5     | low flow    | 52 Filml     |                      | Not concentrated: 134649<br>182246                                      | 188<br>689     |