

Water Properties Group

Sampling Log

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

Cruise ID: 2018-034 Station: LB15 Event #: 33 Ship: Tully UTC Date (dd mmm yyyy): 04 Sep 2018

| Niskin # | Firing # | Sample # | Rosette Operation |                                 | Samples Taken / Sampler's Initials |     |        |       |     |      |     |  |  |  | Comments |  |           |
|----------|----------|----------|-------------------|---------------------------------|------------------------------------|-----|--------|-------|-----|------|-----|--|--|--|----------|--|-----------|
|          |          |          | Target Pressure   | Confirmed <div>✓</div> Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 |  |  |  |          |  |           |
| 1        |          | 117      | 5                 | <div>✓</div> 5                  |                                    |     | x      |       | xx  | xx   |     |  |  |  |          |  | Fluo: 0.7 |
| 2        |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 3        |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 4        |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 5        |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 6        |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 7        |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 8        |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 9        |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 10       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 11       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 12       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 13       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 14       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 15       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 16       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 17       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 18       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 19       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 20       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 21       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 22       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 23       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |
| 24       |          |          |                   |                                 |                                    |     |        |       |     |      |     |  |  |  |          |  |           |

Profile type: ☒ ROS ☐ TRM ☐ X-Niskin ☐ other?

Watchkeeper(s): MR

Bottom Depth: 1538 m

Transmisso Cleaned: ☒ Y ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 0210 | 1910  |
| Bottom | 0237 |       |
| End    | 0304 |       |

Positional Information

Start Lat: 48° 04' 36" N

Start Lon: 126° 08' 43" W

Bottom Lat: 48° 04' 40" N

Bottom Lon: 126° 08' 44" W

End Lat: 48° 04' 39" N

End Lon: 126° 08' 43" W

Extra comments:

## Sampling Log

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

Cruise ID: 2018-034 Station: LB16 Event #: 34 Ship: Tully UTC Date (dd mmm yyyy): 04 SEP 2018

[illegible]

Profile type: ROS TRM X-Niskin other?

Watchkeeper(s): MR

Bottom Depth: 1795 m

Transmisso Cleaned: Y / N

| <i>Time</i> | <i>UTC</i> | <i>Local</i> |
|-------------|------------|--------------|
| Start       | 0401       | 2101         |
| Bottom      | 0434       |              |
| End         | 0503       |              |

| Positional Information |      |               |
|------------------------|------|---------------|
| Start                  | Lat: | 48 ° 00.52 N  |
|                        | Lon: | 126 ° 16.94 W |
| ▼                      |      |               |
| Bottom                 | Lat: | 48 ° 00.53 N  |
|                        | Lon: | 126 ° 16.93 W |
| ▼                      |      |               |
| End                    | Lat: | 48 ° 00.53 N  |
|                        | Lon: | 126 ° 16.92 W |

**Extra comments:**

## Water Properties Group

## Sampling Log

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

Cruise ID: 2018-034

Station: LC11

Event #: 41

Ship: Tully

UTC Date (dd mmm/yyyy): 4 9 18

| Niskin # | Firing # | Sample # | Rosette Operation |                      | Samples Taken / Sampler's Initials |     |        |       |     |      |     |        |  |  | Comments |  |
|----------|----------|----------|-------------------|----------------------|------------------------------------|-----|--------|-------|-----|------|-----|--------|--|--|----------|--|
|          |          |          | Target Pressure   | Confirmed ✓ Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 | TrentU |  |  |          |  |
| 1        |          | 119      | Bot-10            | ✓ 1476               | x                                  |     | x      | x     |     |      |     |        |  |  |          |  |
| 2        |          | 120      | 1250              | ✓                    | x x                                | x   | x      | x     |     |      |     |        |  |  |          |  |
| 3        |          | 121      | 1000              | ✓                    | x                                  | x x | x      | x     |     |      |     |        |  |  |          |  |
| 4        |          | 122      | 750               | ✓                    | x                                  | x   | x x    | x x   |     |      |     |        |  |  |          |  |
| 5        |          | 123      | 500               | ✓                    | x                                  | x   | x      | x     |     |      |     |        |  |  |          |  |
| 6        |          | 124      | 400               | ✓                    | x                                  |     | x      | x     |     |      |     |        |  |  |          |  |
| 7        |          | 125      | 300               | ✓                    | x                                  |     | x      |       |     |      |     |        |  |  |          |  |
| 8        |          | 126      | 250               | ✓                    | x                                  |     | x      |       |     |      |     |        |  |  |          |  |
| 9        |          | 127      | 200               | ✓                    | x                                  |     | x      |       |     |      |     |        |  |  |          |  |
| 10       |          | 128      | 175               | ✓                    | x                                  |     | x      |       |     |      |     |        |  |  |          |  |
| 11       |          | 129      | 150               | ✓                    | x                                  |     | x      |       |     |      |     |        |  |  |          |  |
| 12       |          | 130      | 125               | ✓                    | x x                                |     | x      |       |     |      |     |        |  |  |          |  |
| 13       |          | 131      | 100               | ✓                    | x                                  |     | x      |       |     |      |     |        |  |  |          |  |
| 14       |          | 132      | 75                | ✓                    | x                                  |     | x x    |       |     |      |     |        |  |  |          |  |
| 15       |          | 133      | 50                | ✓                    | x                                  |     | x      |       | x   |      |     |        |  |  |          |  |
| 16       |          | 134      | 30                | ✓                    | x                                  |     | x      |       | x   |      |     |        |  |  |          |  |
| 17       |          | 135      | 20                | ✓                    | x                                  |     | x      |       | x   |      | x x |        |  |  |          |  |
| 18       |          | 136      | 10                | ✓                    | x                                  |     | x      |       | x x |      | x x |        |  |  |          |  |
| 19       |          | 137      | 5                 |                      | x                                  | x   | x      |       | x   | x x  | x x | x      |  |  |          |  |
| 20       |          |          |                   |                      |                                    |     |        |       |     |      |     |        |  |  |          |  |
| 21       |          |          |                   |                      |                                    |     |        |       |     |      |     |        |  |  |          |  |
| 22       |          |          |                   |                      |                                    |     |        |       |     |      |     |        |  |  |          |  |
| 23       |          |          |                   |                      |                                    |     |        |       |     |      |     |        |  |  |          |  |
| 24       |          |          |                   |                      |                                    |     |        |       |     |      |     |        |  |  |          |  |

|                 |           |     |          |        |
|-----------------|-----------|-----|----------|--------|
| Profile type:   | ROS       | TRM | X-Niskin | other? |
| Watchkeeper(s): | H M ET AL |     |          |        |

|                     |                 |
|---------------------|-----------------|
| Bottom Depth:       | 1500 ? (1485) m |
| Transmisso Cleaned: | Y / N           |

|        |       |       |
|--------|-------|-------|
| Time   | UTC   | Local |
| Start  | 1350  | 0651  |
| Bottom | 14 16 |       |
| End    | 1459  |       |

|                        |
|------------------------|
| Positional Information |
| Start                  |
| Lat: 48 ° 18 . 94 N    |
| Lon: 126 ° 26 . 71 W   |

|                      |
|----------------------|
| Bottom               |
| Lat: 48 ° 18 . 99 N  |
| Lon: 126 ° 26 . 91 W |

|                      |
|----------------------|
| End                  |
| Lat: 48 ° 19 . 09 N  |
| Lon: 126 ° 27 . 14 W |

|                 |
|-----------------|
| Extra comments: |
|-----------------|

## Water Properties Group

## Sampling Log

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

Cruise ID: 2018-034 Station: LC09 Event #: 45 Ship: Tully UTC Date (dd mmm yyyy): 4 9 18

| Niskin # | Firing # | Sample # | Rosette Operation |           | Samples Taken / Sampler's Initials |     |        |       |     |      |     |       |      |        |       |    |        | Comments |  |
|----------|----------|----------|-------------------|-----------|------------------------------------|-----|--------|-------|-----|------|-----|-------|------|--------|-------|----|--------|----------|--|
|          |          |          | Target Pressure   | Confirmed | Oxy                                | HAB | Nut-Fr | Nut-C | CHL | HPLC | NH4 | DIC   | Uvic | UvicFA | phyto | DA | TrentU |          |  |
|          |          |          | ✓                 | Pressure  | HM/HR                              | THG | MR/SD  | MR    | TV  | TV   | TD  | NL/DB | TV   | MG     | TV    | MG | TD     |          |  |
| 1        | 1        | 138      | Bot-10            | ✓         | 596                                | x   |        | x x   | x x |      |     |       | x    |        |       |    |        |          |  |
| 2        | 2        | 139      | 500               | ✓         |                                    | x   |        | x     | x   |      |     |       | x x  |        |       |    |        |          |  |
| 3        | 3        | 140      | 400               | ✓         |                                    | x   |        | x     | x   |      |     |       | x    |        |       |    |        |          |  |
| 4        | 4        | 141      | 300               | ✓         |                                    | x   |        | x     |     |      |     |       | x x  |        |       |    |        |          |  |
| 5        | 5        | 142      | 250               | ✓         |                                    | x x |        | x     |     |      |     |       | x    | x      |       |    |        |          |  |
| 6        | 6        | 143      | 200               | ✓         |                                    | x   |        | x     |     |      |     |       | x    |        |       |    |        |          |  |
| 7        | 7        | 144      | 175               | ✓         |                                    | x   |        | x     |     |      |     |       |      |        |       |    |        |          |  |
| 8        | 8        | 145      | 150               | ✓         |                                    | x   |        | x     |     |      |     |       |      | x      |       |    |        |          |  |
| 9        | 9        | 146      | 125               | ✓         |                                    | x   |        | x     |     |      |     |       |      |        |       |    |        |          |  |
| 10       | 10       | 147      | 100               | ✓         |                                    | x   |        | x x   |     |      |     |       | x    |        |       |    |        |          |  |
| 11       | 11       | 148      | 75                | ✓         |                                    | x   |        | x     |     |      |     |       |      |        |       |    |        |          |  |
| 12       | 12       | 149      | 50                | ✓         |                                    | x   |        | x     |     | x    |     |       | x    | x      |       |    |        |          |  |
| 13       | 13       | 150      | 30                | ✓         |                                    | x x |        | x     |     | x x  |     |       | x    |        |       |    |        |          |  |
| 14       | 14       | 151      | 20                | ✓         |                                    | x   |        | x     |     | x    |     | x x   |      | x      |       |    |        |          |  |
| 15       | 15       | 152      | 10                |           | C Max                              | x   |        | x     |     | x    |     | x x   | x    | x      |       |    |        |          |  |
| 16       | 17       | 153      | 5                 |           |                                    | x   |        |       |     |      |     |       | x    |        |       |    |        | x        |  |
| 17       | 18       | 154      | 5                 |           |                                    |     | x      | x     |     | x    | x x | x x   |      | x      |       | x  | x      |          |  |
| 18       | 15       | 155      | C Max             |           | 13m                                |     |        |       |     |      |     |       |      |        | x     |    |        |          |  |
| 19       |          |          |                   |           |                                    |     |        |       |     |      |     |       |      |        |       |    |        |          |  |
| 20       |          |          |                   |           |                                    |     |        |       |     |      |     |       |      |        |       |    |        |          |  |
| 21       |          |          |                   |           |                                    |     |        |       |     |      |     |       |      |        |       |    |        |          |  |
| 22       |          |          |                   |           |                                    |     |        |       |     |      |     |       |      |        |       |    |        |          |  |
| 23       |          |          |                   |           |                                    |     |        |       |     |      |     |       |      |        |       |    |        |          |  |
| 24       |          |          |                   |           |                                    |     |        |       |     |      |     |       |      |        |       |    |        |          |  |

Profile type:  
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?  
Watchkeeper(s): HM+

Bottom Depth: 598 m  
Transmisso Cleaned: (Y) / N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 1755 | 1055  |
| Bottom | 1805 |       |
| End    | 1931 |       |

Positional Information

|      |             |   |
|------|-------------|---|
| Lat: | 48 ° 25.95  | N |
| Lon: | 126 ° 13.67 | W |

Start

|      |             |   |
|------|-------------|---|
| Lat: | 48 ° 25.95  | N |
| Lon: | 126 ° 13.60 | W |

Bottom

|      |             |   |
|------|-------------|---|
| Lat: | 48 ° 25.90  | N |
| Lon: | 126 ° 13.65 | W |

End

Extra comments:  
**OUT OF ORDER!**  
Check for CHL MAX

## Water Properties Group

## Sampling Log

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

Cruise ID: 2018-034 Station: LC08 Event #: 48 Ship: Tully UTC Date (dd mmm yyyy): 04 Sep 2018

| Niskin # | Firing # | Sample # | Rosette Operation |                      | Samples Taken / Sampler's Initials |     |     |        |       |     |      |     |     |        |  | Comments |  |  |  |
|----------|----------|----------|-------------------|----------------------|------------------------------------|-----|-----|--------|-------|-----|------|-----|-----|--------|--|----------|--|--|--|
|          |          |          | Target Pressure   | Confirmed ✓ Pressure |                                    | Oxy | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 | DIC | TrentU |  |          |  |  |  |
|          |          |          |                   |                      |                                    | ✓   |     | ✓      |       | ✓   | ✓    | ✓   | ✓   | ✓      |  |          |  |  |  |
| 1        |          | 156      | Bot-10            | ✓                    | 189                                | x   |     | x      |       |     |      |     | x   |        |  |          |  |  |  |
| 2        |          | 157      | 175               | ✓                    | 175                                | x   |     | x      |       |     |      |     |     |        |  |          |  |  |  |
| 3        |          | 158      | 150               | ✓                    | 150                                | x   |     | x      |       |     |      |     |     |        |  |          |  |  |  |
| 4        |          | 159      | 125               | ✓                    | 125                                | x   |     | x      |       |     |      |     |     |        |  |          |  |  |  |
| 5        |          | 160      | 100               | ✓                    | 100                                | x   |     | x      |       |     |      |     | x x |        |  |          |  |  |  |
| 6        |          | 161      | 75                | ✓                    | 75                                 | x   |     | x x    |       |     |      |     |     |        |  |          |  |  |  |
| 7        |          | 162      | 50                | ✓                    | 50                                 | x x |     | x      |       | x   |      |     | x   |        |  |          |  |  |  |
| 8        |          | 163      | 30                | ✓                    | 30                                 | x   |     | x      |       | x   |      |     | x x |        |  |          |  |  |  |
| 9        |          | 164      | 20                | ✓                    | 20                                 | x   |     | x      |       | x   |      | x x | x   |        |  |          |  |  |  |
| 10       |          | 165      | 10                | ✓                    | 10                                 | x   |     | x      |       | x x |      | x x | x   |        |  |          |  |  |  |
| 11       |          | 166      | 5                 | ✓                    | 5                                  | x   | x   | x      |       | x   | x x  | x x | x   | x      |  |          |  |  |  |
| 12       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 13       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 14       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 15       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 16       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 17       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 18       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 19       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 20       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 21       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 22       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 23       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |
| 24       |          |          |                   |                      |                                    |     |     |        |       |     |      |     |     |        |  |          |  |  |  |

Profile type:  
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?  
Watchkeeper(s): HR

Bottom Depth: 197 m  
Transmisso Cleaned: ☒ Y ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 2053 | 1353  |
| Bottom | 2057 |       |
| End    | 2111 |       |

Positional Information

|        |                 |   |
|--------|-----------------|---|
| Start  | Lat: 48° 29.44  | N |
|        | Lon: 126° 07.03 | W |
| Bottom | Lat: 48° 29.42  | N |
|        | Lon: 126° 07.01 | W |
| End    | Lat: 48° 29.34  | N |
|        | Lon: 126° 06.93 | W |

Extra comments:

## Water Properties Group

## Sampling Log

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

Cruise ID:

2018-034

Station:

LC06

Event #:

52

Ship:

Tully

UTC Date (dd mmm/yyyy): 04 Sep 2018

| Niskin # | Firing # | Sample # | Rosette Operation |                    | Samples Taken / Sampler's Initials |     |        |       |     |      |     |        |  |  | Comments  |
|----------|----------|----------|-------------------|--------------------|------------------------------------|-----|--------|-------|-----|------|-----|--------|--|--|-----------|
|          |          |          | Target Pressure   | Confirmed Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 | TrentU |  |  |           |
| 1        |          | 167      | Bot-10            | ✓ 83               | x                                  |     | x      |       |     |      |     |        |  |  |           |
| 2        |          | 168      | 75                | ✓ 75               | x                                  |     | x      |       |     |      |     |        |  |  |           |
| 3        |          | 169      | 50                | ✓ 50               | xx                                 |     | x      |       | x   |      |     |        |  |  |           |
| 4        |          | 170      | 30                | ✓ 30               | x                                  |     | x      |       | xx  |      |     |        |  |  |           |
| 5        |          | 171      | 20                | ✓ 20               | x                                  |     | x      |       | x   |      | xx  |        |  |  |           |
| 6        |          | 172      | 10                | ✓ 10               | x                                  |     | xx     |       | x   |      | xx  |        |  |  |           |
| 7        |          | 173      | 5                 | ✓ 5                | x                                  |     | x      |       | x   | xx   | xx  | x      |  |  | Fluo: 2.8 |
| 8        |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 9        |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 10       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 11       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 12       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 13       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 14       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 15       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 16       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 17       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 18       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 19       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 20       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 21       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 22       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 23       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |
| 24       |          |          |                   |                    |                                    |     |        |       |     |      |     |        |  |  |           |

Profile type:

☒ ROS ☐ TRM ☐ X-Niskin ☐ other?

Watchkeeper(s):

HR

Bottom Depth: 92 m

Transmisso Cleaned: ☒ Y ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 2309 | 1609  |
| Bottom | 2312 |       |
| End    | 2319 |       |

## Positional Information

|      |            |   |
|------|------------|---|
| Lat: | 48° 36.42  | N |
| Lon: | 125° 54.05 | W |

|      |            |   |
|------|------------|---|
| Lat: | 48° 36.42  | N |
| Lon: | 125° 54.05 | W |

|      |            |   |
|------|------------|---|
| Lat: | 48° 36.40  | N |
| Lon: | 125° 54.06 | W |

Extra comments:

## Water Properties Group

## Sampling Log

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

Cruise ID: 2018-034

Station: LC04

Event #: 56

Ship: Tully

UTC Date (dd mmm yyyy): 05 SEP 2018

| Niskin # | Firing # | Sample # | Rosette Operation |                    | Samples Taken / Sampler's Initials |     |        |       |     |      |     |      |        |        |  | Comments  |
|----------|----------|----------|-------------------|--------------------|------------------------------------|-----|--------|-------|-----|------|-----|------|--------|--------|--|-----------|
|          |          |          | Target Pressure   | Confirmed Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 | Uvic | UvicFA | TrentU |  |           |
| 1        |          | 174      | Bot-10            | ✓ 159              | x                                  |     | x      |       | VD  | N    | VD  | TV   | TV     | VD     |  |           |
| 2        |          | 175      | 150               | ✓ 150              | x                                  |     | x      |       |     |      |     | x    |        |        |  |           |
| 3        |          | 176      | 125               | ✓ 125              | x                                  |     | x      |       |     |      |     |      |        |        |  |           |
| 4        |          | 177      | 100               | ✓ 99               | x                                  |     | x      |       |     |      |     | x    |        |        |  |           |
| 5        |          | 178      | 75                | ✓ 75               | x                                  |     | x      |       |     |      |     |      |        |        |  |           |
| 6        |          | 179      | 50                | ✓ 50               | x                                  |     | xx     |       | x   |      |     | x    |        |        |  |           |
| 7        |          | 180      | 30                | ✓ 30               | xx                                 |     | x      |       | xx  |      |     |      |        |        |  |           |
| 8        |          | 181      | 20                | ✓ 20               | x                                  |     | x      |       | x   |      | xx  | x    |        |        |  |           |
| 9        |          | 182      | 10                | ✓ 10               | x                                  |     | x      |       | x   |      | xx  | x    |        |        |  |           |
| 10       |          | 183      | 5                 | ✓ 5                | x                                  |     | x      |       |     |      |     | x    |        |        |  |           |
| 11       |          | 184      | 5                 | ✓ 5                |                                    |     |        |       | x   | xx   | xx  |      |        | x      |  | Fluo: 4.8 |
| 12       |          | 185      | C MAX             | ✓ 5                |                                    |     |        |       |     |      |     | x    |        |        |  |           |
| 13       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |
| 14       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |
| 15       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |
| 16       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |
| 17       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |
| 18       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |
| 19       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |
| 20       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |
| 21       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |
| 22       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |
| 23       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |
| 24       |          |          |                   |                    |                                    |     |        |       |     |      |     |      |        |        |  |           |

Profile type:  
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?  
Watchkeeper(s): MR

Bottom Depth: 165 m  
Transmisso Cleaned: ☒ Y / ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 0116 | 1816  |
| Bottom | 0119 |       |
| End    | 0132 |       |

Positional Information

|      |             |   |
|------|-------------|---|
| Lat: | 48 ° 43 42  | N |
| Lon: | 125 ° 40 98 | W |

Start

|      |             |   |
|------|-------------|---|
| Lat: | 48 ° 43 43  | N |
| Lon: | 125 ° 41 05 | W |

End

|      |             |   |
|------|-------------|---|
| Lat: | 48 ° 43 49  | N |
| Lon: | 125 ° 41 19 | W |

Extra comments:

OUT-OF-ORDER

## Water Properties Group

## Sampling Log

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

Cruise ID: 2018-034 Station: LC02 Event #: 60 Ship: Tully UTC Date (dd mmm yyyy): 05 SEP 2018

| Niskin # | Firing # | Sample # | Rosette Operation |                      | Samples Taken / Sampler's Initials |     |        |       |     |      |     |       |                    |    |     |        | Comments  |
|----------|----------|----------|-------------------|----------------------|------------------------------------|-----|--------|-------|-----|------|-----|-------|--------------------|----|-----|--------|-----------|
|          |          |          | Target Pressure   | Confirmed ✓ Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 | DIC   | phyto              | DA | HAB | TrentU |           |
|          |          |          |                   |                      | MR                                 | MR  | TV     |       | MR  | MR   | JD  | TV/SD | MR                 | MR | MR  | JD     |           |
| 1        |          | 186      | Rot-10            | ✓ 102                | x                                  |     | x      |       |     |      |     | x     |                    |    |     |        |           |
| 2        |          | 187      | 75                | ✓ 75                 | x                                  |     | x      |       |     |      |     | xx    |                    |    |     |        |           |
| 3        |          | 188      | 50                | ✓ 50                 | xx                                 |     | x      |       | x   |      |     | x     |                    |    |     |        |           |
| 4        |          | 189      | 30                | ✓ 30                 | x                                  |     | x      |       | x   |      |     | xx    |                    |    |     |        |           |
| 5        |          | 190      | 20                | ✓ 20                 | x                                  |     | xx     |       | x   |      | xx  | x     |                    |    |     |        |           |
| 6        |          | 191      | 10                | ✓ 10                 | x                                  |     | x      |       | xx  |      | xx  | x     |                    |    |     |        |           |
| 7        |          | 192      | 5                 | ✓ 5                  | x                                  | x   |        |       |     |      |     | x     |                    |    |     | x      |           |
| 8        |          | 193      | 5                 | ✓ 5                  |                                    |     | x      |       | x   | xx   | xx  |       | x                  | x  | x   |        | Fluo: 8.4 |
| 9        |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 10       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 11       |          |          |                   |                      |                                    |     |        |       |     |      |     |       | DATA ONLY FILTERED |    |     |        | 445 ml    |
| 12       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 13       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 14       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 15       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 16       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 17       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 18       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 19       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 20       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 21       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 22       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 23       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |
| 24       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |                    |    |     |        |           |

Profile type: (ROS) TRM X-Niskin other?  
Watchkeeper(s): MR

Bottom Depth: 110 m

Transmisso Cleaned: (Y) / N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 0339 | 2039  |
| Bottom | 0342 |       |
| End    | 0350 |       |

## Positional Information

Start  
Lat: 48° 48.69 N  
Lon: 125° 31.05 WBottom  
Lat: 48° 48.70 N  
Lon: 125° 31.07 WEnd  
Lat: 48° 48.70 N  
Lon: 125° 31.08 W

Extra comments:

## Water Properties Group

## Sampling Log

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

Cruise ID: 2018-034 Station: LC01 Event #: 61 Ship: Tully UTC Date (dd mmm yyyy): 05 SEP 2018

| Niskin # | Firing # | Sample # | Rosette Operation |                      | Samples Taken / Sampler's Initials |     |        |       |       |      |     |      |  |  | Comments |               |  |  |
|----------|----------|----------|-------------------|----------------------|------------------------------------|-----|--------|-------|-------|------|-----|------|--|--|----------|---------------|--|--|
|          |          |          | Target Pressure   | Confirmed ✓ Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL   | HPLC | NH4 | UVic |  |  |          |               |  |  |
|          |          |          |                   |                      | MR/TU                              |     | TU     |       | TU/MR | JD   | MG  |      |  |  |          |               |  |  |
| 1        |          | 194      | Bot-10            | ✓ 88                 | x                                  |     | x      |       |       |      |     |      |  |  |          |               |  |  |
| 2        |          | 195      | 75                | ✓ 75                 | x                                  |     | x x    |       |       |      |     |      |  |  |          |               |  |  |
| 3        |          | 196      | 50                | ✓ 50                 | x x                                |     | x      |       | x     |      |     |      |  |  |          |               |  |  |
| 4        |          | 197      | 30                | ✓ 30                 | x                                  |     | x      |       | x x   |      |     |      |  |  |          |               |  |  |
| 5        |          | 198      | 20                | ✓ 20                 | x                                  |     | x      |       | x     |      | x x |      |  |  |          |               |  |  |
| 6        |          | 199      | 10                | ✓ 10                 | x                                  |     | x      |       | x x   |      | x x |      |  |  |          |               |  |  |
| 7        |          | 200      | 5                 | ✓ 5                  | x                                  |     | x      |       | x     | x x  | x x |      |  |  |          | Fluo: 3.9 4.3 |  |  |
| 8        |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 9        |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 10       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 11       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 12       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 13       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 14       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 15       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 16       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 17       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 18       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 19       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 20       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 21       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 22       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 23       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |
| 24       |          |          |                   |                      |                                    |     |        |       |       |      |     |      |  |  |          |               |  |  |

Profile type: (ROS) TRM X-Niskin other?  
Watchkeeper(s): MRBottom Depth: \_\_\_\_\_ m  
Transmisso Cleaned: (Y) / N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 0416 | 2116  |
| Bottom | 0418 |       |
| End    | 0425 |       |

Positional Information  
Start  
Lat: 48° 50' 46" N  
Lon: 125° 27' 78" WBottom  
Lat: 48° 50' 47" N  
Lon: 125° 27' 79" WEnd  
Lat: 48° 50' 53" N  
Lon: 125° 27' 86" WExtra comments:  
See note in book

## Water Properties Group

## Sampling Log

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

Cruise ID: 2018-034 Station: LD02 Event #: 63 Ship: Tully UTC Date (dd:mmm:yyyy): 05 SEP 2018

| Niskin # | Firing # | Sample # | Rosette Operation |                      | Samples Taken / Sampler's Initials |     |        |       |     |      |     |       |            |     |  |  | Comments  |
|----------|----------|----------|-------------------|----------------------|------------------------------------|-----|--------|-------|-----|------|-----|-------|------------|-----|--|--|-----------|
|          |          |          | Target Pressure   | Confirmed ✓ Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 | phyto | DA         | HAB |  |  |           |
|          |          |          |                   |                      | MR                                 |     | TV     |       | VD  | MR   | MR  | MR    | MR         | TV  |  |  |           |
| 1        |          | 201      | Bot-10            | ✓ 35                 | x                                  |     | x      |       | x   |      |     |       |            |     |  |  |           |
| 2        |          | 202      | 30                | ✓ 30                 | x                                  |     | x      |       | xx  |      |     |       |            |     |  |  |           |
| 3        |          | 203      | 20                | ✓ 20                 | xx                                 |     | x      |       | x   |      | xx  |       |            |     |  |  |           |
| 4        |          | 204      | 10                | ✓ 10                 | x                                  |     | xx     |       | x   |      | xx  |       |            |     |  |  |           |
| 5        |          | 205      | 5                 | ✓ 5                  | x                                  |     | x      |       | x   | xx   | xx  | x     | x          | x   |  |  | Fluo: 9.4 |
| 6        |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 7        |          |          |                   |                      |                                    |     |        |       |     |      |     |       | DA: 625 ml |     |  |  |           |
| 8        |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 9        |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 10       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 11       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 12       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 13       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 14       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 15       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 16       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 17       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 18       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 19       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 20       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 21       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 22       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 23       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |
| 24       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |            |     |  |  |           |

|                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------|
| Profile type:                                                                                                                          |
| <input checked="" type="checkbox"/> ROS <input type="checkbox"/> TRM <input type="checkbox"/> X-Niskin <input type="checkbox"/> other? |
| Watchkeeper(s): MR                                                                                                                     |

|                     |                                                                    |
|---------------------|--------------------------------------------------------------------|
| Bottom Depth:       | 44 m                                                               |
| Transmisso Cleaned: | <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N |

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 0611 | 2311  |
| Bottom | 0612 |       |
| End    | 0617 |       |

|                        |             |   |
|------------------------|-------------|---|
| Positional Information |             |   |
| Lat:                   | 48° 58' 29" | N |
| Lon:                   | 125° 47.19' | W |

|      |             |   |
|------|-------------|---|
| Lat: | 48° 58' 30" | N |
| Lon: | 125° 47.20' | W |

|      |              |   |
|------|--------------|---|
| Lat: | 48° 58' 33"  | N |
| Lon: | 125° 47' 21" | W |

|                 |
|-----------------|
| Extra comments: |
|-----------------|

## Water Properties Group

## Sampling Log

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

Cruise ID:

2018-034

Station:

LD04

Event #:

65

Ship:

Tully

UTC Date (dd mmm yyyy): 5 9 18

| Niskin # | Firing # | Sample # | Rosette Operation |                    | Samples Taken / Sampler's Initials |     |        |       |     |      |     |  |     |  | Comments |           |  |
|----------|----------|----------|-------------------|--------------------|------------------------------------|-----|--------|-------|-----|------|-----|--|-----|--|----------|-----------|--|
|          |          |          | Target Pressure   | Confirmed Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 |  |     |  |          |           |  |
| 1        |          | 206      | Bot-10            | ✓                  | 53                                 | x x |        | x     |     | x    |     |  |     |  |          |           |  |
| 2        |          | 207      | 30                | ✓                  |                                    | x   |        | x x   |     | x    |     |  |     |  |          |           |  |
| 3        |          | 208      | 20                | ✓                  |                                    | x   |        | x     |     | x    |     |  | x x |  |          |           |  |
| 4        |          | 209      | 10                | ✓                  |                                    | x   |        | x     |     | x x  |     |  | x x |  |          |           |  |
| 5        |          | 210      | 5                 | ✓                  |                                    | x   |        | x     |     | x    | x x |  | x x |  |          | Fluo: 9.7 |  |
| 6        |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 7        |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 8        |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 9        |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 10       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 11       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 12       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 13       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 14       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 15       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 16       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 17       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 18       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 19       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 20       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 21       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 22       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 23       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |
| 24       |          |          |                   |                    |                                    |     |        |       |     |      |     |  |     |  |          |           |  |

Profile type:

ROS TRM X-Niskin other?

Watchkeeper(s): H. m +

Bottom Depth: 62 m

Transmisso Cleaned: (Y) N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 0726 | 0026  |
| Bottom | 0727 |       |
| End    | 0732 |       |

Positional Information

Start  
Lat: 48 ° 53.13 N  
Lon: 125 ° 57.05 WBottom  
Lat: 48 ° 53.13 N  
Lon: 125 ° 57.06 WEnd  
Lat: 48 ° 53.12 N  
Lon: 125 ° 57.11 W

Extra comments:

## Water Properties Group

## Sampling Log

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

Cruise ID: 2018-034 Station: LG01 Event #: 68 Ship: Tully UTC Date (dd|mmm|yyyy): 5 | 9 | 18

| Niskin # | Firing # | Sample # | Rosette Operation |                      | Samples Taken / Sampler's Initials |     |        |       |     |      |     |  |  |  | Comments   |
|----------|----------|----------|-------------------|----------------------|------------------------------------|-----|--------|-------|-----|------|-----|--|--|--|------------|
|          |          |          | Target Pressure   | Confirmed ✓ Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 |  |  |  |            |
| 1        |          | 211      | Bot-10            | ✓ 44                 | x                                  |     | x      |       | x   |      | xx  |  |  |  |            |
| 2        |          | 212      | 30                | ✓                    | xx                                 |     | x      |       | x   |      | xx  |  |  |  |            |
| 3        |          | 213      | 20                | ✓                    | x                                  |     | xx     |       | xx  |      | xx  |  |  |  |            |
| 4        |          | 214      | 10                | ✓                    | x                                  |     | x      |       | x   |      | xx  |  |  |  |            |
| 5        |          | 215      | 5                 | ✓                    | x                                  |     | x      |       | x   | xx   | xx  |  |  |  | Fluo: 5.76 |
| 6        |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 7        |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 8        |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 9        |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 10       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 11       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 12       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 13       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 14       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 15       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 16       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 17       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 18       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 19       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 20       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 21       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 22       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 23       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 24       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |

Profile type:  
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?  
Watchkeeper(s): HM +

Bottom Depth: 53 m  
Transmisso Cleaned: (Y) / N

| Time   | UTC   | Local |
|--------|-------|-------|
| Start  | 11 50 | 04    |
| Bottom | 11 51 |       |
| End    | 11 57 |       |

Positional Information

|      |             |   |
|------|-------------|---|
| Lat: | 49 ° 20 48  | N |
| Lon: | 126 ° 34 94 | W |

▼

|      |             |   |
|------|-------------|---|
| Lat: | 49 ° 20 48  | N |
| Lon: | 126 ° 34 94 | W |

▼

|      |             |   |
|------|-------------|---|
| Lat: | 49 ° 20 51  | N |
| Lon: | 126 ° 34 97 | W |

Extra comments:

## Water Properties Group

## Sampling Log

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

Cruise ID: 2018-034 Station: LG02 Event #: 69 Ship: Tully UTC Date (dd mmm yyyy): 5 9 18

| Niskin # | Firing # | Sample # | Rosette Operation |                      | Samples Taken / Sampler's Initials |     |        |       |     |      |     |     |       |      |    |        | Comments  |
|----------|----------|----------|-------------------|----------------------|------------------------------------|-----|--------|-------|-----|------|-----|-----|-------|------|----|--------|-----------|
|          |          |          | Target Pressure   | Confirmed ✓ Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 | HAB | phyto | UVic | DA | UVicFA |           |
| 1        |          | 216      | Bot-10            | ✓ 89                 | x                                  |     | x      |       |     |      |     |     |       | x    |    |        |           |
| 2        |          | 217      | 75                | ✓                    | x x                                |     | x      |       |     |      |     |     |       | x    |    |        |           |
| 3        |          | 218      | 50                | ✓                    | x                                  |     | x x    |       | x   |      |     |     |       | x    |    |        |           |
| 4        |          | 219      | 30                | ✓                    | x                                  |     | x      |       | x   |      |     |     |       |      |    |        |           |
| 5        |          | 220      | 20                | ✓                    | x                                  |     | x      |       | x x |      | x x |     |       | x    |    |        |           |
| 6        |          | 221      | 10                | ✓                    | x                                  |     | x      |       | x   |      | x x |     |       | x    |    |        |           |
| 7        |          | 222      | 5                 | ✓                    | x                                  |     | x      |       |     |      |     |     |       | x    |    |        |           |
| 8        |          | 223      | 5                 | ✓                    |                                    |     |        |       | x   | x x  | x x | x   | x x x |      | x  |        | Fluo: 6.1 |
| 9        |          | 224      | C MAX             | ✓ 5n                 |                                    |     |        |       |     |      |     |     |       |      |    | x      |           |
| 10       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 11       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 12       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 13       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 14       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 15       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 16       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 17       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 18       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 19       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 20       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 21       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 22       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 23       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |
| 24       |          |          |                   |                      |                                    |     |        |       |     |      |     |     |       |      |    |        |           |

Profile type: ☒ ROS ☐ TRM ☐ X-Niskin ☐ other?  
Watchkeeper(s): HntBottom Depth: 98 m  
Transmisso Cleaned: ☒ Y ☐ N

| Time   | UTC   | Local |
|--------|-------|-------|
| Start  | 12 37 | 05 37 |
| Bottom | 12 39 |       |
| End    | 12 47 |       |

|        | Positional Information |    |   |
|--------|------------------------|----|---|
| Start  | Lat: 49 48 ° 18        | 75 | N |
|        | Lon: 126 ° 38          | 07 | W |
| Bottom | Lat: 49 48 ° 18        | 75 | N |
|        | Lon: 126 ° 38          | 09 | W |
| End    | Lat: 49 48 ° 18        | 74 | N |
|        | Lon: 126 ° 38          | 20 | W |

Extra comments:

## Water Properties Group

## Sampling Log

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

Cruise ID: 2018-034

Station: LG04

Event #: 73

Ship: Tully

UTC Date (dd mmm yyyy): 5 9 18

| Niskin # | Firing # | Sample # | Rosette Operation |                      | Samples Taken / Sampler's Initials |     |        |       |     |      |     |  |  |  | Comments   |
|----------|----------|----------|-------------------|----------------------|------------------------------------|-----|--------|-------|-----|------|-----|--|--|--|------------|
|          |          |          | Target Pressure   | Confirmed ✓ Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 |  |  |  |            |
| 1        |          | 225      | Bot-10            | ✓ 136                | x                                  |     | x      |       |     |      |     |  |  |  |            |
| 2        |          | 226      | 125               | ✓                    | x                                  |     | x      |       |     |      |     |  |  |  |            |
| 3        |          | 227      | 100               | ✓                    | x                                  |     | x      |       |     |      |     |  |  |  |            |
| 4        |          | 228      | 75                | ✓                    | x                                  |     | x x    |       |     |      |     |  |  |  |            |
| 5        |          | 229      | 50                | ✓                    | x                                  |     | x      |       | x   |      |     |  |  |  |            |
| 6        |          | 230      | 30                | ✓                    | x x                                |     | x      |       | x   |      |     |  |  |  |            |
| 7        |          | 231      | 20                | ✓                    | x                                  |     | x      |       | x   |      | x x |  |  |  |            |
| 8        |          | 232      | 10                | ✓                    | x                                  |     | x      |       | x   |      | x x |  |  |  |            |
| 9        |          | 233      | 5                 | ✓                    | x                                  |     | x      |       | x x | x x  | x x |  |  |  | Fluo: 5.21 |
| 10       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 11       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 12       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 13       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 14       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 15       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 16       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 17       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 18       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 19       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 20       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 21       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 22       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 23       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |
| 24       |          |          |                   |                      |                                    |     |        |       |     |      |     |  |  |  |            |

|                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------|
| Profile type:                                                                                                                          |
| <input checked="" type="checkbox"/> ROS <input type="checkbox"/> TRM <input type="checkbox"/> X-Niskin <input type="checkbox"/> other? |
| Watchkeeper(s): H.m +                                                                                                                  |

|                     |       |   |
|---------------------|-------|---|
| Bottom Depth:       | 144   | m |
| Transmisso Cleaned: | (Y) 1 | N |

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 1446 | 0746  |
| Bottom | 1448 |       |
| End    | 1459 |       |

|                        |                                            |
|------------------------|--------------------------------------------|
| Positional Information |                                            |
| Start                  | Lat: 49 48 ° 11 31 N<br>Lon: 126 ° 49 32 W |
| Bottom                 | Lat: 49 48 ° 11 31 N<br>Lon: 126 ° 49 36 W |
| End                    | Lat: 49 48 ° 11 29 N<br>Lon: 126 ° 49 40 W |

|                 |
|-----------------|
| Extra comments: |
|-----------------|

## Water Properties Group

## Sampling Log

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

Cruise ID: 2018-034

Station: LG06

Event #: 76

Ship: Tully

UTC Date (dd mmm yyyy): 5 9 18

| Niskin # | Firing # | Sample # | Rosette Operation |                      | Samples Taken / Sampler's Initials |     |        |       |     |      |     |       |    |     |  |            | Comments |
|----------|----------|----------|-------------------|----------------------|------------------------------------|-----|--------|-------|-----|------|-----|-------|----|-----|--|------------|----------|
|          |          |          | Target Pressure   | Confirmed ✓ Pressure | Oxy                                | Sal | Nut-Fr | Nut-C | CHL | HPLC | NH4 | Phyto | DA | HAB |  |            |          |
| 1        |          | 234      | Bot-10            | ✓ 976                | x                                  |     | x      | x     |     |      |     |       |    |     |  |            |          |
| 2        |          | 235      | 750               | ✓                    | x                                  | x   | x x    | x x   |     |      |     |       |    |     |  |            |          |
| 3        |          | 236      | 500               | ✓                    | x x                                |     | x      | x     |     |      |     |       |    |     |  |            |          |
| 4        |          | 237      | 400               | ✓                    | x                                  |     | x      | x     |     |      |     |       |    |     |  |            |          |
| 5        |          | 238      | 300               | ✓                    | x                                  |     | x      |       |     |      |     |       |    |     |  |            |          |
| 6        |          | 239      | 250               | ✓                    | x                                  |     | x      |       |     |      |     |       |    |     |  |            |          |
| 7        |          | 240      | 200               | ✓                    | x                                  |     | x      |       |     |      |     |       |    |     |  |            |          |
| 8        |          | 241      | 175               | ✓                    | x                                  |     | x      |       |     |      |     |       |    |     |  |            |          |
| 9        |          | 242      | 150               | ✓                    | x                                  |     | x x    |       |     |      |     |       |    |     |  |            |          |
| 10       |          | 243      | 125               | ✓                    | x                                  |     | x      |       |     |      |     |       |    |     |  |            |          |
| 11       |          | 244      | 100               | ✓                    | x                                  |     | x      |       |     |      |     |       |    |     |  |            |          |
| 12       |          | 245      | 75                | ✓                    | x                                  |     | x      |       |     |      |     |       |    |     |  |            |          |
| 13       |          | 246      | 50                | ✓                    | x                                  |     | x      |       | x   |      |     |       |    |     |  |            |          |
| 14       |          | 247      | 30                | ✓                    | x x                                |     | x      |       | x x |      |     |       |    |     |  |            |          |
| 15       |          | 248      | 20                | ✓                    | x                                  |     | x      |       | x   |      | x x |       |    |     |  |            |          |
| 16       |          | 249      | 10                | ✓                    | x                                  |     | x      |       | x   |      | x x |       |    |     |  |            |          |
| 17       |          | 250      | 5                 | ✓                    | x                                  | x   | x      |       |     |      |     |       |    |     |  | Fluo: 5.94 |          |
| 18       |          | 251      | 5                 | ✓                    |                                    |     |        |       | x   | x x  | x x | x x x | x  | x   |  |            |          |
| 19       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |    |     |  |            |          |
| 20       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |    |     |  |            |          |
| 21       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |    |     |  |            |          |
| 22       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |    |     |  |            |          |
| 23       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |    |     |  |            |          |
| 24       |          |          |                   |                      |                                    |     |        |       |     |      |     |       |    |     |  |            |          |

Profile type:  
☒ ROS ☐ TRM ☐ X-Niskin ☐ other?  
Watchkeeper(s): HM +

Bottom Depth: 954 m

Transmisso Cleaned: ☒ Y ☐ N

| Time   | UTC  | Local |
|--------|------|-------|
| Start  | 1643 | 0943  |
| Bottom | 1659 |       |
| End    | 1731 |       |

## Positional Information

Start  
Lat: 49 48 ° 03.48 N  
Lon: 127 ° 01.20 W

Bottom  
Lat: 49 48 ° 03.49 N  
Lon: 127 ° 01.25 W

End  
Lat: 49 48 ° 03.49 N  
Lon: 127 ° 01.22 W

Extra comments: