

# DAILY SCIENCE LOG BOOK

LE62

MISSION  
NUMBER

2015-54

DATE:

From: 13 Oct 2015

to: 9 Nov 2015

VESSEL:

Vector

PROJECT(S):

WC - Douglas Channel

Water Properties Group  
Fisheries and Oceans Canada  
Institute of Ocean Sciences  
Ocean Sciences Division  
North Saanich, BC, Canada

Book 2/2 (27 Oct 2015)

WaterProperties.ca

rs for the Douglas Channel cruise.

50 units

A deployment is 5 sponge drifters.

We will worry about the other ones on the second leg.

Leg1 (diagram on next page).

2 deployments in Wright Sound – one early in cruise, one later (10)

1 deployment in Gardiner Canal - (5)

## Leg 2

- 1 deployment in Browning Entrance. + Davis Drifter (5)
- 2 deployments in Wright Sound – one early in cruise, one later (10)
  - + Davis drifter each time.
- 1 deployment in Caamano Sound (5)
  - Plus 1 davis drifter, plus 3 disks
- 2 deployments just north of FOC (10)
  - Plus 1 davis drifter
- If we don't get to Browning Entrance then deploy at Sill in Varney Passage

Total : 30 SCT and 5 Davis

Don't forget.

Plus Vancouver Harbour

3 SCT -

3 Davis -

*This page is for any notes or observations*

## Sketch for Leg 2.

Standard deployment is 5 SCTs  
Additions are noted

Browning Entrance  
+Davis drifter

54°N

40'

Wright Sound

2 deployments during the leg.

- Early on (+Davis drifter)
- Mid leg or a bit later +davis

53°N

Caamano Sound  
+ Davis Drifter  
+ 3 XEOS disks

130°W

129°W

North of FOC

2 deployments during the leg.

- Early on (+Davis drifter)
- Mid leg or a bit later

Fill we don't get to  
Browning Entrance  
Deploy here

## DAILY SCIENCE LOG

## Ocean Sciences Division, Institute of Ocean Sciences

Matt &amp; Krista 00-12 Watchkeepers

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| Month   |              |            |           | Year      |               |              | Ship                   |             |              |           | Cruise ID      |              |               |                |                                           |
|---------|--------------|------------|-----------|-----------|---------------|--------------|------------------------|-------------|--------------|-----------|----------------|--------------|---------------|----------------|-------------------------------------------|
| October |              |            |           | 2015      |               |              | Vector                 |             |              |           | 2015-54        |              |               |                |                                           |
| Day     | Station Name | Time (UTC) | Time Code | Cast Type | Firing Method | Event Number | Positional Information |             | Bottom Depth | Max Depth | Sample Numbers | # of Bottles | Watch Keepers | Trans. Cleaned | Comments                                  |
|         |              |            |           |           |               |              | Latitude               | Longitude   |              |           |                |              |               |                |                                           |
| 28      | WC43         | 0801       | DE        | DRF       |               | 215          | 53 21.034              | 129 16.353  | 515          |           |                |              | CH/SN/PT      |                | Spongebob                                 |
| 28      | WC43         | 0801       | DE        | DRF       |               | 216          | 53 21.034              | 129 16.353  | 515          |           |                |              | u             |                | Cedar Barkup                              |
| 28      | LS93         | 1241       | BE        | ROS       |               | 217          | 52 43.559              | 129 3.756   | 268          |           |                |              | SN            | ✓              | u                                         |
|         |              | 1248       | BO        |           |               |              | 52 43.570              | 129 3.700   |              | 263       |                |              |               |                |                                           |
|         |              | 1253       | EN        |           |               |              | 52 43.579              | 129 3.676   |              |           |                |              |               |                |                                           |
| 28      | LS89         | 1335       | BE        | ROS       |               | 218          | 52 46.646              | 129 3.250   | 205          |           |                |              | SN            | ✓              |                                           |
|         |              | 1339       | BO        |           |               |              | 52 46.645              | 129 3.267   |              | 200       |                |              |               |                |                                           |
|         |              | 1344       | EN        |           |               |              | 52 46.664              | 129 3.300   |              |           |                |              |               |                |                                           |
| 28      | CA-D1        | 1521       | BE        | ROS       |               | 219          | 52 53.779              | 129 32.300  | 315          |           | 395-400        | 6            | SN            | ✓              | Weights on 45° wire <sup>app</sup> le!    |
|         |              | 1542       | BO        |           |               |              | 52 53.946              | 129 33.635  |              | 275       |                |              |               |                |                                           |
|         |              | 1555       | EN        |           |               |              | 52 53.864              | 129 33.766  |              |           | (MVP Run)      |              |               |                |                                           |
| 29      | F00-1        | 0227       | DE        | DRF       |               | 220          | 53 44.094              | 129 01.5917 |              |           | ↓              |              |               |                | #345, 346, 349, 352 + #316 + Cedar Barkup |
| 29      | Dec 22       | 0432       | BE        | ROS       |               | 221          | 53 36.776              | 128 50.766  | 186          |           |                |              | SN            | ✓              | "Christmas four"                          |
|         |              | 0437       | BO        |           |               |              | 53 36.767              | 128 50.736  |              |           |                |              |               |                | map next page                             |
|         |              | 0441       | EN        |           |               |              | 53 36.778              | 128 50.722  |              |           |                |              |               |                |                                           |
| 29      | Dec 22       | 0456       | BE        | ADCP      |               | 222          | 53 36.849              | 128 50.737  | 189          |           |                |              |               |                | Strut mounted                             |
| 29      | Dec 22       | 0635       | BE        | ROS       |               | 223          | 53 36.745              | 128 50.713  | 186          |           |                |              | SN            | ✓              | ADCP Port side                            |
|         |              | 0641       | BO        |           |               |              | 53 36.746              | 128 50.724  |              | 182?      |                |              |               |                | 4 kts                                     |
|         |              | 0644       | EN        |           |               |              | 53 36.748              | 128 50.740  |              |           |                |              |               |                | muddy bottom                              |

Cast Type: USW - Sea Water Log

## Cast Type:

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 MOR = Mooring  
 NET = Plankton Net Haul  
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 — = —

## Bottle Firing Method:

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## Notes:

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Transmissometer &amp; Fluorometer are to be cleaned before each cast

Produced by the Water Properties Group, IOS

WaterProperties.ca  
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CH53743 401

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| Month <u>Oct</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>Vector</u>     |            |              | Cruise ID <u>2015-54</u> |                |              |               |                |          |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|------------|--------------|--------------------------|----------------|--------------|---------------|----------------|----------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |            | Bottom Depth | Max Depth                | Sample Numbers | # of Bottles | Watch Keepers | Trans. Cleaned | Comments |
|                  |              |            |           |                  |               |              | Latitude               | Longitude  |              |                          |                |              |               |                |          |
| 29               | Dec 24       | 0712       | BE        | ROS              |               | 224          | 53 35.510              | 128 50.837 | 110          |                          |                |              | SW            | ✓              | ☺        |
|                  |              | 0716       | BO        |                  |               |              | 53 35.513              | 128 50.879 |              |                          |                |              |               |                |          |
|                  |              | 0718       | EN        |                  |               |              | 53 35.512              | 128 50.876 |              |                          |                |              |               |                |          |
| 29               | Dec 26       | 0742       | BE        | ROS              |               | 225          | 53 34.273              | 128 50.968 | 162          |                          |                |              | SW            | ✓              | ☺        |
|                  |              | 0747       | BO        |                  |               |              | 53 34.295              | 128 50.951 |              | 156                      |                |              |               |                |          |
|                  |              | 0750       | EN        |                  |               |              | 53 34.296              | 128 50.938 |              |                          |                |              |               |                |          |
| 29               | Dec 25       | 0813       | BE        | ROS              |               | 226          | 53 35.040              | 128 48.326 | 168          |                          |                |              | SW            | ✓              | ☺        |
|                  |              | 0819       | BO        |                  |               |              | 53 35.039              | 128 48.308 |              | 163                      |                |              |               |                |          |
|                  |              | 0822       | EN        |                  |               |              | 53 35.040              | 128 48.318 |              |                          |                |              |               |                |          |
| 29               | Dec 22       | 0913       | BE        | ROS              |               | 227          | 53 36.785              | 128 50.758 | 192          |                          |                |              | SW            | ✓              |          |
|                  |              | 0918       | BO        |                  |               |              | 53 36.782              | 128 50.713 |              | 186                      |                |              |               |                |          |
|                  |              | 0921       | EN        |                  |               |              | 53 36.781              | 128 50.730 |              |                          |                |              |               |                |          |
| 29               | Dec 22       | 1058       | BE        | ROS              |               | 228          | 53 36.780              | 128 50.740 | 191          |                          |                |              | SW            | ✓              |          |
|                  |              | 1103       | BO        |                  |               |              | 53 36.782              | 128 50.732 |              | 185                      |                |              |               |                |          |
|                  |              | 1106       | EN        |                  |               |              | 53 36.788              | 128 50.748 |              |                          |                |              |               |                |          |
| 29               | Dec 24       | 1129       | BE        | ROS              |               | 229          | 53 35.500              | 128 50.891 | 111          |                          |                |              |               |                |          |
|                  |              | 1133       | BO        |                  |               |              | 53 35.516              | 128 50.839 |              | 108                      |                |              |               |                |          |
|                  |              | 1135       | EN        |                  |               |              | 53 35.520              | 128 50.876 |              |                          |                |              |               |                |          |

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Produced by the Water Properties Group, IOS

WaterProperties.ca  
 Version: 7 July 2014

per 28-29:

Run MVP until it gets dark, towards Kitimat

After dark and until 05:30 October 29:

ADCP on pole and CTDs at sill in Devastation Channel

|                   |             |
|-------------------|-------------|
| DeC22: 53 36.7686 | 128 50.7400 |
| Dec24: 53 35.5127 | 128 50.8871 |
| Dec26: 53 34.2597 | 128 50.9989 |
| Dec25: 53 35.0228 | 128 48.2975 |

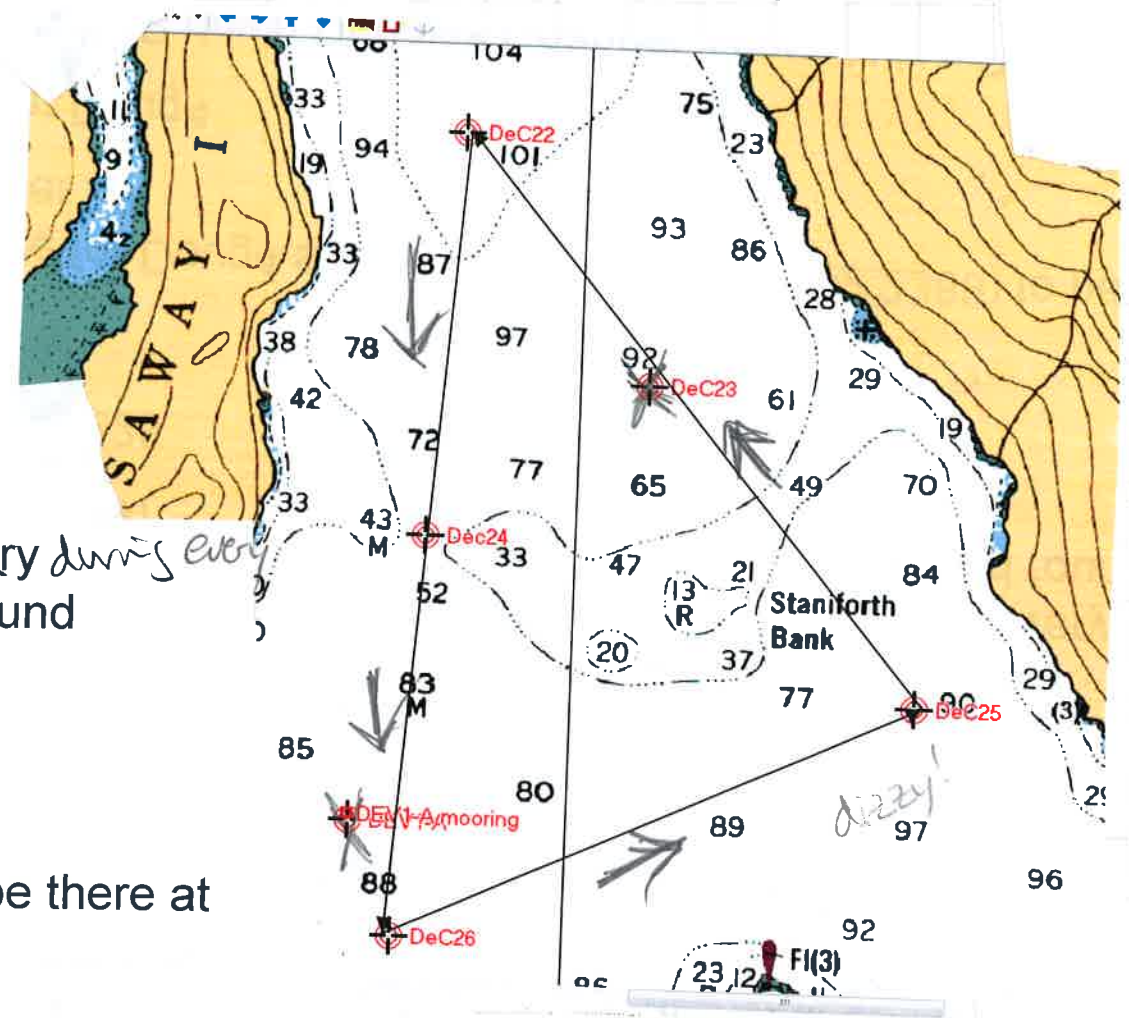
CTDs ~~every~~ during every  
second round

~05:30 Leave for Doug4 station (53 55.6197 128 42.2389) to be there at 07:30 October 29.

07:30 CTD at Doug4

08:00 → dark: MVP down Douglas Channel, Devastation Channel, Verney Passage, Wright Sound, Whale Channel to Campania Sound.

This page is for any notes or observations



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| Month <u>Oct</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>Vectr</u>      |            |              |           | Cruise ID <u>2015-54</u> |              |               |                |          |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|------------|--------------|-----------|--------------------------|--------------|---------------|----------------|----------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |            | Bottom Depth | Max Depth | Sample Numbers           | # of Bottles | Watch Keepers | Trans. Cleaned | Comments |
|                  |              |            |           |                  |               |              | Latitude               | Longitude  |              |           |                          |              |               |                |          |
| 29               | DCC 26       | 1200       | BE        | ROS              |               | 230          | 53 34.286              | 128 50.971 | 163          |           |                          |              | SN            | —              |          |
|                  |              | 1204       | BO        |                  |               |              | 53 34.289              | 128 50.984 |              | 158       |                          |              |               |                |          |
|                  |              | 1207       | EN        |                  |               |              | 53 34.300              | 128 50.983 |              |           |                          |              |               |                |          |
| 29               | Doug 4       | 1451       | BE        | ROS              |               | 231          | 53 55.631              | 128 42.149 | 218          |           |                          |              | SN            | —              |          |
|                  |              | 1457       | BO        |                  |               |              | 53 55.639              | 128 42.176 |              | 214       |                          |              |               |                |          |
|                  |              | 1501       | EN        |                  |               |              | 53 55.642              | 128 42.196 |              |           |                          |              |               |                |          |
| 29               | Survey R     | 1510       | BE        | MVP              |               | 232          | 53 55.26               | 128 42.58  | 221          |           |                          |              | JMK           |                |          |
| 30               | WC 69        | 0224       | BE        | ADCP             |               | 233          | 53 05.212              | 129 11.543 |              |           |                          | 5            |               |                |          |
| 30               | WC 69        | 0233       | BE        | ROS              |               | 234          | 53 5.351               | 129 11.582 | 152          |           | 401-405                  | 5            | SN            | —              |          |
|                  | "Tail"       | 0238       | BO        |                  |               |              | 53 5.353               | 129 11.579 |              | 149       |                          |              |               |                |          |
|                  |              | 0245       | EN        |                  |               |              | 53 5.364               | 129 11.580 |              |           |                          |              |               |                |          |
| 30               | WC 71        | 0322       | BE        | ROS              |               | 235          | 53 4.694               | 129 15.170 | 323          |           |                          |              | SN            | —              |          |
|                  | "Dorsal"     | 0330       | BO        |                  |               |              | 53 4.699               | 129 15.137 |              | 319       |                          |              |               |                |          |
|                  |              | 0336       | EN        |                  |               |              | 53 4.633               | 129 15.221 |              |           |                          |              |               |                |          |
| 30               | WC 71b       | 0404       | BE        | ROS              |               | 236          | 53 3.800               | 129 17.329 | 446          |           | 406-411                  | 6            | SN            | —              |          |
|                  | "Eye ball"   | 0416       | BO        |                  |               |              | 53 3.719               | 129 17.371 | 580          | 574       |                          |              |               |                |          |
|                  |              | 0432       | EN        |                  |               |              | 53 3.826               | 129 17.461 |              |           |                          |              |               |                |          |
|                  |              |            |           |                  |               |              |                        |            |              |           |                          |              |               |                |          |
|                  |              |            |           |                  |               |              |                        |            |              |           |                          |              |               |                |          |

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October 29-October 30:

ADCP + CTD transects 19:00-05:30

WC69, 53.0893933, -129.1925476 CTD every second time  
WC70, 53.0858034, -129.2202984 just a waypoint. Don't stop  
WC71, 53.0782084, -129.2532095 CTD every second time  
WC71b, 53.0633598, -129.2886434 CTD every second time  
WC71c, 53.0505789, -129.2659382 CTD every second time  
WC71d, 53.0695761, -129.2385314 CTD every second time

Leave in the morning ~05:30 October 30 to do CTDs at

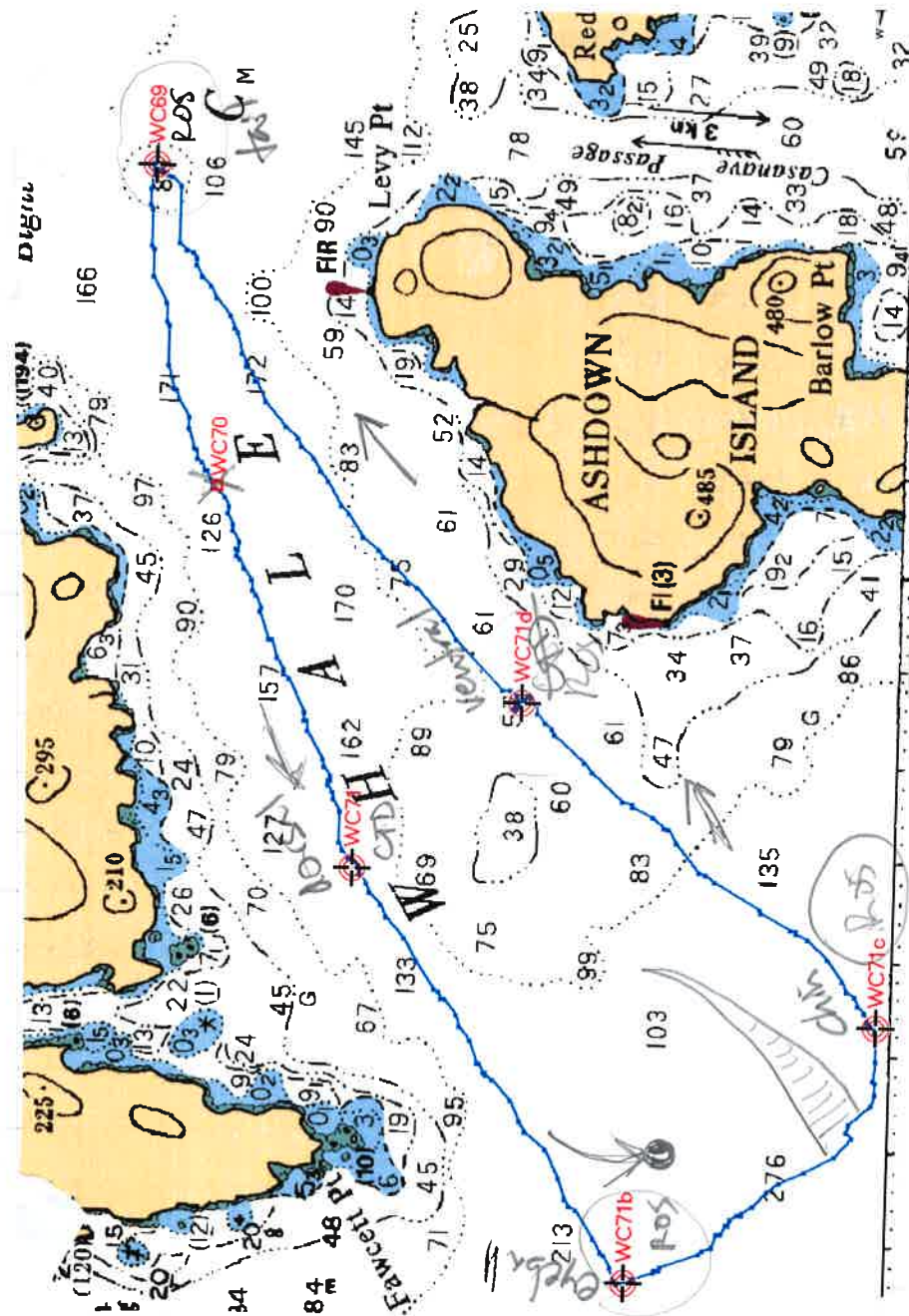
WC68, 53.0843682, -129.1578256

WHA3, 53.1390000, -129.1210000

WC58, 53.2220000, -129.1210000

Finishing up CTD at WC58 at ~08:00

19:00 MVP transect



ed: 9.1 kt GPS: WP: CTS  
e: 356.1° T VALID FIX

Loop 1 only, then exit

Watchkeepers 12-24 Luke, Sarah

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| Month Oct |              |            |           | Year 2015 |               |              | Ship Vector            |            |              |           | Cruise ID 2015-524 |              |               |                |                                               |
|-----------|--------------|------------|-----------|-----------|---------------|--------------|------------------------|------------|--------------|-----------|--------------------|--------------|---------------|----------------|-----------------------------------------------|
| Day       | Station Name | Time (UTC) | Time Code | Cast Type | Firing Method | Event Number | Positional Information |            | Bottom Depth | Max Depth | Sample Numbers     | # of Bottles | Watch Keepers | Trans. Cleaned | Comments                                      |
|           |              |            |           |           |               |              | Latitude               | Longitude  |              |           |                    |              |               |                |                                               |
| 30        | WC71c        | 0502       | BE        | ROS       |               | 237          | 53 3.009               | 129 15.874 | 372          |           | —                  |              | SR            | —              | Opps, kept logging after on deck.             |
|           | "chin"       | 0511       | BO        |           |               |              | 53 3.007               | 129 15.958 |              | 370       |                    |              |               |                |                                               |
|           |              | 0518       | EN        |           |               |              | 53 3.042               | 129 15.913 |              |           |                    |              |               |                |                                               |
| 30        | WC71d        | 0542       | BE        | ROS       |               | 238          | 53 4.172               | 129 14.320 | 106          |           | —                  |              | SR            | —              |                                               |
|           | "ventral"    | 0546       | BO        |           |               |              | 53 4.193               | 129 14.309 |              | 103       |                    |              |               |                |                                               |
|           |              | 0548       | EN        |           |               |              | 53 4.202               | 129 14.316 |              |           |                    |              |               |                |                                               |
| 30        | WC69         | 0830       | BE        | ROS       |               | 239          | 53 5.323               | 129 11.495 | 160          |           | —                  |              | SR            | —              | like other casts tonight bottoms are way off. |
|           | "tail"       | 0834       | BO        |           |               |              | 53 5.311               | 129 11.498 |              | 179       |                    |              |               |                |                                               |
|           |              | 0838       | EN        |           |               |              | 53 5.290               | 129 11.506 |              |           |                    |              |               |                |                                               |
| 30        | WC71f        | 0926       | BE        | ROS       |               | 240          | 53 4.682               | 129 15.187 | 325          |           | —                  |              | SR            | —              |                                               |
|           | "dorsal"     | 0934       | BO        |           |               |              | 53 4.687               | 129 15.214 |              | 323       |                    |              |               |                |                                               |
|           |              | 0940       | EN        |           |               |              | 53 4.656               | 129 15.232 |              |           |                    |              |               |                |                                               |
| 30        | WC71b        | 1009       | BE        | ROS       |               | 241          | 53 3.830               | 129 17.318 | 586?         |           | —                  |              | SR            | —              | +polystyrene compression study                |
|           | "eyeball"    | 1021       | BO        |           |               |              | 53 3.830               | 129 17.237 |              | 587       |                    |              |               |                |                                               |
|           |              | 1032       | EN        |           |               |              | 53 3.815               | 129 17.297 |              |           |                    |              |               |                |                                               |
| 30        | WC71c        | 1054       | BE        | ROS       |               | 242          | 53 3.024               | 129 15.976 | 389          |           | 412-417            | 6            | SR            | —              |                                               |
|           | "chin"       | 1103       | BO        |           |               |              | 53 2.959               | 129 15.933 |              | 399       |                    |              |               |                |                                               |
|           |              | 1116       | EN        |           |               |              | 53 2.952               | 129 15.952 |              |           |                    |              |               |                |                                               |
|           |              |            |           |           |               |              |                        |            |              |           |                    |              |               |                |                                               |

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| Month <u>Oct</u> |              | Year <u>2015</u> |           | Ship <u>Vector</u> |               | Cruise ID <u>2015-54</u> |                        |            |              |           |                |              |               |                |              |
|------------------|--------------|------------------|-----------|--------------------|---------------|--------------------------|------------------------|------------|--------------|-----------|----------------|--------------|---------------|----------------|--------------|
| Day              | Station Name | Time (UTC)       | Time Code | Cast Type          | Firing Method | Event Number             | Positional Information |            | Bottom Depth | Max Depth | Sample Numbers | # of Bottles | Watch Keepers | Trans. Cleaned | Comments     |
|                  |              |                  |           |                    |               |                          | Latitude               | Longitude  |              |           |                |              |               |                |              |
| 30               | WC712        | 1151             | BE        | ROS                |               | 243                      | 53 4.166               | 129 14.286 | 110          |           | 418-421        | 4            | SR            | —              |              |
|                  |              | 1154             | BO        |                    |               |                          | 53 4.169               | 129 14.304 |              | 108       |                |              |               |                |              |
|                  |              | 1159             | EN        |                    |               |                          | 53 4.188               | 129 14.336 |              |           |                |              |               |                |              |
| 30               | WC60         | 1249             | BE        | ROS                |               | 244                      | 53 5.066               | 129 9.509  | 569          |           |                |              | SR            | —              |              |
|                  |              | 1300             | BO        |                    |               |                          | 53 5.074               | 129 9.497  |              | 560       |                |              |               |                |              |
|                  |              | 1311             | EN        |                    |               |                          | 53 5.066               | 129 9.511  |              |           |                |              |               |                |              |
| 30               | WHA3         | 1352             | BE        |                    |               | 245                      | 53 8.335               | 129 7.225  | 560          |           |                |              | SR            | ✓              |              |
|                  |              | 1403             | BO        |                    |               |                          | 53 8.371               | 129 7.284  |              | 540       |                |              |               |                |              |
|                  |              | 1413             | EN        |                    |               |                          | 53 8.429               | 129 7.370  |              |           |                |              |               |                |              |
| 30               | WC5B         | 1451             | BE        | ROS                |               | 246                      | 53 13.342              | 129 7.255  | 495          |           |                | 0            | SR, NHP       | ✓              |              |
|                  |              | 1501             | BO        |                    |               |                          | 53 13.325              | 129 7.241  |              | 489       |                |              |               |                |              |
|                  |              | 1511             | EN        |                    |               |                          | 53 13.357              | 129 7.001  |              |           |                |              |               |                |              |
| 30               | SwingC       | 1519             | BE        | MVP                |               | 247                      | 53 13.1                | 129 6.16   | 485          |           |                |              | SR            | —              |              |
| 31               |              | 0203             | EN        |                    |               |                          | 53 32.97               | 128 59.66  | 256          |           |                |              |               |                |              |
| 31               | FTS          | 0242             | BE        | ROS                |               | 248                      | 53 30.295              | 129 4.265  | 153          |           | —              | —            | SR            | —              | Fish Trap SM |
|                  |              | 0247             | BO        |                    |               |                          | 53 30.293              | 129 4.240  |              | 156       |                |              |               |                |              |
|                  |              | 0251             | EN        |                    |               |                          | 53 30.231              | 129 4.234  |              |           |                |              |               |                |              |
|                  |              |                  |           |                    |               |                          |                        |            |              |           |                |              |               |                |              |
|                  |              |                  |           |                    |               |                          |                        |            |              |           |                |              |               |                |              |
|                  |              |                  |           |                    |               |                          |                        |            |              |           |                |              |               |                |              |

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MOR = Mooring  
NET = Plankton Net Haul  
DRF = Drifter

## Bottle Firing Method:

US = Up / Stop  
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DN = Down / No stop

Notes:

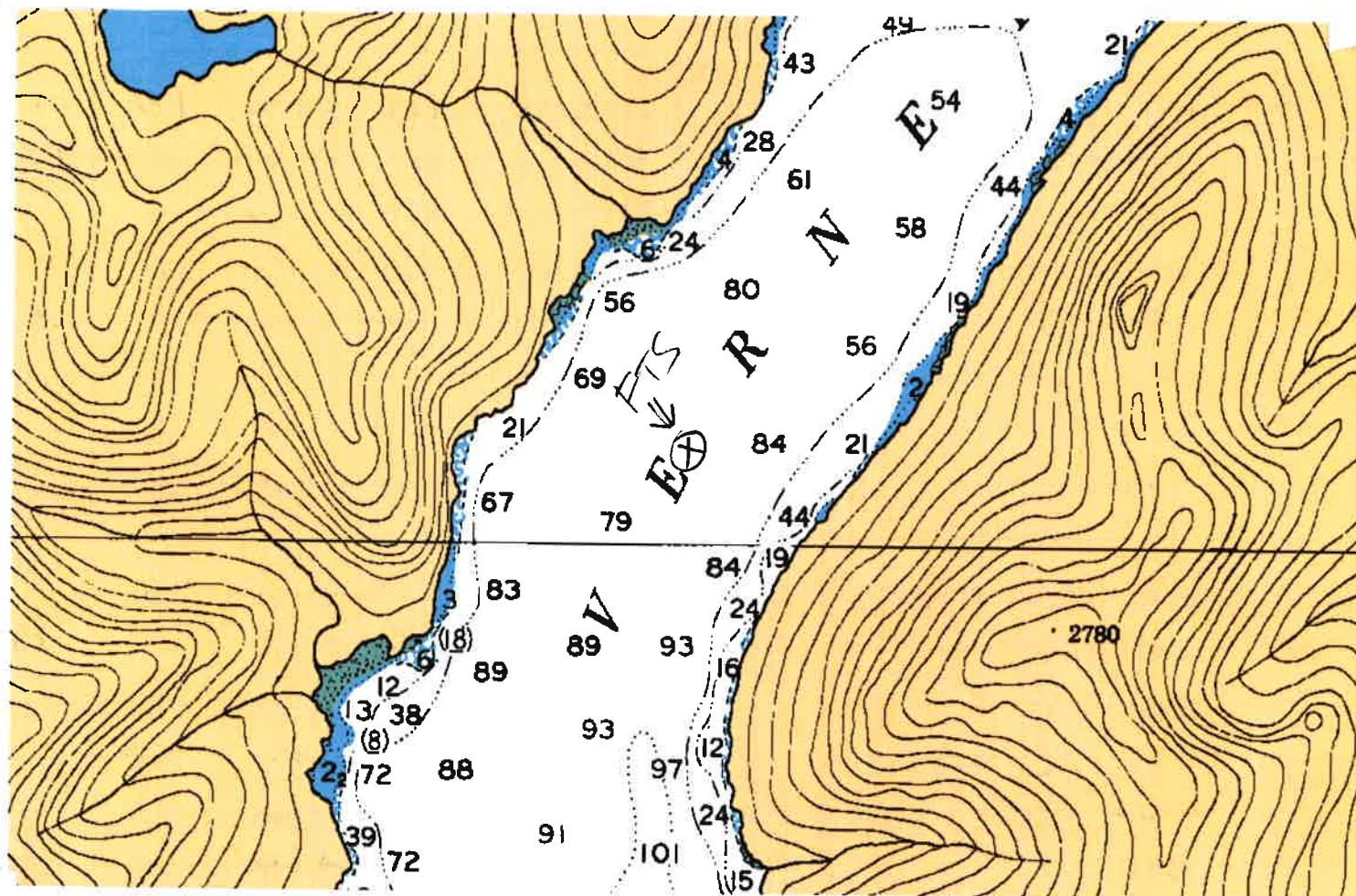
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Transmissometer & Fluorometer are to be cleaned before each cast

Produced by the Water Properties Group, IOS

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# DAILY SCIENCE LOG

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| Month <u>Oct</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>Vector</u>     |           |              |           | Cruise ID <u>2015-54</u> |              |               |                |          |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|-----------|--------------|-----------|--------------------------|--------------|---------------|----------------|----------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |           | Bottom Depth | Max Depth | Sample Numbers           | # of Bottles | Watch Keepers | Trans. Cleaned | Comments |
|                  |              |            |           |                  |               |              | Latitude               | Longitude |              |           |                          |              |               |                |          |
| 31               | FTS          | 0345       | BE        | ROS              |               | 249          | 53 30.296              | 129 4.236 | 156          |           |                          |              | SN            | -              |          |
|                  |              | 0350       | BO        |                  |               |              | 53 30.304              | 129 4.230 |              | 155       |                          |              |               |                |          |
|                  |              | 0353       | EN        |                  |               |              | 53 30.301              | 129 4.237 |              |           |                          |              |               |                |          |
| 31               | FTS          | 0444       | BE        | ROS              |               | 250          | 53 30.322              | 129 4.237 | 156          |           |                          |              | SN            | -              |          |
|                  |              | 0449       | BO        |                  |               |              | 53 30.322              | 129 4.240 |              | 156       |                          |              |               |                |          |
|                  |              | 0451       | EN        |                  |               |              | 53 30.320              | 129 4.241 |              |           |                          |              |               |                |          |
| 31               | FTS          | 0544       | BE        | ROS              |               | 251          | 53 30.324              | 129 4.234 | 156          |           |                          |              | SN            | -              |          |
|                  |              | 0549       | BO        |                  |               |              | 53 30.306              | 129 4.241 |              | 156       |                          |              |               |                |          |
|                  |              | 0551       | EN        |                  |               |              | 53 30.306              | 129 4.241 |              |           |                          |              |               |                |          |
| 31               | FTS          | 0641       | BE        | ROS              |               | 252          | 53 30.304              | 129 4.245 | 156          |           |                          |              | SN            | -              |          |
|                  |              | 0645       | BO        |                  |               |              | 53 30.298              | 129 4.240 |              | 155       |                          |              |               |                |          |
|                  |              | 0649       | EN        |                  |               |              | 53 30.295              | 129 4.241 |              |           |                          |              |               |                |          |
| 31               | FTS          | 0743       | BE        | ROS              |               | 253          | 53 30.279              | 129 4.246 | 157          |           |                          |              | SN            | -              |          |
|                  |              | 0747       | BO        |                  |               |              | 53 30.270              | 129 4.260 |              | 158       |                          |              |               |                |          |
|                  |              | 0751       | EN        |                  |               |              | 53 30.262              | 129 4.249 |              |           |                          |              |               |                |          |
| 31               | FTS          | 0844       | BE        | ROS              |               | 254          | 53 30.290              | 129 4.230 | 159          |           |                          |              | SN            | -              |          |
|                  |              | 0849       | BO        |                  |               |              | 53 30.287              | 129 4.232 |              | 159       |                          |              |               |                |          |
|                  |              | 0852       | EN        |                  |               |              | 53 30.284              | 129 4.243 |              |           |                          |              |               |                |          |

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Transmissometer & Fluorometer are to be cleaned before each cast

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| Month <u>Oct</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>Vector</u>     |           |              | Cruise ID <u>2015-54</u> |                |              |               |                |                 |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|-----------|--------------|--------------------------|----------------|--------------|---------------|----------------|-----------------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |           | Bottom Depth | Max Depth                | Sample Numbers | # of Bottles | Watch Keepers | Trans. Cleaned | Comments        |
|                  |              |            |           |                  |               |              | Latitude               | Longitude |              |                          |                |              |               |                |                 |
| 31               | FTS          | 0944       | BE        | ROS              |               | 255          | 53 30.265              | 129 4.230 | 160          |                          |                |              | SN            | —              |                 |
|                  |              | 0949       | BO        |                  |               |              | 53 30.266              | 129 4.211 |              | 160                      |                |              |               |                |                 |
|                  |              | 0951       | EN        |                  |               |              | 53 30.262              | 129 4.246 |              |                          |                |              |               |                |                 |
| 31               | FTS          | 1042       | BE        | ROS              |               | 256          | 53 30.304              | 129 4.276 | 161          |                          |                |              | SN            | —              |                 |
|                  |              | 1047       | BO        |                  |               |              | 53 30.313              | 129 4.259 |              | 161                      |                |              |               |                |                 |
|                  |              | 1050       | EN        |                  |               |              | 53 30.304              | 129 4.267 |              |                          |                |              |               |                |                 |
| 31               | FTS          | 1141       | BE        | ROS              |               | 257          | 53 30.305              | 129 4.176 | 160          |                          |                |              | SN            | —              |                 |
|                  |              | 1145       | BO        |                  |               |              | 53 30.284              | 129 4.204 | 161          | 161                      |                |              |               |                |                 |
|                  |              | 1148       | EN        |                  |               |              | 53 30.280              | 129 4.244 |              |                          |                |              |               |                |                 |
| 31               | FTS          | 1244       | BE        | ROS              |               | 258          | 53 30.289              | 129 4.244 | 160          |                          |                |              | SN            | —              |                 |
|                  |              | 1249       | BO        |                  |               |              | 53 30.290              | 129 4.246 |              | 161                      |                |              |               |                |                 |
|                  |              | 1252       | EN        |                  |               |              | 53 30.296              | 129 4.234 |              |                          |                |              |               |                |                 |
| 31               | FTS          | 1338       | BE        | ROS              |               | 259          | 53 30.293              | 129 4.234 | 160          |                          |                |              | SN            | —              |                 |
|                  |              | 1344       | BO        |                  |               |              | 53 30.292              | 129 4.229 |              | 160                      |                |              |               |                |                 |
|                  |              | 1347       | EN        |                  |               |              | 53 30.283              | 129 4.234 |              |                          |                |              |               |                |                 |
| 31               | FTS          | 1347       | BE        | ROS              |               | 260          | ↓                      | ↓         | 160          |                          |                |              | X             |                | left in water → |
|                  |              | 1351       | BO        |                  |               |              | ↓                      | ↓         |              | 160                      |                |              |               |                |                 |
|                  |              | 1354       | EN        |                  |               |              | 53 30.284              | 129 4.249 |              |                          |                |              |               |                | ↓               |

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Notes: —

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*This page is for any notes or observations*

Rosette left at surface for next cast.

Charles' Experiment

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| Month <u>Oct</u> |              | Year <u>2015</u> |           | Ship <u>Vector</u> |               | Cruise ID <u>2015-54</u> |                        |           |              |           |                |              |               |                |               |
|------------------|--------------|------------------|-----------|--------------------|---------------|--------------------------|------------------------|-----------|--------------|-----------|----------------|--------------|---------------|----------------|---------------|
| Day              | Station Name | Time (UTC)       | Time Code | Cast Type          | Firing Method | Event Number             | Positional Information |           | Bottom Depth | Max Depth | Sample Numbers | # of Bottles | Watch Keepers | Trans. Cleaned | Comments      |
|                  |              |                  |           |                    |               |                          | Latitude               | Longitude |              |           |                |              |               |                |               |
| 31               | PTS          | 1355             | BE        | ROS                |               | 261                      | 53 30.286              | 129 4.214 | 160          |           |                |              | SV            | X              | left in water |
|                  |              | 1359             | BO        |                    |               |                          | 53 30.293              | 129 4.220 |              | 160       |                |              |               |                |               |
|                  |              | 1402             | EN        |                    |               |                          | 53 30.301              | 129 4.259 |              |           |                |              |               |                |               |
| 31               | PTS          | 1409             | BE        | ROS                |               | 262                      | 53 30.306              | 129 4.237 | 160          |           |                |              |               | X              |               |
|                  |              | 1412             | BO        |                    |               |                          | 53 30.311              | 129 4.250 |              | 160       |                |              |               |                |               |
|                  |              | 1415             | EN        |                    |               |                          | 53 30.311              | 129 4.252 |              |           |                |              |               |                |               |
| 31               | PTS          | 1420             | BE        | ROS                |               | 263                      | 53 30.322              | 129 4.271 | 160          |           |                |              |               | X              |               |
|                  |              | 1423             | BO        |                    |               |                          | ↓                      | ↓         |              | 159       |                |              |               |                |               |
|                  |              | 1426             | EN        |                    |               |                          | ↓                      | ↓         |              |           |                |              |               |                |               |
| 31               | PTS          | 1431             | BE        | ROS                |               | 264                      | 53 30.298              | 129 4.242 | 160          |           |                |              | SV            | X              |               |
|                  |              | 1434             | BO        |                    |               |                          | ↓                      | ↓         |              | 159       |                |              |               |                |               |
|                  |              | 1437             | EN        |                    |               |                          | 53 30.312              | 129 4.260 |              |           |                |              |               |                |               |
| 31               | PTS          | 1442             | BE        | ROS                |               | 265                      | 53 30.302              | 129 4.278 | 160          |           |                |              | SV            | X              |               |
|                  |              | 1445             | BO        |                    |               |                          | 53 30.292              | 129 4.259 |              | 160       |                |              |               |                |               |
|                  |              | 1448             | EN        |                    |               |                          | 53 30.295              | 129 4.249 |              |           |                |              |               |                |               |
| 31               | PTS          | 1454             | BE        | ROS                |               | 266                      | 53 30.307              | 129 4.216 | 160          |           |                |              | SV            | X              |               |
|                  |              | 1457             | BO        |                    |               |                          | 53 30.319              | 129 4.187 |              | 160       |                |              |               |                |               |
|                  |              | 1501             | EN        |                    |               |                          | 53 30.326              | 129 4.171 |              |           |                |              |               |                |               |

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Produced by the Water Properties Group, IOS

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## DAILY SCIENCE LOG

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| Month <u>Oct / Nov</u> |              | Year <u>2015</u> |           | Ship <u>Vector</u> |               |              |                        | Cruise ID <u>2015-54</u> |              |           |                |              |               |                |                       |
|------------------------|--------------|------------------|-----------|--------------------|---------------|--------------|------------------------|--------------------------|--------------|-----------|----------------|--------------|---------------|----------------|-----------------------|
| Day                    | Station Name | Time (UTC)       | Time Code | Cast Type          | Firing Method | Event Number | Positional Information |                          | Bottom Depth | Max Depth | Sample Numbers | # of Bottles | Watch Keepers | Trans. Cleaned | Comments              |
|                        |              |                  |           |                    |               |              | Latitude               | Longitude                |              |           |                |              |               |                |                       |
| 31                     | Survey 0     | 1530             | BE        | MVP                |               | 267          | 53 28.6                | 127 04.4                 | 200          |           |                |              |               |                | Fishup → Gortner      |
|                        |              | 2035             | EN        | MVP                |               |              | 53 15.87               | 127 55.6                 | 147          |           |                |              |               |                |                       |
| 31                     | GC74         | 23:40            | BE        | ROS                |               | 268          | 53 15.806              | 127 55.460               | 141          |           | —              |              | SV            | ✓              |                       |
|                        |              | 23:43            | BO        |                    |               |              | 53 15.802              | 127 55.446               |              | 138       |                |              |               |                |                       |
|                        |              | 23:45            | EN        |                    |               |              | 53 15.802              | 127 55.425               |              |           |                |              |               |                |                       |
| 1                      | GC68         | 00:35            | BE        | ROS                |               | 269          | 53 20.621              | 127 59.574               | 228          |           | —              |              | SV            | ✓              | Labeled GC74 in file. |
|                        |              | 00:40            | BO        |                    |               |              | 53 20.620              | 127 59.579               |              | 223       |                |              |               |                |                       |
|                        |              | 00:44            | EN        |                    |               |              | 53 20.626              | 127 59.582               |              |           |                |              |               |                |                       |
| 1                      | GC60         | 01:29            | BE        | ROS                |               | 270          | 53 25.696              | 128 5.404                | 266          |           | —              |              | SV            | ✓              |                       |
|                        |              | 01:35            | BO        |                    |               |              | 53 25.690              | 128 5.384                |              | 262       |                |              |               |                |                       |
|                        |              | 01:40            | EN        |                    |               |              | 53 25.688              | 128 5.396                |              |           |                |              |               |                |                       |
| 1                      | GC51         | 02:40            | BE        | ROS                |               | 271          | 53 28.320              | 128 18.827               | 497          |           |                |              | SV            | ✓              |                       |
|                        |              | 02:50            | BO        |                    |               |              | 53 28.319              | 128 18.841               |              | 492       | —              |              |               |                |                       |
|                        |              | 02:59            | EN        |                    |               |              | 53 28.316              | 128 18.838               |              |           |                |              |               |                |                       |
| 1                      | GC44         | 0350             | BE        | ROS                |               | 272          | 53 25.908              | 128 26.977               | 332          |           | —              |              | SM            | —              |                       |
|                        |              | 0357             | BO        |                    |               |              | 53 25.912              | 128 26.965               |              | 350       |                |              |               |                |                       |
|                        |              | 0405             | EN        |                    |               |              | 53 25.915              | 128 26.969               |              |           |                |              |               |                |                       |
|                        |              |                  |           |                    |               |              |                        |                          |              |           |                |              |               |                |                       |
|                        |              |                  |           |                    |               |              |                        |                          |              |           |                |              |               |                |                       |

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## Notes:

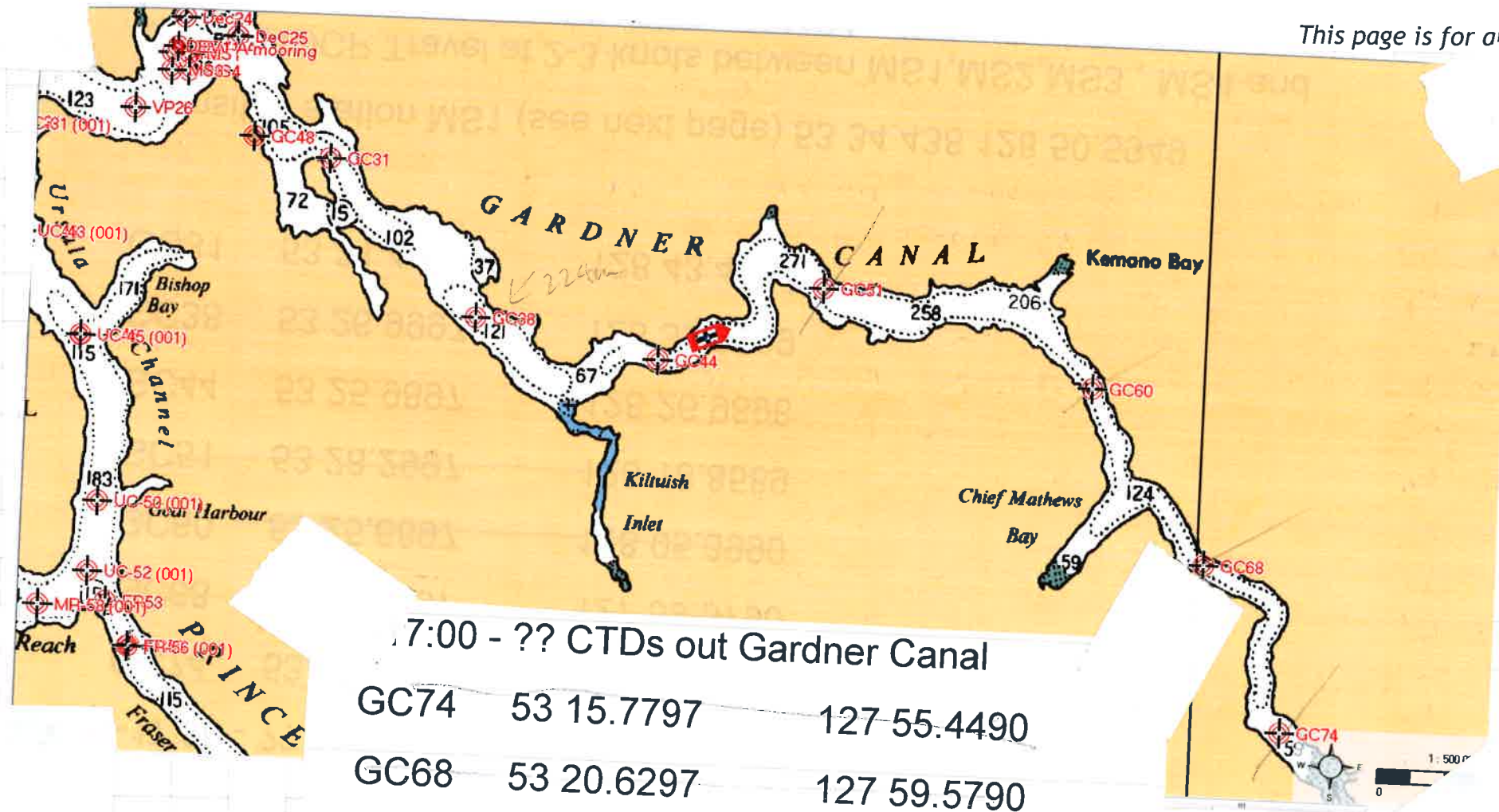
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7:00 - ?? CTDs out Gardner Canal

|      |            |             |
|------|------------|-------------|
| GC74 | 53 15.7797 | 127 55.4490 |
| GC68 | 53 20.6297 | 127 59.5790 |
| GC60 | 53 25.6897 | 128 05.3990 |
| GC51 | 53 28.2997 | 128 18.8589 |
| GC44 | 53 25.9897 | 128 26.9898 |
| GC38 | 53 26.9997 | 128 35.9989 |
| GC31 | 53 31.4997 | 128 43.4989 |

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| Month <u>Nov</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>Vector</u>     |            |              |           | Cruise ID <u>2015-54</u> |              |               |                |          |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|------------|--------------|-----------|--------------------------|--------------|---------------|----------------|----------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |            | Bottom Depth | Max Depth | Sample Numbers           | # of Bottles | Watch Keepers | Trans. Cleaned | Comments |
|                  |              |            |           |                  |               |              | Latitude               | Longitude  |              |           |                          |              |               |                |          |
| 1                | GC38         | 0451       | BE        | ROS              |               | 273          | 53 27.001              | 128 36.017 | 244          |           | 422-425                  | 4            | SN            | ✓              |          |
|                  |              | 0456       | BO        |                  |               |              | 53 26.994              | 128 35.999 |              | 237       |                          |              |               |                |          |
|                  |              | 0504       | EN        |                  |               |              | 53 26.999              | 128 35.987 |              |           |                          |              |               |                |          |
| 1                | GC31         | 0544       | BE        | ROS              |               | 274          | 53 31.434              | 128 43.497 | 206          |           | —                        |              | SN            | —              |          |
|                  |              | 0548       | BO        |                  |               |              | 53 31.430              | 128 43.518 |              | 202       |                          |              |               |                |          |
|                  |              | 0553       | EN        |                  |               |              | 53 31.456              | 128 43.510 |              |           |                          |              |               |                |          |
| 1                | MS1          | 0635       | BE        | ADCP             |               | 275          | 53 34.439              | 128 50.566 | 152          |           |                          |              |               |                |          |
| 1                | MS2          | 0641       | BE        | ROS              |               | 276          | 53 34.421              | 128 50.575 | 152          |           | —                        |              | SN            | —              |          |
|                  |              | 0645       | BO        |                  |               |              | 53 34.421              | 128 50.593 |              | 148       |                          |              |               |                |          |
|                  |              | 0648       | EN        |                  |               |              | 53 34.424              | 128 50.593 |              |           |                          |              |               |                |          |
|                  | MS1          | 07:25      | BE        | ROS              |               | 277          | 53 34.462              | 128 50.633 | 151          |           |                          |              |               |                |          |
|                  |              | 731        | BO        |                  |               |              | 53 34.472              | 128 50.639 |              | 150       |                          |              | PT            | ✓              |          |
|                  |              | 734        | EN        |                  |               |              | 53 34.478              | 128 50.635 |              |           |                          |              |               |                |          |
|                  | MS1          | 811        | BE        | ROS              |               | 278          | 53 34.420              | 128 50.596 | 153          |           |                          |              |               |                |          |
|                  |              | 815        | BO        |                  |               |              | 53 34.429              | 128 50.597 |              | 151       |                          |              | PT            | ✓              |          |
|                  |              | 819        | EN        |                  |               |              | 53 34.428              | 128 50.599 |              |           |                          |              |               |                |          |
|                  | MS1          | 855        | BE        | ROS              |               | 279          | 53 34.424              | 128 50.606 | 154          |           |                          |              |               |                |          |
|                  |              | 859        | BO        |                  |               |              | 53 34.435              | 128 50.658 |              | 151       |                          |              | PT            | ✓              |          |
|                  |              | 902        | EN        |                  |               |              | 53 34.429              | 128 50.657 |              |           |                          |              |               |                |          |

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Produced by the Water Properties Group, IOS

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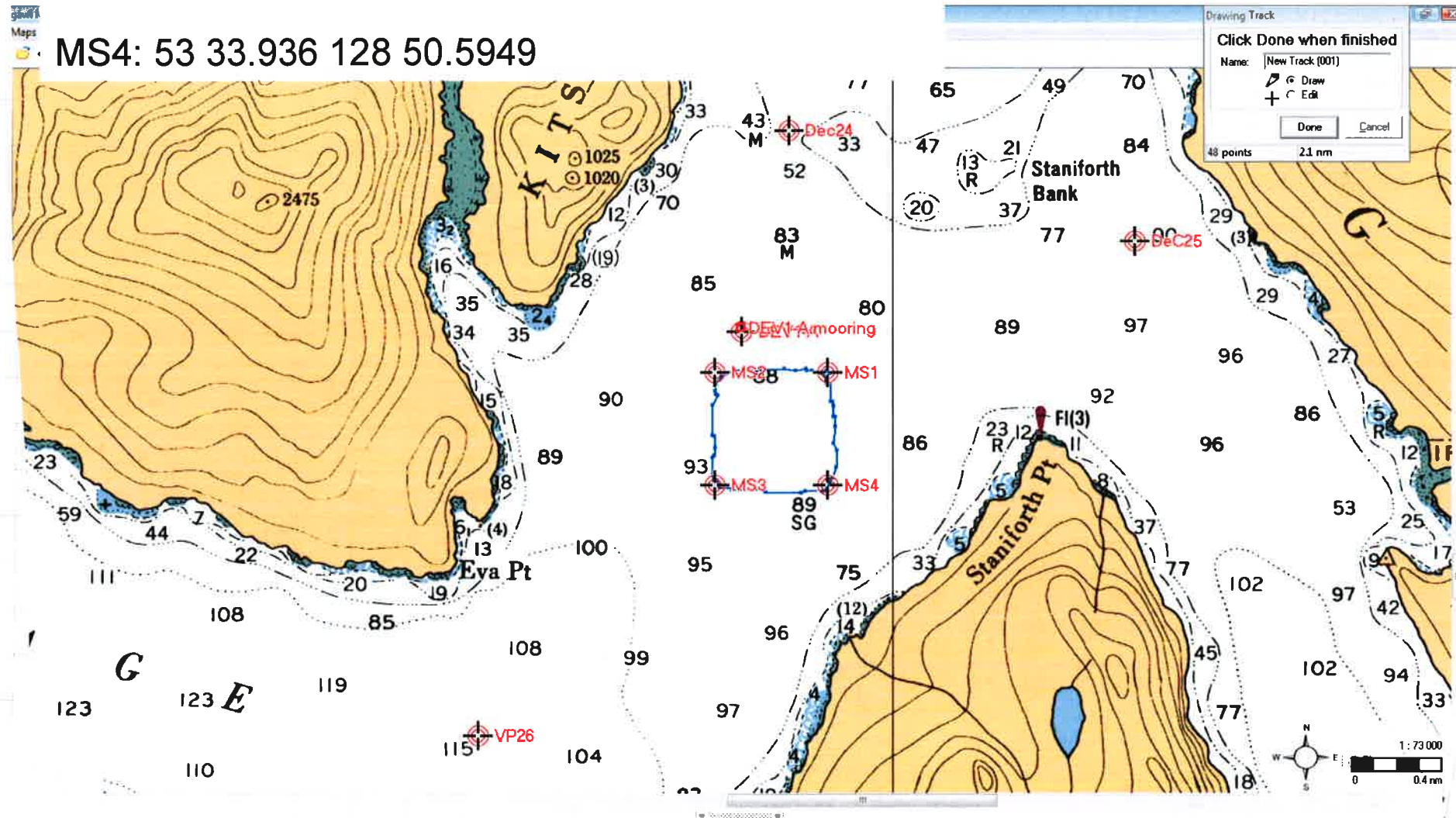
MS1: 53 34.438 128 50.5949

MS2: 53 34.438 128 51.438

MS3: 53 33.936 128 51.4382

MS4: 53 33.936 128 50.5949

ADCP, and CTDs at  
MS1



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| Month <u>Nov</u> |              |            |           | Year <u>2015</u> |               |              |                        | Ship, <u>Vector</u> |              |           |                | Cruise ID <u>2015-54</u> |               |                |          |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|---------------------|--------------|-----------|----------------|--------------------------|---------------|----------------|----------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |                     | Bottom Depth | Max Depth | Sample Numbers | # of Bottles             | Watch Keepers | Trans. Cleaned | Comments |
|                  |              |            |           |                  |               |              | Latitude               | Longitude           |              |           |                |                          |               |                |          |
| 1                | MS1          | 9:43       | BE        | ROS              |               | 280          | 53 34.399              | 128 50.586          | 155          |           |                |                          |               |                |          |
|                  |              | 9:47       | BO        |                  |               |              | 53 34.424              | 128 50.587          |              | 151       |                |                          | PT            | ✓              |          |
|                  |              | 9:50       | EN        |                  |               |              | 53 34.419              | 128 50.588          |              |           |                |                          |               |                |          |
|                  | MS1          | 10:24      | BE        | ROS              |               | 281          | 53 34.418              | 128 50.604          | 155          |           |                |                          |               |                |          |
|                  |              | 10:27      | BO        |                  |               |              | 53 34.429              | 128 50.602          |              | 151.5     |                |                          | PT            | ✓              |          |
|                  |              | 10:29      | EN        |                  |               |              | 53 34.430              | 128 50.604          |              |           |                |                          |               |                |          |
|                  | MS1          | 11:04      | BE        | ROS              |               | 282          | 53 34.390              | 128 50.579          | 157          |           |                |                          |               | ✓              |          |
|                  |              | 11:09      | BO        |                  |               |              | 53 34.397              | 128 50.567          |              | 153       |                |                          | PT            |                |          |
|                  |              | 11:12      | EN        |                  |               |              | 53 34.404              | 128 50.579          |              |           |                |                          |               |                |          |
|                  | MS1          | 11:49      | BE        | ROS              |               | 283          | 53 34.430              | 128 50.570          | 155          |           |                |                          | PT            | ✓              |          |
|                  |              | 11:53      | BO        |                  |               |              | 53 34.418              | 128 50.574          |              | 152       |                |                          |               |                |          |
|                  |              | 11:56      | EN        |                  |               |              | 53 34.408              | 128 50.593          |              |           |                |                          |               |                |          |
|                  | MS1          | 12:32      | BE        | ROS              |               | 284          | 53 34.415              | 128 50.617          | 157          |           |                |                          | PT            | ✓              |          |
|                  |              | 12:36      | BO        |                  |               |              | 53 34.386              | 128 50.677          |              | 155       |                |                          |               |                |          |
|                  |              | 12:39      | EN        |                  |               |              | 53 34.375              | 128 50.692          |              |           |                |                          |               |                |          |
|                  | MS1          | 13:14      | BE        | ROS              |               | 285          | 53 34.423              | 128 50.594          | 156          |           |                |                          | PT            | ✓              |          |
|                  |              | 13:18      | BO        |                  |               |              | 53 34.420              | 128 50.599          |              | 153       |                |                          |               |                |          |
|                  |              | 13:21      | EN        |                  |               |              | 53 34.427              | 128 50.606          |              |           |                |                          |               |                |          |

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### Bottle Firing Method:

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Notes:

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RE = Recover Mooring Time

Transmissometer & Fluorometer are to be cleaned before each cast

Produced by the Water Properties Group, IOS

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Transit to station MS1 (see next page) 53 34.438 128 50.5949

Deploy ADCP Travel at 2-3 knots between MS1, MS2, MS3, MS4 and back to MS1 and so on, with CTDs at MS1

Continue until 05:30 (PST). Recover gear and transit to 53 48.3894 128 50.8207 to deploy MVP. With MVP travel down DC, Wright Sound, Lewis Passage, Squally Channel, to Campanio Sound.

# DAILY SCIENCE LOG

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| Month Nov |              |            |           | Year 2015 |               |              | Ship Vector            |            |              |           | Cruise ID 2015-54 |              |               |                |                 |
|-----------|--------------|------------|-----------|-----------|---------------|--------------|------------------------|------------|--------------|-----------|-------------------|--------------|---------------|----------------|-----------------|
| Day       | Station Name | Time (UTC) | Time Code | Cast Type | Firing Method | Event Number | Positional Information |            | Bottom Depth | Max Depth | Sample Numbers    | # of Bottles | Watch Keepers | Trans. Cleaned | Comments        |
|           |              |            |           |           |               |              | Latitude               | Longitude  |              |           |                   |              |               |                |                 |
| 1         | Survey E     | 15:06      | BE        | MVP       |               | 286          | 53 47.86               | 128 51.89  | 360          |           |                   |              | SM            |                | Naug Ch         |
|           | Foc 2        | 15:57      | BE        | ROS       |               | 287          | 53 43.922              | 129 1.534  | 375          |           | —                 | 0            | SV            | ✓              |                 |
|           | Foc 2        | 16:05      | BO        |           |               |              | 53 42.892              | 129 1.684  |              | 370       |                   |              |               |                |                 |
|           | Foc 2        | 16:13      | EN        |           |               |              | 53 43.874              | 129 1.835  |              |           |                   |              |               |                |                 |
|           | Doug 40      | 18:45      | BE        | ROS       |               | 288          | 53 26.738              | 129 12.554 | 398          |           | —                 | 0            | SV, NHP       | ✓              |                 |
|           | Doug 40      | 18:53      | BO        |           |               |              | 53 26.747              | 129 12.545 |              | 394       |                   |              |               |                |                 |
|           | Doug 40      | 19:01      | EN        |           |               |              | 53 26.749              | 129 12.496 |              |           |                   |              |               |                |                 |
|           | SC 69        | 22:44      | BE        | ROS       |               | 289          | 53 4.820               | 129 19.566 | 692          |           | —                 | 0            | SV, NHP       | ✓              |                 |
|           | SC 69        | 22:57      | BO        |           |               |              | 53 4.8                 | 129 19.584 |              | 688       |                   |              |               |                |                 |
|           | SC 69        | 23:10      | EN        |           |               |              | 53 4.801               | 129 19.573 |              |           |                   |              |               |                |                 |
| 2         | SC 74        | 03:52      | BE        | ROS       |               | 290          | 53 0.650               | 129 15.727 | 376          |           | —                 |              | SM            | —              | Campanula       |
|           |              | 04:01      | BO        |           |               |              | 53 0.619               | 129 15.773 |              | 372       |                   |              |               |                | Sent            |
|           |              | 04:03      | EN        |           |               |              | 53 0.602               | 129 15.810 |              |           |                   |              |               |                |                 |
| 2         | SC 77        | 04:48      | BE        | ROS       |               | 291          | 52 57.913              | 129 15.800 | 240          |           | —                 |              | SM            | —              | lots of aurelia |
|           |              | 04:54      | BO        |           |               |              | 52 57.920              | 129 15.794 |              | 235       |                   |              |               |                | jellyfish in    |
|           |              | 04:50      | EN        |           |               |              | 52 57.920              | 129 15.806 |              |           |                   |              |               |                | water           |
| 2         | SC 80        | 05:44      | BE        | ROS       |               | 292          | 52 54.743              | 129 15.952 | 239          |           | —                 |              | SM            | —              |                 |
|           |              | 05:49      | BO        |           |               |              | 52 54.743              | 129 15.982 |              | 237       |                   |              |               |                |                 |
|           |              | 05:54      | EN        |           |               |              | 52 54.749              | 129 15.967 |              |           |                   |              |               |                |                 |

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Produced by the Water Properties Group, IOS

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*This page is for any notes or observations*

## November 1:

Evening and night:

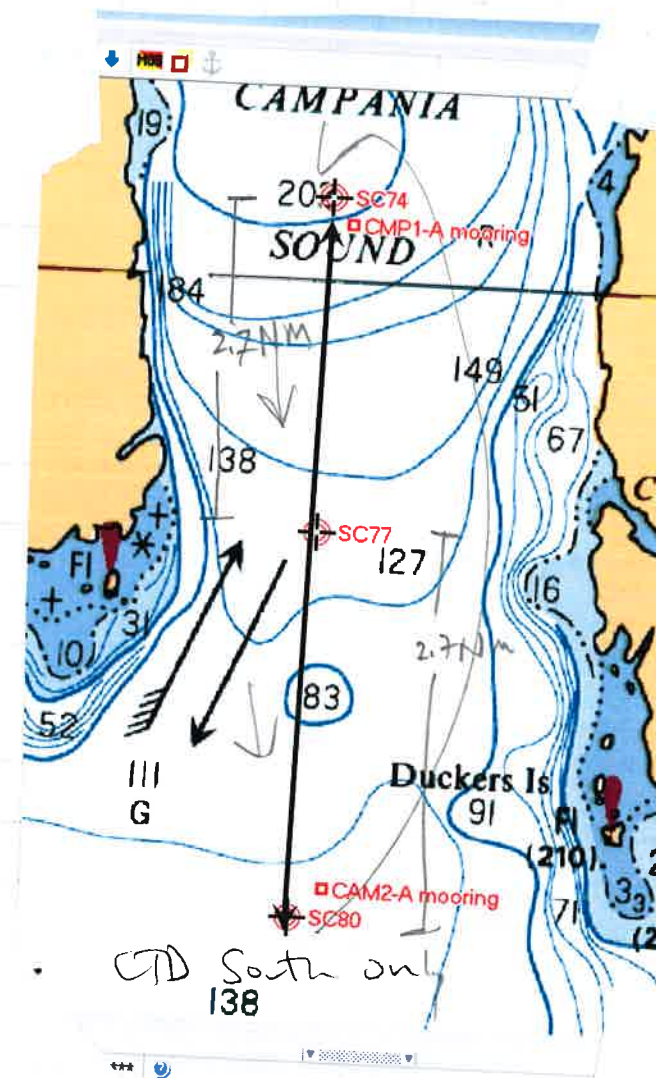
Transects with ADCP and 3-CTD stations across sill in Campania Sound

|               |            |             |
|---------------|------------|-------------|
| Station: SC74 | 53 00.6597 | 129 15.7790 |
| Station: SC77 | 52 57.9241 | 129 15.7902 |
| Station: SC80 | 52 54.7620 | 129 15.9462 |

CTDs at these 3 stations on southward run.

## November 2:

End transects in time to be at CA-D1 (52 53.7597 129 32.0990) by 07:30 for MVP run (End transects ~06:30 at SC80).



# DAILY SCIENCE LOG

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| Month <u>Nov</u> |              |            |           | Year <u>2015</u> |               |              |                        | Ship <u>Vector</u> |              |           |                | Cruise ID <u>2015-54</u> |               |                |          | Page <u>44</u> of <u>55</u> |  |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|--------------------|--------------|-----------|----------------|--------------------------|---------------|----------------|----------|-----------------------------|--|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |                    | Bottom Depth | Max Depth | Sample Numbers | # of Bottles             | Watch Keepers | Trans. Cleaned | Comments |                             |  |
|                  |              |            |           |                  |               |              | Latitude               | Longitude          |              |           |                |                          |               |                |          |                             |  |
| 2                | SC74         | 0732       | BE        | ROS              |               | 293          | 53 0.672               | 129 15.723         | 375          |           |                |                          | SR            |                |          |                             |  |
|                  |              | 0740       | BO        |                  |               |              | 53 0.655               | 129 15.755         |              | 372       |                |                          |               |                |          |                             |  |
|                  |              | 0747       | EN        |                  |               |              | 53 0.652               | 129 15.757         |              |           |                |                          |               |                |          |                             |  |
| 2                | SC77         | 0832       | BE        | ROS              |               | 294          | 52 57.904              | 129 15.793         | 238          |           |                |                          | SR            |                |          |                             |  |
|                  |              | 0837       | BO        |                  |               |              | 52 57.912              | 129 15.844         |              | 236       |                |                          |               |                |          |                             |  |
|                  |              | 0842       | EN        |                  |               |              | 52 57.900              | 129 15.830         |              |           |                |                          |               |                |          |                             |  |
| 2                | SC80         | 0939       | BE        | ROS              |               | 295          | 52 54.773              | 129 15.971         | 240          |           |                |                          | SR            |                |          |                             |  |
|                  |              | 0944       | BO        |                  |               |              | 52 54.766              | 129 15.966         |              | 239       |                |                          |               |                |          |                             |  |
|                  |              | 0949       | EN        |                  |               |              | 52 54.766              | 129 15.988         |              |           |                |                          |               |                |          |                             |  |
| 2                | SC74         | 1117       | BE        | ROS              |               | 296          | 53 0.660               | 129 15.804         | 378          |           | 426-431        | 6                        | SR            |                |          |                             |  |
|                  |              | 1125       | BO        |                  |               |              | 53 0.692               | 129 15.818         |              | 376       |                |                          |               |                |          |                             |  |
|                  |              | 1137       | EN        |                  |               |              | 53 0.702               | 129 15.823         |              |           |                |                          |               |                |          |                             |  |
| 2                | SC77         | 1224       | BE        | ROS              |               | 297          | 52 57.928              | 129 15.762         | 241          |           |                |                          | SR            |                |          |                             |  |
|                  |              | 1230       | BO        |                  |               |              | 52 57.912              | 129 15.754         |              | 239       |                |                          |               |                |          |                             |  |
|                  |              | 1234       | EN        |                  |               |              | 52 57.905              | 129 15.739         |              |           |                |                          |               |                |          |                             |  |
| 2                | SC80         | 1334       | BE        | ROS              |               | 298          | 52 54.788              | 129 15.960         | 240          |           | 432-436        | 5                        |               |                |          |                             |  |
|                  |              | 1341       | BO        |                  |               |              | 52 54.781              | 129 15.961         |              | 238       |                |                          |               |                |          |                             |  |
|                  |              | 1350       | EN        |                  |               |              | 52 54.740              | 129 16.000         |              |           |                |                          |               |                |          |                             |  |

Cast Type:

USW = Sea Water Loop

Bottle Firing Method:

Time Codes:

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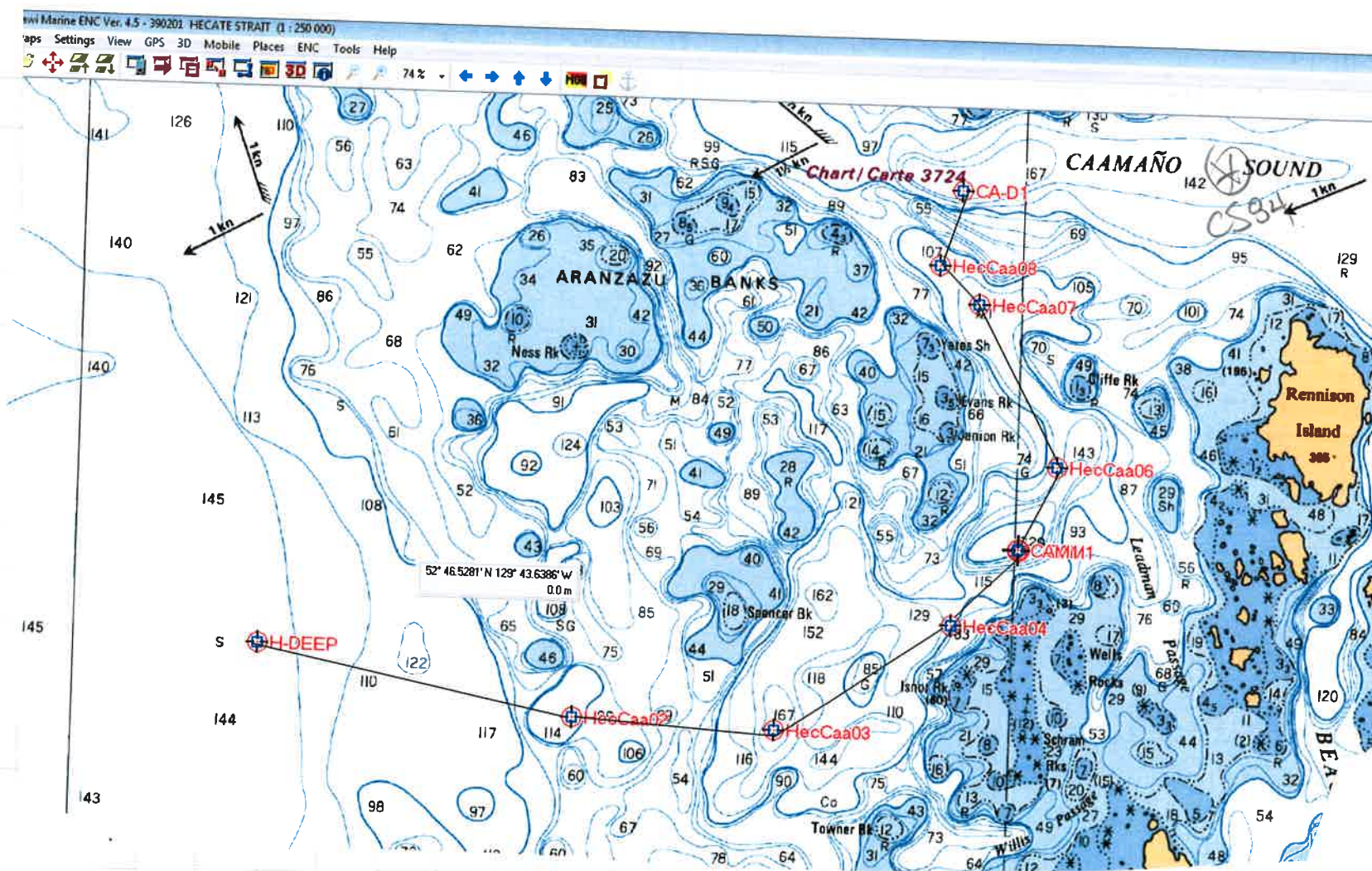
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for November 2 Whole line, or parts of this line will be repeated un'  
rk.



# DAILY SCIENCE LOG

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| Month <u>Nov</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>Vector</u>     |            |              |           | Cruise ID <u>2015-54</u> |              |               |                |                                          |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|------------|--------------|-----------|--------------------------|--------------|---------------|----------------|------------------------------------------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |            | Bottom Depth | Max Depth | Sample Numbers           | # of Bottles | Watch Keepers | Trans. Cleaned | Comments                                 |
|                  |              |            |           |                  |               |              | Latitude               | Longitude  |              |           |                          |              |               |                |                                          |
| 2                | CS8A         | 1441       | BE        | ROS              |               | 299          | 52 54.005              | 129 23.965 | 256          |           |                          |              | SN            |                |                                          |
|                  |              | 1446       | BO        |                  |               |              | 52 54.005              | 129 23.941 |              | 252       |                          |              |               |                |                                          |
|                  |              | 1452       | EN        |                  |               |              | 52 53.989              | 129 23.941 |              |           |                          |              |               |                |                                          |
| 2                | CA-01        | 1520       | P         | MVP              |               | 300          |                        |            |              |           |                          |              |               |                | Cleaning Sensor                          |
| 2                | CA-01        | 1628       | BE        | ROS              |               | 301          | 52 53.633              | 129 32.747 | 310          |           |                          |              | SV, NHP       | ✓              |                                          |
|                  |              | 1637       | BO        |                  |               |              | 52 53.636              | 129 32.747 |              | 303       |                          |              |               |                |                                          |
|                  |              | 1643       | EN        |                  |               |              | 52 53.633              | 129 32.807 |              |           |                          |              |               |                |                                          |
| 2                | CAM1         | 1814       | BE        | ROS              |               | 302          | 52 46.980              | 129 30.452 | 417          |           |                          |              | NHP, SV       | ✓              |                                          |
|                  |              | 1823       | BO        |                  |               |              | 52 47.020              | 129 30.479 |              | 410       |                          |              |               |                |                                          |
|                  |              | 1832       | EN        |                  |               |              | 52 47.014              | 129 30.560 |              |           |                          |              |               |                |                                          |
| 2                | HeiCao03     | 1933       | BE        | ROS              |               | 303          | 52 43.420              | 129 36.930 | 303          |           |                          |              | SV, NHP       | ✓              |                                          |
|                  |              | 1940       | BO        |                  |               |              | 52 43.458              | 129 36.935 |              | 299       |                          |              |               |                |                                          |
|                  |              | 1946       | EN        |                  |               |              | 52 43.469              | 129 36.961 |              |           |                          |              |               |                |                                          |
| 2                | H-Deep       | 2115       | BE        | ROS              |               | 304          | 52 44.536              | 129 53.390 | 262          |           |                          |              | SV, NHP       | ✓              |                                          |
|                  |              | 2121       | BO        |                  |               |              | 52 44.663              | 129 53.490 |              | 258       |                          |              |               |                |                                          |
|                  |              | 2125       | EN        |                  |               |              | 52 44.623              | 129 53.531 |              |           |                          |              |               |                |                                          |
|                  | H-Deep       | 2130       |           | Drifts           |               | 305          | 52 44.647              | 129 53.840 |              |           |                          |              |               |                | Sponges + #314                           |
|                  |              | 2228       |           | ADCP             |               | 306          | 52 43.485              | 129 44.944 | 204          |           |                          |              |               |                | 3-Duster drifts #347, 348, 349, 350, 351 |
| 3                |              | 0200       |           | MVP              |               |              |                        |            |              |           |                          |              |               |                | Recovered 00830                          |

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## Ocean Sciences Division, Institute of Ocean Sciences

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| Month <u>Nov</u> |              |             |           | Year <u>2015</u> |               |              | Ship <u>Vectra</u>     |                   |              |            | Cruise ID <u>2015-54</u> |              |               |                |                           |
|------------------|--------------|-------------|-----------|------------------|---------------|--------------|------------------------|-------------------|--------------|------------|--------------------------|--------------|---------------|----------------|---------------------------|
| Day              | Station Name | Time (UTC)  | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |                   | Bottom Depth | Max Depth  | Sample Numbers           | # of Bottles | Watch Keepers | Trans. Cleaned | Comments                  |
|                  |              |             |           |                  |               |              | Latitude               | Longitude         |              |            |                          |              |               |                |                           |
| <u>3</u>         | <u>Ca-D1</u> | <u>0215</u> | <u>BE</u> | <u>ROS</u>       |               | <u>307</u>   | <u>52 53.761</u>       | <u>129 32.106</u> | <u>320</u>   |            |                          |              | <u>SYNHP</u>  | <u>✓</u>       |                           |
|                  |              | <u>0222</u> | <u>BO</u> |                  |               |              | <u>52 53.708</u>       | <u>129 32.141</u> |              | <u>317</u> |                          |              |               |                |                           |
|                  |              | <u>0230</u> | <u>EN</u> |                  |               |              | <u>52 53.776</u>       | <u>129 32.143</u> |              |            |                          |              |               |                |                           |
|                  | <u>Caas2</u> | <u>0301</u> | <u>BE</u> | <u>ROS</u>       |               | <u>308</u>   | <u>52 51.526</u>       | <u>129 30.299</u> | <u>257</u>   |            |                          |              | <u>SYNHP</u>  | <u>✓</u>       |                           |
|                  |              | <u>0307</u> | <u>BO</u> |                  |               |              | <u>52 51.520</u>       | <u>129 30.392</u> |              | <u>256</u> |                          |              |               |                |                           |
|                  |              | <u>0311</u> | <u>EN</u> |                  |               |              | <u>52 51.548</u>       | <u>129 30.398</u> |              |            |                          |              |               | <u>✓</u>       |                           |
|                  | <u>Caas2</u> | <u>0329</u> | <u>BE</u> | <u>ROS</u>       |               | <u>309</u>   | <u>52 53.052</u>       | <u>129 28.459</u> | <u>132</u>   |            |                          |              | <u>PT</u>     |                | <u>lots of jelly fish</u> |
|                  |              | <u>0334</u> | <u>BO</u> |                  |               |              | <u>52 53.063</u>       | <u>129 28.461</u> |              | <u>130</u> |                          |              |               |                | <u>causing at surface</u> |
|                  |              | <u>0336</u> | <u>EN</u> |                  |               |              | <u>52 53.059</u>       | <u>129 28.475</u> |              |            |                          |              |               |                |                           |
|                  | <u>Caas3</u> | <u>0354</u> | <u>BE</u> | <u>ROS</u>       |               | <u>310</u>   | <u>52 54.626</u>       | <u>129 26.816</u> | <u>284</u>   |            |                          |              | <u>PT</u>     | <u>✓</u>       |                           |
|                  |              | <u>0401</u> | <u>BO</u> |                  |               |              | <u>52 54.625</u>       | <u>129 26.828</u> |              | <u>280</u> |                          |              |               |                |                           |
|                  |              | <u>0406</u> | <u>EN</u> |                  |               |              | <u>52 54.634</u>       | <u>129 26.840</u> |              |            |                          |              |               |                |                           |
|                  | <u>Caas4</u> | <u>0429</u> | <u>BE</u> | <u>ROS</u>       |               | <u>311</u>   | <u>52 52.129</u>       | <u>129 24.967</u> | <u>176</u>   |            |                          |              | <u>PT</u>     | <u>✓</u>       |                           |
|                  |              | <u>0433</u> | <u>BO</u> |                  |               |              | <u>52 52.139</u>       | <u>129 24.923</u> |              | <u>172</u> |                          |              |               |                |                           |
|                  |              | <u>0436</u> | <u>EN</u> |                  |               |              | <u>52 52.152</u>       | <u>129 24.892</u> |              |            |                          |              |               |                |                           |
|                  | <u>Caas5</u> | <u>0508</u> | <u>BE</u> | <u>ROS</u>       |               | <u>312</u>   | <u>52 53.905</u>       | <u>129 23.102</u> | <u>259</u>   |            |                          |              | <u>PT</u>     | <u>✓</u>       |                           |
|                  |              | <u>0515</u> | <u>BO</u> |                  |               |              | <u>52 53.900</u>       | <u>129 23.095</u> |              | <u>255</u> |                          |              |               |                |                           |
|                  |              | <u>0519</u> | <u>EN</u> |                  |               |              | <u>52 53.912</u>       | <u>129 23.093</u> |              |            |                          |              |               |                |                           |
|                  |              |             |           |                  |               |              |                        |                   |              |            |                          |              |               |                |                           |

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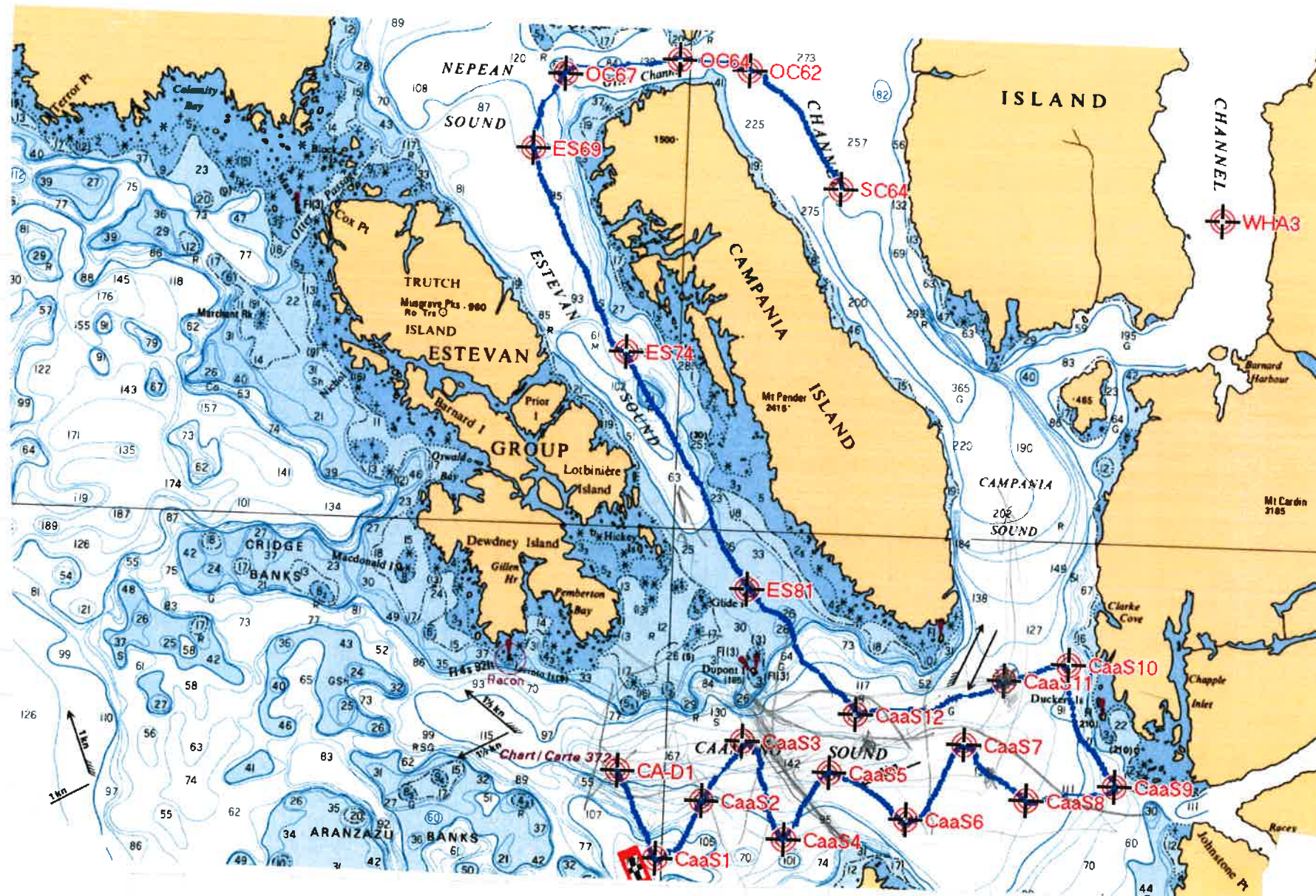
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TD only, survey November 2- 3

Notes or observations



# DAILY SCIENCE LOG

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| Month <u>Nov</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>Vector</u>     |            |              |           | Cruise ID <u>2015-54</u> |              |               |                |          |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|------------|--------------|-----------|--------------------------|--------------|---------------|----------------|----------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |            | Bottom Depth | Max Depth | Sample Numbers           | # of Bottles | Watch Keepers | Trans. Cleaned | Comments |
|                  |              |            |           |                  |               |              | Latitude               | Longitude  |              |           |                          |              |               |                |          |
| 3                | Caa56        | 0539       | BE        | ROS              |               | 313          | 52 52.760              | 129 19.817 | 234          |           |                          |              | PT            | ✓              |          |
|                  |              | 0545       | BO        |                  |               |              | 52 52.752              | 129 19.822 |              | 230       |                          |              |               |                |          |
|                  |              | 0549       | EN        |                  |               |              | 52 52.759              | 129 19.832 |              |           |                          |              |               |                |          |
| 3                | Caa57        | 0618       | BE        | ROS              |               | 314          | 52 54.688              | 129 17.482 | 246          |           |                          |              | PT            | ✓              |          |
|                  |              | 0624       | BO        |                  |               |              | 52 54.715              | 129 17.478 |              | 242       |                          |              |               |                |          |
|                  |              | 0628       | EN        |                  |               |              | 52 54.722              | 129 17.494 |              |           |                          |              |               |                |          |
| 3                | Caa58        | 0648       | BE        | ROS              |               | 315          | 52 53.346              | 129 14.718 | 230          |           |                          |              | PT            | ✓              |          |
|                  |              | 0654       | BO        |                  |               |              | 52 53.345              | 129 14.702 |              | 226       |                          |              |               |                |          |
|                  |              | 0658       | EN        |                  |               |              | 52 53.345              | 129 14.707 |              |           |                          |              |               |                |          |
| 3                | Caa59        | 0721       | BE        | ROS              |               | 316          | 52 53.777              | 129 10.861 | 135          |           |                          |              | PT            | ✓              |          |
|                  |              | 0726       | BO        |                  |               |              | 52 53.788              | 129 10.877 |              | 132       |                          |              |               |                |          |
|                  |              | 0728       | EN        |                  |               |              | 52 53.792              | 129 10.886 |              |           |                          |              |               |                |          |
| 3                | Caa510       | 0757       | BE        | ROS              |               | 317          | 52 56.837              | 129 13.175 | 193          |           |                          |              | PT            | ✓              |          |
|                  |              | 0802       | BO        |                  |               |              | 52 56.846              | 129 13.170 |              | 190       |                          |              |               |                |          |
|                  |              | 0806       | EN        |                  |               |              | 52 56.850              | 129 13.160 |              |           |                          |              |               |                |          |
| 3                | Caa511       | 0821       | BE        | ROS              |               | 318          | 52 56.368              | 129 15.912 | 211          |           |                          |              | PT            | ✓              |          |
|                  |              | 0826       | BO        |                  |               |              | 52 56.388              | 129 15.925 |              | 209       |                          |              |               |                |          |
|                  |              | 0830       | EN        |                  |               |              | 52 56.411              | 129 15.912 |              |           |                          |              |               |                |          |
|                  |              |            |           |                  |               |              |                        |            |              |           |                          |              |               |                |          |

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Produced by the Water Properties Group, IOS

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Notes:

**November 3:**

) stations during night, ending with station SC64 (See separate cha

# DAILY SCIENCE LOG

## Ocean Sciences Division, Institute of Ocean Sciences

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| Month <u>Nov</u> |              |            |           | Year <u>2015</u> |               |              |                        | Ship <u>Vector</u> |              |           |                | Cruise ID <u>2015-54</u> |               |                |                                    |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|--------------------|--------------|-----------|----------------|--------------------------|---------------|----------------|------------------------------------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |                    | Bottom Depth | Max Depth | Sample Numbers | # of Bottles             | Watch Keepers | Trans. Cleaned | Comments                           |
|                  |              |            |           |                  |               |              | Latitude               | Longitude          |              |           |                |                          |               |                |                                    |
| 3                | Caa512       | 0857       | BE        | Ros              |               | 319          | 52 55.396              | 129 22.156         | 226          |           |                |                          | PT            | ✓              |                                    |
|                  |              | 0903       | BO        |                  |               |              | 52 55.416              | 129 22.253         |              | 224       |                |                          |               |                |                                    |
|                  |              | 0907       | EN        |                  |               |              | 52 55.435              | 129 22.252         |              |           |                |                          |               |                | lost depth reading 57m off bottom. |
|                  | ES81         | 0937       | BE        | Ros              |               | 320          | 52 58.588              | 129 26.884         | 76           |           |                |                          | PT            | ✓              |                                    |
|                  |              | 0940       | BO        |                  |               |              | 52 58.585              | 129 26.873         |              | 74        |                |                          |               |                |                                    |
|                  |              | 0941       | EN        |                  |               |              | 52 58.586              | 129 26.874         |              |           |                |                          |               |                |                                    |
|                  | ES74         | 1025       | BE        | Ros              |               | 321          | 53 04.476              | 129 32.365         | 158          |           |                |                          | PT            | ✓              | noisy transmission                 |
|                  |              | 1029       | BO        |                  |               |              | 53 04.489              | 129 32.398         |              | 157       |                |                          |               |                |                                    |
|                  |              | 1032       | EN        |                  |               |              | 53 04.498              | 129 32.429         |              |           |                |                          |               |                |                                    |
|                  | ES69         | 1110       | BE        | Ros              |               | 322          | 53 09.590              | 129 36.638         | 171          |           |                |                          | PT            | ✓              | noisy transmission                 |
|                  |              | 1116       | BO        |                  |               |              | 53 09.594              | 129 36.634         |              | 167       |                |                          |               |                |                                    |
|                  |              | 1119       | EN        |                  |               |              | 53 09.590              | 129 36.622         |              |           |                |                          |               |                |                                    |
|                  | DC67         | 1137       | BE        | Ros              |               | 323          | 53 11.519              | 129 35.396         | 187          |           |                |                          | PT            | ✓              |                                    |
|                  |              | 1142       | BO        |                  |               |              | 53 11.527              | 129 35.374         |              | 203       |                |                          |               |                |                                    |
|                  |              | 1146       | EN        |                  |               |              | 53 11.530              | 129 35.363         |              |           |                |                          |               |                |                                    |
|                  | DC64         | 1214       | BE        | Ros              |               | 324          | 53 11.962              | 129 30.529         | 290          |           |                |                          | PT            | ✓              |                                    |
|                  |              | 1221       | BO        |                  |               |              | 53 11.969              | 129 30.527         |              | 285       |                |                          |               |                |                                    |
|                  |              | 1226       | EN        |                  |               |              | 53 11.971              | 129 30.520         |              |           |                |                          |               |                |                                    |

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Produced by the Water Properties Group, IOS

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After CTD station SC64, travel towards station SC80 (52 54.7620 129 15.9468) at the south end of Campania Sound.

**Based on a quick look** at the overnight CTD profiles we will decide in the morning whether to MVP north on the west or east side of Gil Island.

If, east side:

MVP around south end of Gil Island, up Whale Channel

**CTD and Net-tow at WHA-3 (53 08.3397 129 07.2589)**

Then:

Continue MVP to Wright Sound.

**Deployment of 6 drifters in Wright Sound**

Continue MVP up Verney Passage and Devastation Channel to Douglas Channel.

*Squally Channel*

# DAILY SCIENCE LOG

## Ocean Sciences Division, Institute of Ocean Sciences

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| Month <u>Nov</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>Vector</u>     |            |              | Cruise ID <u>2015-54</u> |                |              |               |                |                                        |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|------------|--------------|--------------------------|----------------|--------------|---------------|----------------|----------------------------------------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |            | Bottom Depth | Max Depth                | Sample Numbers | # of Bottles | Watch Keepers | Trans. Cleaned | Comments                               |
|                  |              |            |           |                  |               |              | Latitude               | Longitude  |              |                          |                |              |               |                |                                        |
| 3                | OC62         | 1244       | BE        | ROS              |               | 325          | 53 11.747              | 129 27.540 | 476          |                          |                |              | PT            | ✓              | noisy                                  |
|                  |              | 1253       | BO        |                  |               |              | 53 11.748              | 129 27.541 |              | 472                      |                |              |               |                | transmissometer                        |
|                  |              | 1302       | EN        |                  |               |              | 53 11.762              | 129 27.536 |              |                          |                |              |               |                |                                        |
| 3                | SC64         | 1335       | BE        | ROS              |               | 326          | 53 08.802              | 129 23.504 | 511          |                          |                |              | PT            | ✓              | noisy                                  |
|                  |              | 1345       | BO        |                  |               |              | 53 08.848              | 129 23.495 |              | 496                      | 437-442        | 6            |               |                | transmissometer                        |
|                  |              | 1401       | EN        |                  |               |              | 53 08.818              | 129 23.569 |              |                          |                |              |               |                |                                        |
| 3                | Survey 6     | 1516       | BE        | MVP              |               | 327          | 52 57.75               | 129 12.32  | 197          |                          |                |              |               |                |                                        |
| 4                |              | 0156       | EN        |                  |               |              | 53 22.16               | 129 12.07  |              |                          |                |              |               |                | Caution Sound                          |
| 4                | WC43         | 0219       | BE        | ROS              |               | 328          | 53 21.066              | 129 16.456 | 517          |                          |                |              | PT            | ✓              | to Weight Sound                        |
|                  |              | 0229       | BO        |                  |               |              | 53 21.070              | 129 16.441 |              | 513                      |                |              |               |                |                                        |
|                  |              | 0239       | EN        |                  |               |              | 53 21.070              | 129 16.430 |              |                          |                |              |               |                |                                        |
| 4                | WC43         |            |           | DRIFTERS         |               | 329          | 53 21.070              | 129 16.420 |              |                          |                |              |               |                |                                        |
| 4                | WC50         | 0324       | BE        | ROS              |               | 330          | 53 17.822              | 129 08.850 | 516          |                          | 443-450        | 8            | PT            | ✓              | Spencer 257, 358, 359, 360 + Bathy 367 |
|                  |              | 0335       | BO        |                  |               |              | 53 17.810              | 129 08.906 |              | 512                      |                |              |               |                |                                        |
|                  |              | 0351       | EN        |                  |               |              | 53 17.826              | 129 08.886 |              |                          |                |              |               |                |                                        |
| 4                | WC50         | 0413       | BO        | NET              |               | 331          | 53 17.963              | 129 08.839 | 516          | 510                      |                |              |               |                | Seal on!                               |
| 4                | VP42         | 0530       | BO        | NET              |               | 332          | 53 28.326              | 129 04.399 | 201          | 196                      |                |              |               |                | Scar VNH                               |
|                  |              |            |           |                  |               |              |                        |            |              |                          |                |              |               |                | Scar VNH                               |

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Produced by the Water Properties Group, IOS

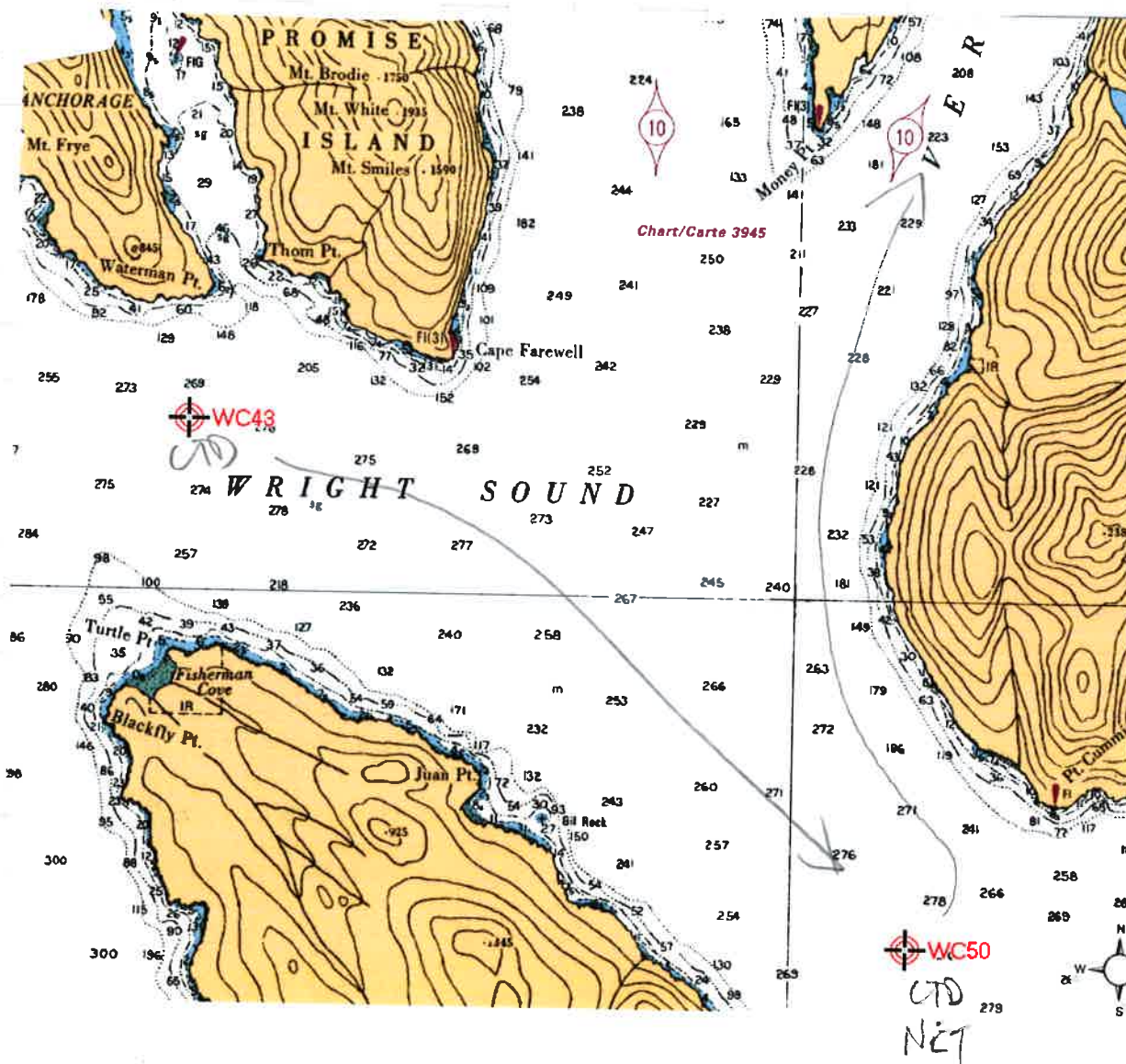
WaterProperties.ca  
 Version: 7 July 2014

*This page is for any notes or observations*

November 3:

CTD+drifters at WC43

CTD+Scor net at WC50



## DAILY SCIENCE LOG

## Ocean Sciences Division, Institute of Ocean Sciences

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| Month <u>Nov</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>Vector</u>     |            |              |           | Cruise ID <u>2015-54</u> |              |               |                |                                |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|------------|--------------|-----------|--------------------------|--------------|---------------|----------------|--------------------------------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |            | Bottom Depth | Max Depth | Sample Numbers           | # of Bottles | Watch Keepers | Trans. Cleaned | Comments                       |
|                  |              |            |           |                  |               |              | Latitude               | Longitude  |              |           |                          |              |               |                |                                |
| 4                | VP42         | 0600       | BE        | ROS              |               | 333          | 53 28.260              | 129 04.390 | 202          |           | 451-460                  | 11           | PT            | ✓              |                                |
|                  |              | 0606       | BO        |                  |               |              | 53 28.270              | 129 04.398 |              | 198       |                          |              |               |                |                                |
|                  |              | 0619       | EN        |                  |               |              | 53 28.271              | 129 04.420 |              |           |                          |              |               |                |                                |
| 4                | VP36         | 0831       | BE        | ROS              |               | 334          | 53 33.004              | 129 59.718 | 264          |           | 461-473                  |              | PT            | ✓              |                                |
|                  |              | 0838       | BO        |                  |               |              | 53 33.017              | 129 59.716 |              | 260.5     |                          |              |               |                |                                |
|                  |              | 0854       | EN        |                  |               |              | 53 33.007              | 129 59.695 |              |           |                          |              |               |                |                                |
| 4                | VP42         | 1026       | BE        | ROS              |               | 335          | 53 28.272              | 129 4.392  | 201          |           |                          |              | CH            | ✓              |                                |
|                  |              | 1032       | BO        |                  |               |              |                        |            |              |           |                          |              |               |                |                                |
|                  |              | 1036       | EN        |                  |               |              |                        |            |              |           |                          |              |               |                |                                |
| 4                | VP39A        | 1143       | BE        | ROS              |               | 336          | 53 31.89               | 129 2.341  | 84           |           |                          |              | CH            | ✓              |                                |
|                  |              |            | BO        |                  |               |              |                        |            |              | 79        |                          |              |               |                | forgot to stop data collection |
|                  |              | 1148       | EN        |                  |               |              | 53 31.886              | 129 2.332  |              |           |                          |              |               |                |                                |
| 4                | VP37         | 1209       | BE        | ROS              |               | 337          | 53 32.514              | 129 0.658  | 59           |           |                          |              | CH            |                |                                |
|                  |              | 1213       | BO        |                  |               |              | 53 32.554              | 129 0.638  |              | 57        |                          |              |               |                |                                |
|                  |              | 1215       | EN        |                  |               |              | 53 32.588              | 129 0.632  |              |           |                          |              |               |                |                                |
| 4                | VP36         | 1230       | BE        | ROS              |               | 338          | 53 32.998              | 128 59.688 | 265          |           |                          |              | CH            |                |                                |
|                  |              | 1237       | BO        |                  |               |              |                        |            |              | 260       |                          |              |               |                |                                |
|                  |              | 1242       | EN        |                  |               |              | 53 32.995              | 128 59.726 |              |           |                          |              |               |                |                                |

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Produced by the Water Properties Group, IOS

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 Version: 7 July 2014

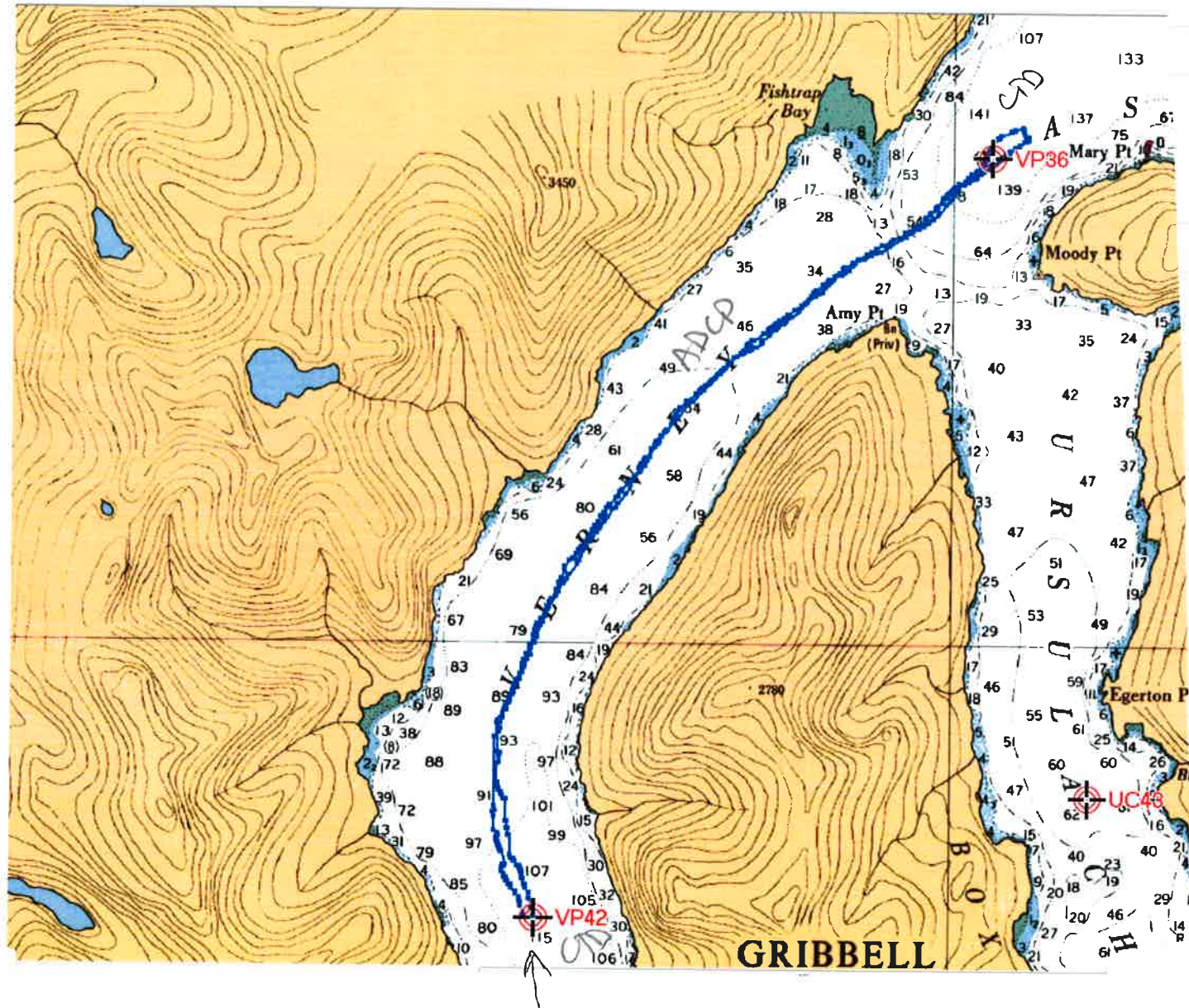
November 3-4:

ADCP+CTD during night hours

ADCP+MVP during day hours

5 page is for any notes or observations

ADCP  
stopped ship after  
5-10 minute  
to realign  
the angle of the  
pole.



# DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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| Month <u>Nov</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>VECTOR</u>     |            |              |           | Cruise ID <u>2015-54</u> |              |               |                |                |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|------------|--------------|-----------|--------------------------|--------------|---------------|----------------|----------------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |            | Bottom Depth | Max Depth | Sample Numbers           | # of Bottles | Watch Keepers | Trans. Cleaned | Comments       |
|                  |              |            |           |                  |               |              | Latitude               | Longitude  |              |           |                          |              |               |                |                |
|                  | VP42         |            | BE        | ROS              |               | 339          |                        |            |              |           |                          |              |               |                |                |
| 4                |              | 1506       | BE        | MVP              |               | 339          |                        |            |              |           |                          |              |               |                | Righting S. 11 |
| 5                |              | 0200       | EN        | MVP              |               | 339          |                        |            |              |           |                          |              |               |                |                |
| 4                |              | 1500       | BE        | ADCP             |               | 340          |                        |            |              |           |                          |              |               |                |                |
| 5                |              | 0200       | EN        | ADCP             |               | 340          |                        |            |              |           |                          |              |               |                |                |
| 5                | VP39         | 0239       | BE        | ROS              |               | 341          | 53 30.427              | 129 3.824  | 130          |           |                          |              | SV MVP        | ✓              |                |
|                  |              | 0243       | BO        | ROS              |               |              | 53 30.415              | 129 3.805  |              | 123       |                          |              |               |                |                |
|                  |              | 0246       | EN        | ROS              |               |              | 53 30.412              | 129 3.805  |              |           |                          |              |               |                |                |
|                  | VP42         | 0305       | BE        | ROS              |               | 342          | 53 28.272              | 129 04.430 | 203          |           |                          |              | PT            | ✓              |                |
|                  |              | 0311       | BO        |                  |               |              | 53 28.261              | 129 04.411 |              | 200       |                          |              |               |                |                |
|                  |              | 0315       | EN        |                  |               |              | 53 28.256              | 129 04.394 |              |           |                          |              |               |                |                |
|                  | VP42         | 0331       | BO        | NET              |               | 343          | 53 28.290              | 129 04.426 |              |           |                          |              | PT            |                |                |
|                  | UC41         | 0426       | BE        | ROS              |               | 344          | 53 31.181              | 128 59.082 | 85           |           |                          |              | PT            | ✓              |                |
|                  |              | 0430       | BO        |                  |               |              | 53 31.184              | 128 59.082 |              | 82        |                          |              |               |                |                |
|                  |              | 0432       | EN        |                  |               |              | 53 31.187              | 128 59.087 |              |           |                          |              |               |                |                |
|                  | UC45         | 0514       | BE        | ROS              |               | 345          | 53 26.040              | 128 55.451 | 407          |           | 474-488                  | 15           | PT            | ✓              |                |
|                  |              | 0522       | BO        |                  |               |              | 53 26.032              | 128 55.471 |              | 393.5     |                          |              |               |                |                |
|                  |              | 0544       | EN        |                  |               |              | 53 26.016              | 128 55.540 |              |           |                          |              |               |                |                |
|                  | UC45         | 0602       |           | NET              |               | 346          | 53 26.044              | 128 55.553 | 406          | 390       |                          |              |               |                | SCOR           |

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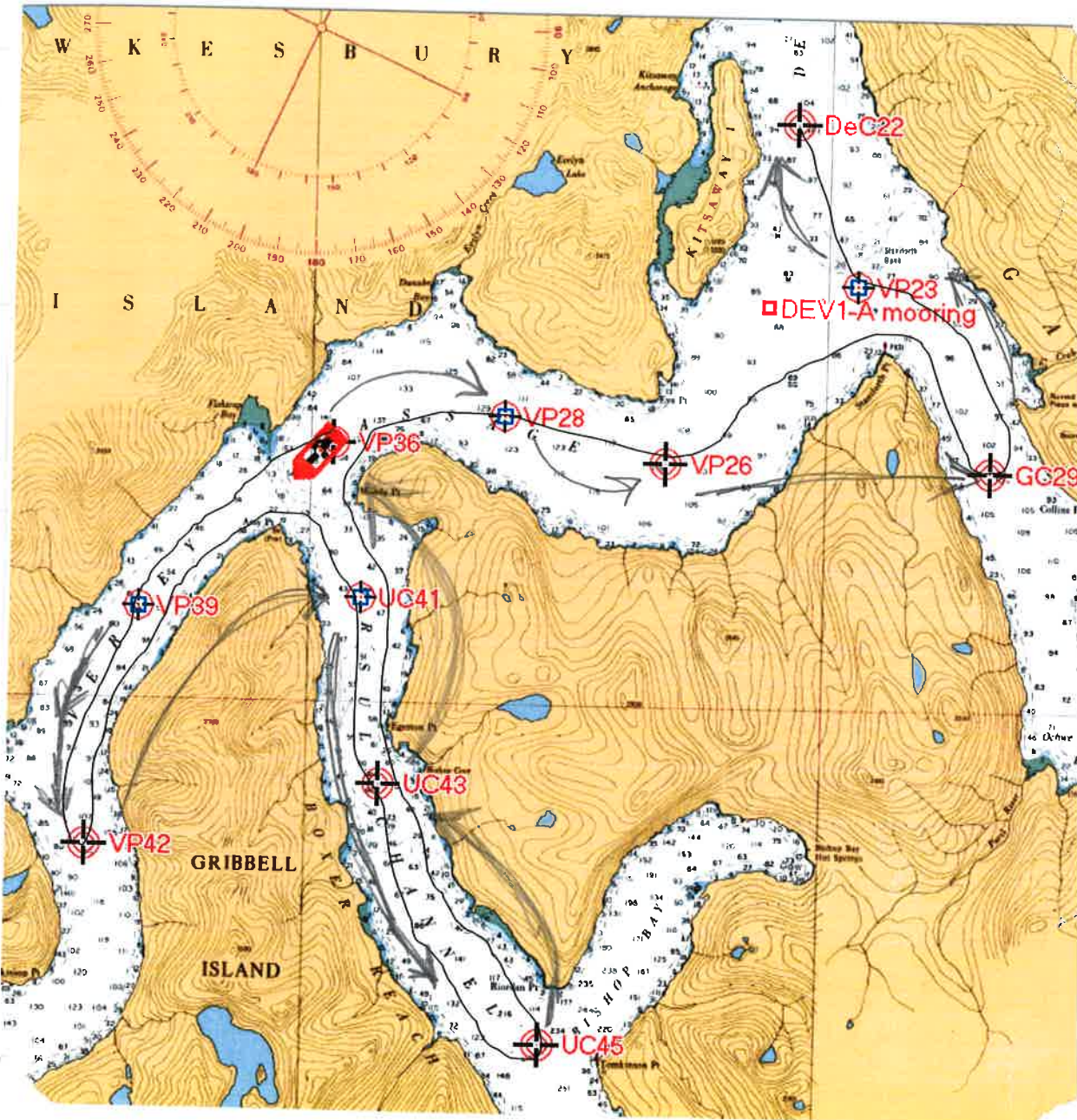
Transmissometer & Fluorometer are to be cleaned before each cast

Produced by the Water Properties Group, IOS

WaterProperties.ca  
Version: 7 July 2014

Notes:

# CT+Net-tow stations November 4-5:



+ Rosette + he  
D CTD only

This page is for any notes or observations

November 4-5:

After dark and until morning of November 5<sup>th</sup>, CTDs and N stations:

|    |                |          |          |                               |
|----|----------------|----------|----------|-------------------------------|
| 6  | VP36           | 53.54999 | -128.995 | CTD+NET<br>no Ros.<br>ROS+NET |
| 1  | VP39           | 53.51749 | -129.057 | CTD only                      |
| 2  | VP42 (342,343) | 53.47136 | -129.073 | CTD<br>ROS+NET                |
| 3  | UC41           | 53.51979 | -128.985 | CTD only                      |
| 5  | UC43 FULL      | 53.484   | -128.978 | ROS+NET                       |
| 4  | UC45 FULL      | 53.434   | -128.925 | ROS+NET                       |
| 7  | VP28           | 53.55533 | -128.939 | CTD only                      |
| 8  | VP26           | 53.547   | -128.887 | ROS+NET                       |
| 10 | VP23           | 53.58188 | -128.825 | CTD only                      |
| 9  | GC29           | 53.5463  | -128.782 | ROS+NET                       |
| 11 | DeC22          | 53.61281 | -128.846 | ROS+NET                       |

# DAILY SCIENCE LOG

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| Month <u>Nov</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>Vector</u>     |            |              | Cruise ID <u>2015-54</u> |                |              |               |                |                            |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|------------|--------------|--------------------------|----------------|--------------|---------------|----------------|----------------------------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |            | Bottom Depth | Max Depth                | Sample Numbers | # of Bottles | Watch Keepers | Trans. Cleaned | Comments                   |
|                  |              |            |           |                  |               |              | Latitude               | Longitude  |              |                          |                |              |               |                |                            |
| 5                | UC43         | 0645       | BO        | Net              |               | 347          | 53 29.021              | 128 58.628 | 106          | 102                      |                |              | PT            |                | cloudless scattering layer |
|                  | UC43         | 0652       | BE        | Ros              |               | 348          | 53 29.010              | 128 58.661 | 102          |                          | 489-497        | 9            |               | ✓              | 40-100m                    |
|                  |              | 0656       | BO        |                  |               |              | 53 29.020              | 128 58.687 |              | 106                      |                |              |               |                |                            |
|                  |              | 0706       | EN        |                  |               |              | 53 29.044              | 128 58.685 |              |                          |                |              |               |                |                            |
|                  | VP36         | 0738       | BE        | Ros              |               | 349          | 53 32.995              | 128 59.693 | 265          |                          | 510            | 1            | PT            | ✓              | Chl. only at 10m           |
|                  |              | 0744       | BO        | (CTD)            |               |              | 53 32.998              | 128 59.717 |              | 261                      |                |              |               |                | sample # not in Seq        |
|                  |              | 0751       | EN        |                  |               |              | 53 32.987              | 128 59.695 |              |                          |                |              |               |                |                            |
|                  | VP36         | 0803       | BO        | net              |               | 350          | 53 32.988              | 128 59.716 |              |                          |                |              |               |                |                            |
|                  | VP28         | 0836       | BE        | Ros              |               | 351          | 53 33.328              | 128 56.353 | 229          |                          |                |              | PT,SR         |                |                            |
|                  |              | 0842       | BO        | (CTD)            |               |              | 53 33.320              | 128 56.350 |              | 225                      |                |              | PT            | ✓              |                            |
|                  |              | 0846       | EN        |                  |               |              | 53 33.317              | 128 56.356 |              |                          |                |              |               |                |                            |
|                  | VP26         | 0904       | BE        | Ros              |               | 352          | 53 32.820              | 128 53.236 | 206          |                          | 498-509        | 12           | PT            | ✓              |                            |
|                  |              | 0910       | BO        |                  |               |              | 53 32.828              | 128 53.242 |              | 204                      |                |              |               |                |                            |
|                  |              | 0924       | EN        |                  |               |              | 53 32.810              | 128 53.215 |              |                          |                |              |               |                |                            |
|                  | VP26         | 0935       | BO        | Net              |               | 353          | 53 32.809              | 128 53.197 | 205          | 200                      |                |              |               |                |                            |
|                  | GC29         | 1032       | BO        | NET              |               | 354          | 53 32.344              | 128 46.337 | 193          | 187                      |                |              |               |                | SCORE                      |
|                  | GC29         | 1041       | BE        | Ros              |               | 355          | 53 32.335              | 128 46.346 | 193          |                          | 511-521        | 11           | PT            | ✓              | Score                      |
|                  |              | 1046       | BO        |                  |               |              | 53 32.332              | 128 46.344 |              | 190.4                    |                |              |               |                |                            |
|                  |              | 1053       | EN        |                  |               |              | 53 32.317              | 128 46.315 |              |                          |                |              |               |                |                            |

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### Bottle Firing Method:

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Notes:

### Time Code:

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Transmissometer & Fluorometer are to be cleaned before each cast

## DAILY SCIENCE LOG

## Ocean Sciences Division, Institute of Ocean Sciences

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| Month <u>Nov</u> |              |            |           | Year <u>2015</u> |               |              | Ship <u>Vector</u>     |             |              |           | Cruise ID <u>2015-54</u> |              |               |                |                                         |
|------------------|--------------|------------|-----------|------------------|---------------|--------------|------------------------|-------------|--------------|-----------|--------------------------|--------------|---------------|----------------|-----------------------------------------|
| Day              | Station Name | Time (UTC) | Time Code | Cast Type        | Firing Method | Event Number | Positional Information |             | Bottom Depth | Max Depth | Sample Numbers           | # of Bottles | Watch Keepers | Trans. Cleaned | Comments                                |
|                  |              |            |           |                  |               |              | Latitude               | Longitude   |              |           |                          |              |               |                |                                         |
|                  | VP23         | 1130       | BE        | ROS              |               | 356          | 53 34.987              | 128 49.658  | 115          |           |                          |              | PT            | ✓              |                                         |
|                  |              | 1133       | BO        | (CTD)            |               |              | 53 34.986              | 128 49.646  |              | 114       |                          |              |               |                |                                         |
|                  |              | 1135       | EN        |                  |               |              | 53 34.981              | 128 49.656  |              |           |                          |              |               |                |                                         |
|                  | DEC22        | 1153       | BE        | ROS              |               | 357          | 53 36.748              | 128 50.736  | 187          |           | 522-531                  | 10           |               | ✓              |                                         |
|                  |              | 1158       | BO        |                  |               |              | 53 36.762              | 128 50.742  |              | 183       |                          |              |               |                |                                         |
|                  |              | 1209       | EN        |                  |               |              | 53 36.792              | 128 50.747  |              |           |                          |              |               |                |                                         |
|                  | Dec22        | 1219       | BO        | NET              |               | 358          | 53 36.734              | 128 50.772  | 187          | 182       |                          |              | SP            | —              | SCORE                                   |
| 5                | Dec22        | 1220       | BE        | ADCP             |               | 359          | 53 36.784              | 128 50.782  |              |           |                          |              |               |                | in loc. →                               |
|                  |              | 1515       | EN        | ADCP             |               |              |                        |             |              |           |                          |              |               |                |                                         |
| 5                |              | 1520       | BO        | MVP              |               | 360          | 53 31.8911             | 129 02.0615 |              |           |                          |              |               |                | MVP run for 10 min. Sample 359          |
| 5                | LP51         | 1820       | BE        | ROS              |               | 361          | 53 15.235              | 129 18.550  | 550          |           | 532-537                  | 6            | SV, NHD       | ✓              |                                         |
|                  |              | 1821       | BO        |                  |               |              | 53 15.269              | 129 18.556  |              | 545       |                          |              |               |                |                                         |
|                  |              | 1845       | EN        |                  |               |              | 53 15.290              | 129 18.570  |              |           |                          |              |               |                |                                         |
|                  | WC43         | 2048       | BE        | Drifts           |               | 362          | 53 21.0683             | 129 16.3853 |              |           |                          |              |               |                | Spine 352, 353, 354, 355, 356 + Bw6 362 |
| 6                |              | 0156       | EN        | MVP              |               | 363          |                        |             |              |           |                          |              |               |                |                                         |
| 6                | Doug4        | 0305       | BE        | ROS              |               | 364          | 53 55.620              | 128 42.246  | 220          |           | 538-549                  | 12           | PT            | ✓              |                                         |
|                  |              | 0311       | BO        |                  |               |              | 53 55.628              | 128 42.244  |              | 216       |                          |              |               |                |                                         |
|                  |              | 0325       | EN        |                  |               |              | 53 55.626              | 128 42.214  |              |           |                          |              |               |                |                                         |
| 6                | Doug4        | 1939       | BO        | NET              |               | 365          | 53 55.616              | 128 42.255  | 220          | 215       |                          |              |               |                | SCORE                                   |

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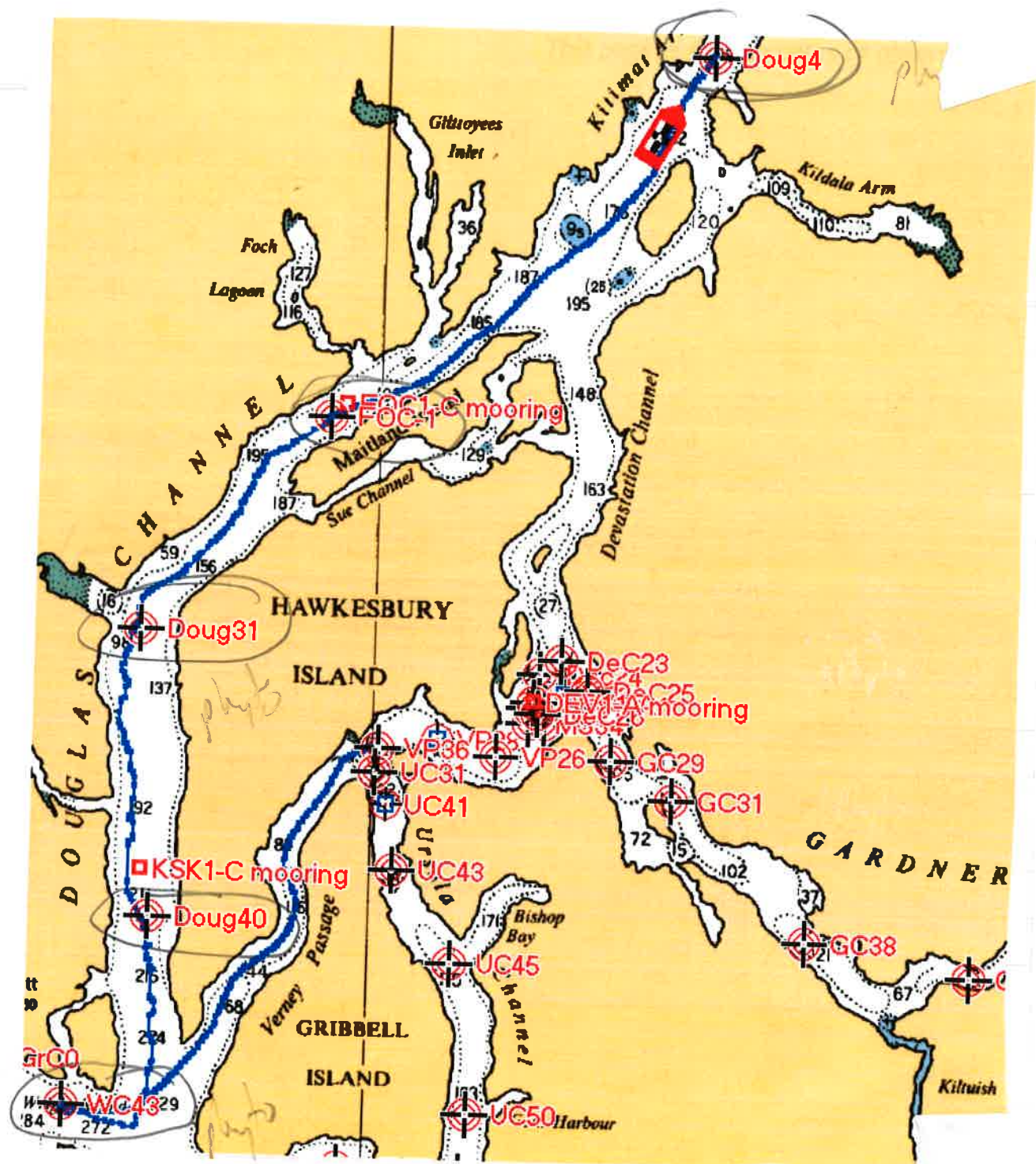
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Produced by the Water Properties Group, IOS

WaterProperties.ca  
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not to align ADCP at 12:49 CTC 04.



## DAILY SCIENCE LOG

## Ocean Sciences Division, Institute of Ocean Sciences

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| Month |              |            |           | Year      |               | Ship         |                        | Cruise ID   |              |           |                               |              |               |                |           |
|-------|--------------|------------|-----------|-----------|---------------|--------------|------------------------|-------------|--------------|-----------|-------------------------------|--------------|---------------|----------------|-----------|
| Nov   |              |            |           | 2015      |               | Vector       |                        | 2015-54     |              |           |                               |              |               |                |           |
| Day   | Station Name | Time (UTC) | Time Code | Cast Type | Firing Method | Event Number | Positional Information |             | Bottom Depth | Max Depth | Sample Numbers                | # of Bottles | Watch Keepers | Trans. Cleaned | Comments  |
|       |              |            |           |           |               |              | Latitude               | Longitude   |              |           |                               |              |               |                |           |
| 06    | FOC1         | 0538       | BO        | Net       |               | 366          | 53 43.891              | 129 01.960  | 364          |           |                               |              | PT,SR         |                |           |
|       | FOC1         | 0550       | BE        | ROS       |               | 367          | 53 43.930              | 129 02.009  | 364          |           | 550-563                       | 14           | PT            | ✓              |           |
|       |              | 0558       | BO        |           |               |              | 53 43.931              | 129 01.979  |              | 355       |                               |              |               |                |           |
|       |              | 0618       | EN        |           |               |              | 53 43.932              | 129 01.980  |              |           |                               |              |               |                |           |
| 6     | FOC1         | 0628       | -         | Drifter   |               | 368          |                        |             |              |           | drift launched at 302 363 364 |              |               |                |           |
| 8     | Doug31       | 0733       | BE        |           |               | 369          | 53 36.649              | 129 12.784  | 293          |           | 564-576                       |              | PT            | ✓              |           |
|       |              | 0740       | BO        |           |               |              | 53 36.660              | 129 12.791  |              | 288       |                               |              |               |                |           |
|       |              | 0757       | EN        |           |               |              | 53 36.660              | 129 12.798  |              |           |                               |              |               |                |           |
| 6     | Doug31       | 0806       | BO        | NET       |               | 370          | 53 36.660              | 129 12.798  | 295          | 290       |                               |              |               |                | Score UN4 |
| 6     | Doug40       | 0929       | BO        | NET       |               | 371          | 53 26.739              | 129 12.517  | 398          |           |                               |              | CH            |                | Score UN4 |
| 6     | Doug40       | 0941       | BE        | ROS       |               | 372          | 53 26.753              | 129 12.526  | 398          |           | 577-590                       | 14           | PT            |                |           |
|       |              | 0949       | BO        |           |               |              | 53 26.753              | 129 12.547  |              | 393       |                               |              |               |                |           |
|       |              | 1008       | EN        |           |               |              | 53 26.768              | 129 12.540  |              |           |                               |              |               |                |           |
|       | WC43         | 1104       | BE        | ROS       |               | 373          | 53 21.092              | 129 16.488  | 515          |           | 591-606                       | 16           | PT            | ✓              |           |
|       |              | 1115       | BO        |           |               |              | 53 21.119              | 129 16.511  |              | 511       |                               |              |               |                |           |
|       |              | 1139       | EN        |           |               |              | 53 21.062              | 129 16.436  |              |           |                               |              |               |                |           |
|       | WC43         | 1156       | BO        | NET       |               | 374          | 53 21.077              | 129 16.446  | 511          | 509       |                               |              |               |                | Score UN4 |
| 6     | SurveyK      | 1526       | BE        | MVP       |               | 375          | 53 33.17               | 199 59.49   |              |           |                               |              |               |                |           |
|       |              | 2115       |           | Drift     |               | 376          | 53 12.0407             | 128 44.7366 |              |           |                               |              |               |                | Plot #366 |

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November 5-6:

07:00 – 18:00 MVP survey, Verney Passage, Douglas Channel, Wright Sound, Lewis Passage, Wright Sound, Douglas Channel

19:00-07:00 CTD+Net survey

Doug4 Ros ~~CTD~~+Net + Phyto

Rosette + phy

FOC-1 Ros CTD+Net + Drifters

Rosette

Doug31 Ros CTD+Net + Phyto

Rosette + phy

Doug40 Ros CTD+Net

Rosette

WC-43 Ros ~~CTD~~+Net + Phyto

Rosette + phy

At the end, return to Fishtrap Sill in Verney Passage for MVP run down Ursula Channel, McKay Reach and Princess Royal Channel.

Ocean Sciences Division, Institute of Ocean Sciences

Month

Nov

Year

2015

Ship

Vector

Cruise ID

2015-54

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|                                                                                                                         |                                                                                                    |                                                                                            |                                                                                                       |                                                                                  |                                                                                                                                       |                                                          |
|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| <b>Cast Type:</b><br>BOT = Bottle cast, no CTD<br>CTD = CTD without Rosette<br>ROS = Rosette plus CTD<br>SET = Fish Set | USW = Sea Water Loop<br>MOR = Mooring<br>NET = Plankton Net Haul<br>DRF = Drifter<br>_____ = _____ | <b>Bottle Firing Method:</b><br>US = Up / Stop<br>UN = Up / No stop<br>DN = Down / No stop | <b>Time Code:</b><br>BE = Beginning Time of Cast<br>BO = Bottom Time of Cast<br>EN = End Time of Cast | DE = Deployment Time<br>MR = Messenger Release Time<br>RE = Recover Mooring Time | <b>Transmissometer &amp; Fluorometer are to be cleaned before each cast</b><br><br><i>Produced by the Water Properties Group, IOS</i> | <b>WaterProperties.ca</b><br><b>Version: 7 July 2014</b> |
|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|