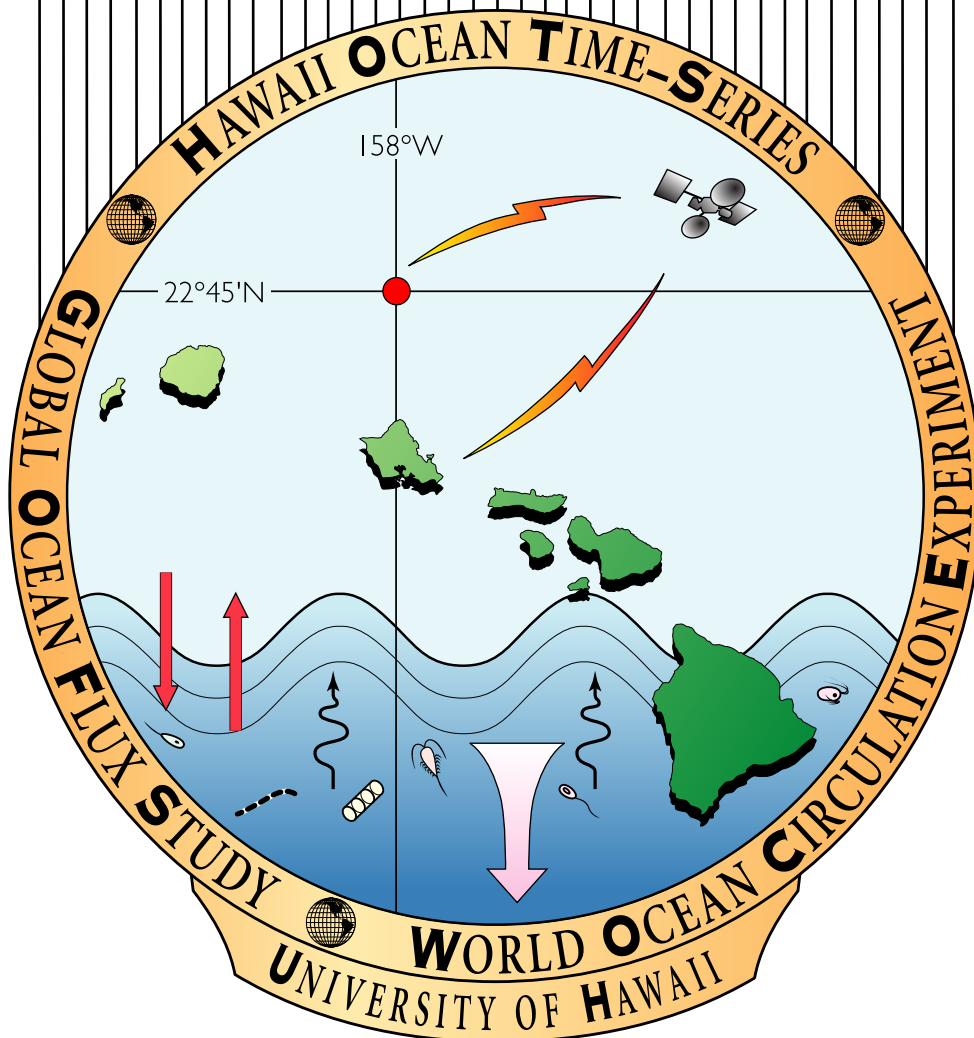


Hawaii Ocean Time-series Program

HOT 308



Hawaii Ocean Time-Series

HOT-308

KAHE Station Data Sheet

Station # 1
 Cast # 1
 Operator(s): DS, ES, CF

Date: 12/10/2018 (HST)
 Time: 13:41 (HST)

| Rosette Position | Desired Depth | Oxygen | Sample Temp. | DIC/Alk | pH | Nuts | LLN/LLP | Chl <i>a</i> | |
|------------------|---------------|---------|--------------|---------|-------|------|---------|--------------|--|
| 1 | 1000 | 1 | 6.3 | | | | | | |
| 2 | 750 | 2,3,4 | 7.3 | | | | | | |
| 3 | 500 | 5 | 8.8 | | | | | | |
| 4 | 350 | 6 | 11.2 | | | 4 | | | |
| 5 | 250 | 7 | 14.7 | | | 5 | | | |
| 6 | 200 | | | | | | | | |
| 7 | 175 | | | | | | | 7 | |
| 8 | 150 | 8 | 19.8 | | | 8 | 8 | 8 | |
| 9 | 125 | | | | | | | 9 | |
| 10 | 100 | 9,10,11 | 22.9 | | | 10 | 10 | 10A-B | |
| 11 | 75 | | | | | | | 11 | |
| 12 | 45 | 12 | 25.9 | 12 | 1 | 12 | 12 | 12 | |
| 13 | 25 | 13 | 26.0 | 13 | 2 | | | 13A-B | |
| 14 | 5 | 14 | 26.0 | 14 | 3,4,5 | 14 | 14 | 14 | |
| 15 | 5 | QC | 26.1 | | | | | | |
| 16 | 5 | | | | | | | | |
| 17 | 5 | | | | | | | | |
| 18 | 5 | | | | | | | | |
| 19 | 5 | | | | | | | | |
| 20 | 5 | | | | | | | | |
| 21 | 5 | | | | | | | | |
| 22 | 5 | | | | | | | | |
| 23 | 5 | | | | | | | | |
| 24 | 5 | | | | | | | | |

**Notes: All niskins tripped to check vacuum seal.
 Chl a 308-1-1-13B filter askew- filtered ok.**

Hawaii Ocean Time-Series

HOT-308

KAHE Station Data Sheet

Station # 1
 Cast # 1
 Operator(s): DS, ES, CF

Date: 12/10/2018 (HST)
 Time: 13:41 (HST)

| Rosette Position | Desired Depth | Oxygen | Sample Temp. | DIC/Alk | pH | Nuts | LLN/LLP | Chl <i>a</i> | |
|------------------|---------------|---------|--------------|---------|-------|------|---------|--------------|--|
| 1 | 1000 | 1 | 6.3 | | | | | | |
| 2 | 750 | 2,3,4 | 7.3 | | | | | | |
| 3 | 500 | 5 | 8.8 | | | | | | |
| 4 | 350 | 6 | 11.2 | | | 4 | | | |
| 5 | 250 | 7 | 14.7 | | | 5 | | | |
| 6 | 200 | | | | | | | | |
| 7 | 175 | | | | | | | 7 | |
| 8 | 150 | 8 | 19.8 | | | 8 | 8 | 8 | |
| 9 | 125 | | | | | | | 9 | |
| 10 | 100 | 9,10,11 | 22.9 | | | 10 | 10 | 10A-B | |
| 11 | 75 | | | | | | | 11 | |
| 12 | 45 | 12 | 25.9 | 12 | 1 | 12 | 12 | 12 | |
| 13 | 25 | 13 | 26.0 | 13 | 2 | | | 13A-B | |
| 14 | 5 | 14 | 26.0 | 14 | 3,4,5 | 14 | 14 | 14 | |
| 15 | 5 | QC | 26.1 | | | | | | |
| 16 | 5 | | | | | | | | |
| 17 | 5 | | | | | | | | |
| 18 | 5 | | | | | | | | |
| 19 | 5 | | | | | | | | |
| 20 | 5 | | | | | | | | |
| 21 | 5 | | | | | | | | |
| 22 | 5 | | | | | | | | |
| 23 | 5 | | | | | | | | |
| 24 | 5 | | | | | | | | |

Notes: All Niskins tripped
 cal 308-1-1-13B to check vacuum seal
 filter askew, filtered on

Hawaii Ocean Time-series

HOT-308

WOCE Deep Data Sheet

Station # 2
 Cast # 1
 Operator(s): DS, ES, MB, CF

Date: 12/11/2018 (HST)
 Time: 7:49 (HST)

| Rosette Position | Desired Depth | Oxygen | Sample Temp. | DIC/Alk | pH | DOC | Nutrient | Refrig. Si | |
|------------------|---------------|----------|--------------|---------|-------|-------|----------|------------|--|
| 1 | 4800 | 15 | 3.5 | | | | 1 | 1 | |
| 2 | 4600 | 16 | 3.9 | | | | 2 | 2 | |
| 3 | 4500 | 17,18,19 | 4.1 | 3A-B | 1,2,3 | 3ABC | 3A-B | 3A-B | |
| 4 | 4400 | 20 | 3.5 | | | | 4 | 4 | |
| 5 | 4200 | 21 | 3.8 | | | | 5 | 5 | |
| 6 | 4000 | 22 | 4.0 | | | | 6 | 6 | |
| 7 | 3800 | 23,24,25 | 4.1 | | | 7ABC | 7A-B | 7A-B | |
| 8 | 3600 | 26 | 3.8 | | | | 8 | 8 | |
| 9 | 3400 | 27 | 3.8 | | | | 9 | 9 | |
| 10 | 3200 | 28 | 3.* | | | | 10 | 10 | |
| 11 | 3000 | 29,30,31 | 4.4 | 11 | 4 | 11ABC | 11A-B | 11A-B | |
| 12 | 2800 | 32 | 4.0 | | | | 12 | 12 | |
| 13 | 2600 | 33 | 4.2 | | | | 13 | 13 | |
| 14 | 2400 | 34 | 4.5 | | | | 14 | 14 | |
| 15 | 2200 | 35 | 4.2 | | | | 15 | 15 | |
| 16 | 2000 | 36 | 4.5 | 16 | 5 | 16ABC | 16A-B | 16A-B | |
| 17 | 1800 | 37,38,39 | 5.2 | | | | 17 | 17 | |
| 18 | 1600 | 150 | 4.9 | | | | 18 | 18 | |
| 19 | 1400 | 41 | 5.1 | | | | 19 | 19 | |
| 20 | 1200 | 42 | 5.3 | | | | 20 | 20 | |
| 21 | 1000 | 43 | 6.0 | | | | 21 | 21 | |
| 22 | 750 | 44 | 6.5 | | | | 22 | 22 | |
| 23 | 500 | 45 | 8.7 | | | | 23 | 23 | |
| 24 | 5 | 46 | 24.1 | | | | 24 | | |

Notes:

Hawaii Ocean Time-series

HOT-308

WOCE Deep Data Sheet

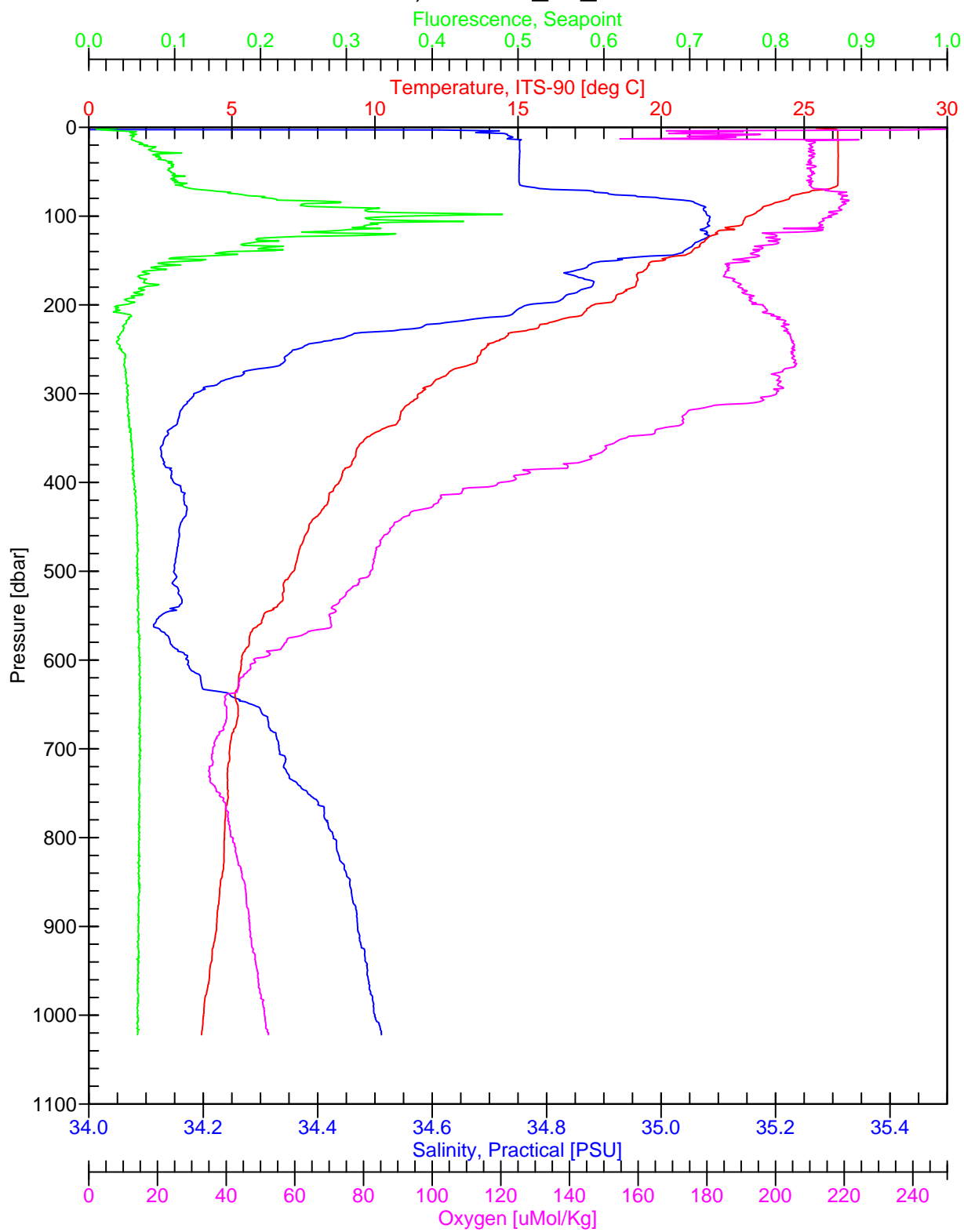
Station # 2
 Cast # 1
 Operator(s): DS, ES, CF MB

Date: 12/11/2018 (HST)
 Time: 07:49 (HST)

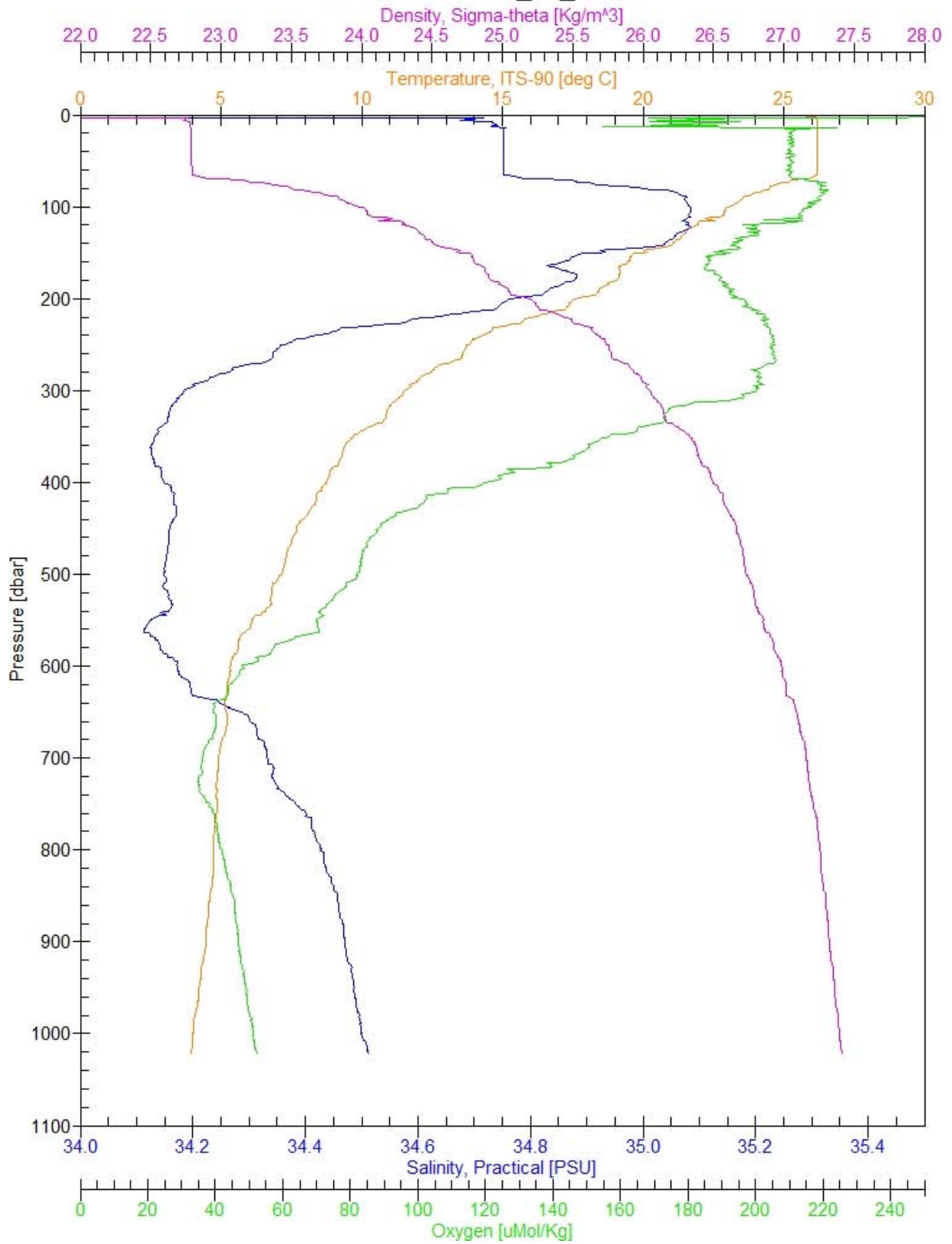
| Rosette Position | Desired Depth | Oxygen | Sample Temp. | DIC/Alk | pH | DOC | Nutrient | Refrig. Si | |
|------------------|---------------|----------|--------------|---------|-------|-------|----------|------------|--|
| 1 | 4800 | 15 | 3.5 | | | | 1 | 1 | |
| 2 | 4600 | 16 | 3.9 | | | | 2 | 2 | |
| 3 | 4500 | 17,18,19 | 4.1 | 3A-B | 1,2,3 | 3ABC | 3A-B | 3A-B | |
| 4 | 4400 | 20 | 3.5 | | | | 4 | 4 | |
| 5 | 4200 | 21 | 3.8 | | | | 5 | 5 | |
| 6 | 4000 | 22 | 4.0 | | | | 6 | 6 | |
| 7 | 3800 | 23,24,25 | 4.1 | | | 7ABC | 7A-B | 7A-B | |
| 8 | 3600 | 26 | 3.8 | | | | 8 | 8 | |
| 9 | 3400 | 27 | 3.8 | | | | 9 | 9 | |
| 10 | 3200 | 28 | 3.9 | | | | 10 | 10 | |
| 11 | 3000 | 29,30,31 | 4.4 | 11 | 4 | 11ABC | 11A-B | 11A-B | |
| 12 | 2800 | 32 | 4.0 | | | | 12 | 12 | |
| 13 | 2600 | 33 | 4.2 | | | | 13 | 13 | |
| 14 | 2400 | 34 | 4.5 | | | | 14 | 14 | |
| 15 | 2200 | 35 | 4.2 | | | | 15 | 15 | |
| 16 | 2000 | 36 | 4.5 | 16 | 5 | 16ABC | 16A-B | 16A-B | |
| 17 | 1800 | 37,38,39 | 5.2 | | | | 17 | 17 | |
| 18 | 1600 | 150 | 4.9 | | | | 18 | 18 | |
| 19 | 1400 | 41 | 5.1 | | | | 19 | 19 | |
| 20 | 1200 | 42 | 5.3 | | | | 20 | 20 | |
| 21 | 1000 | 43 | 6.0 | | | | 21 | 21 | |
| 22 | 750 | 44 | 6.5 | | | | 22 | 22 | |
| 23 | 500 | 45 | 8.7 | | | | 23 | 23 | |
| 24 | 5 | 46 | 24.1 | | | | 24 | | |

Notes:

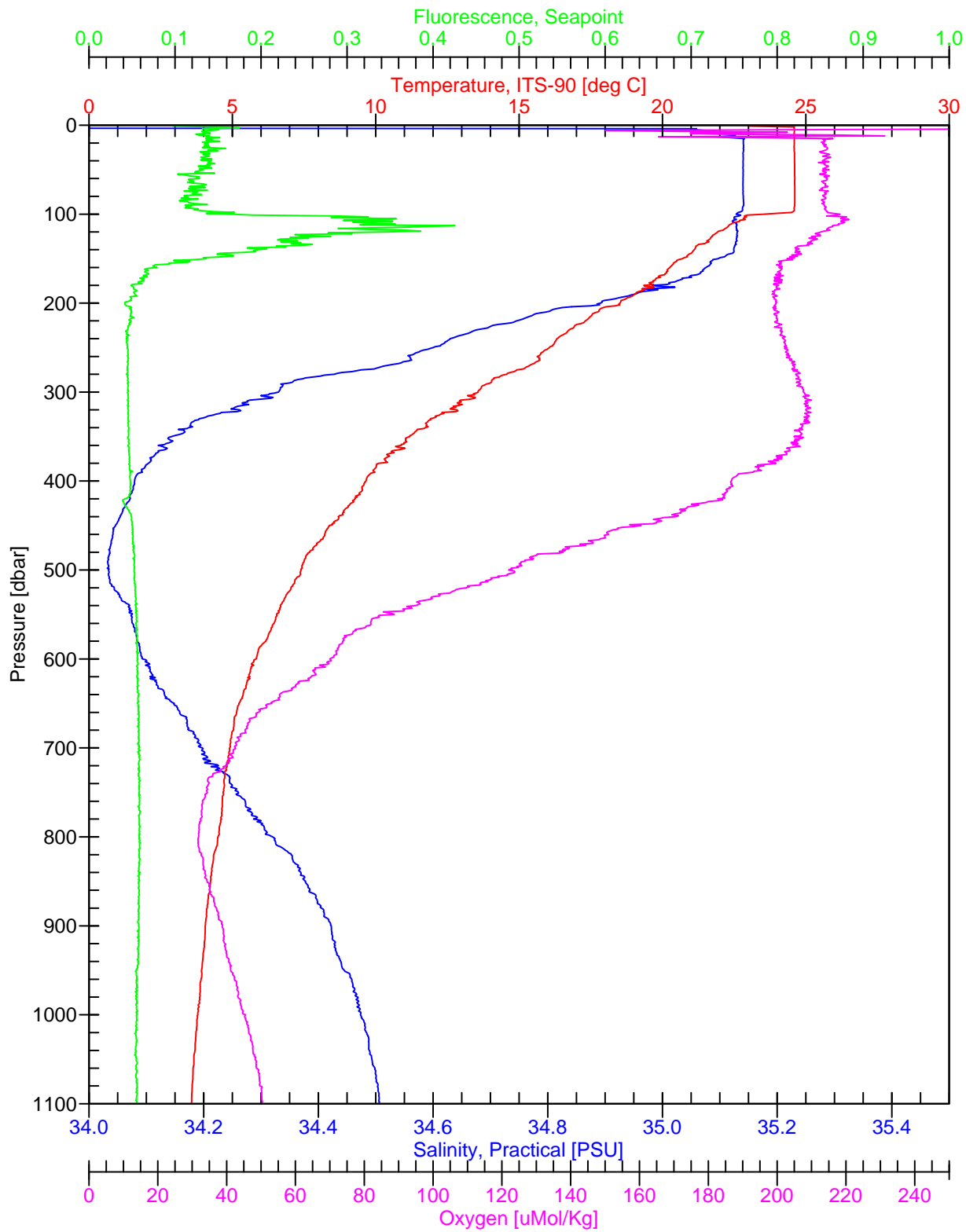
G-1000, hot-308_s1_c1.cnv



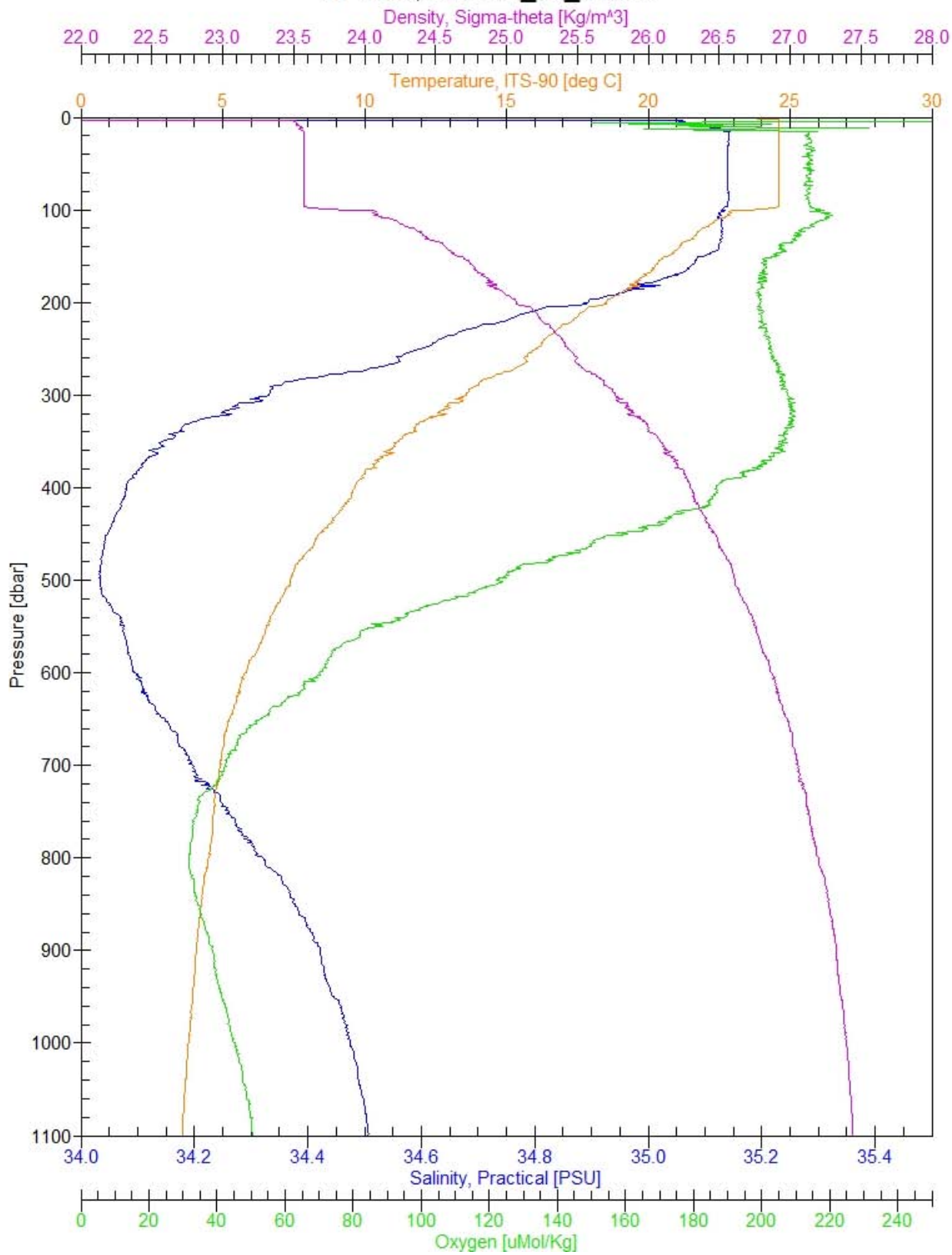
W-1000, hot-308_s1_c1.cnv



G-1000, hot-308_s2_c1.cnv



W-1000, hot-308_s2_c1.cnv



Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000GPS | 12L | 26.00 | TR, JS |

- Pinger
 Altimeter
 Transmissometer
 BEACH Sea Tech Fluorometer
 OTG Seapoint Fluorometer
 ISUS
 PO Fluorometer

MLD: 66 db
 DCM: 98 db
 Smin: 563 db

| | |
|---|--|
| Station: 1 | Cast: 1 |
| Latitude start: 21° 20.6083' end: 158° 16.4172' | Longitude start: 21° 20.5875 end: 158° 16.3958 |
| Depth of water: 1562 meters | Date (GMT): 12 / 10 / 18 |
| Pressure on Deck | Time: |
| Begin: 0.5146 | Start Log: 23:41 |
| End: 0.06 | In Water: 23:56 |
| Max cast pressure: 1021 dbar | Out of Water: 01:14:32 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|---|
| 1 | 00:27:24 | 00:27:54 | 1020 | 1020 | |
| 2 | | 00:36:55 | 749 | 750 | |
| 3 | | 00:45:15 | 501 | 500 | |
| 4 | | 50:15 | 348 | 350 | |
| 5 | | 54:40 | 249 | 250 | |
| 6 | | 57:15 | 199 | 200 | |
| 7 | | 59:10 | 173 | 175 | |
| 8 | | 01:01:00 | 151 | 150 | |
| 9 | | 02:35 | 125 | 125 | |
| 10 | | 05:10 | 100 | 100 | |
| 11 | | 07:00 | 76 | 75 | |
| 12 | | 08:45 | 44 | 45 | |
| 13 | | 10:10 | 25 | 25 | |
| 14 | | 11:55 | 7 | 5 | |
| 15 | | 12:00 | 5 | 5 | |
| 16 | | | | 5 | → NO WATER FOR SALT SAMPLE CLOSED FOR LEAK TESTING |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |

| Hawaii Ocean Time Series | | | Station #: | Cast #: | Box #: 2 |
|---------------------------|-------|----------|--------------------------------|---------|-------------------------|
| Salinity Sample Log Sheet | | | Cruise #: HOT-300 | | Sampler: TR, JS, KH, RO |
| Niskin # | Depth | Serial # | Comments | | |
| 1 | 1020 | 25 | | | |
| 2 | 750 | 26 | | | |
| 3 | 500 | 27 | | | |
| 4 | 350 | 28 | | | |
| 5 | 250 | 29 | | | |
| 6 | 200 | 30 | | | |
| 7 | 175 | 31 | | | |
| 8 | 150 | 32 | | | |
| 9 | 125 | 33 | | | |
| 10 | 100 | 34 | | | |
| 11 | 75 | 35 | | | |
| 12 | 45 | 36 | | | |
| 13 | 25 | 37 | | | |
| 14 | 5 | 38 | | | |
| 15 | 5 | 39 | ← NO WATER FOR SALINITY SAMPLE | | |
| 16 | - | - | No SAMPLE | | |
| 17 | - | - | ↓ | | |
| 18 | - | - | | | |
| 19 | - | - | | | |
| 20 | - | - | | | |
| 21 | - | - | | | |
| 22 | - | - | | | |
| 23 | - | - | | | |
| 24 | - | - | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G5000 GPS | 12L | 24.50 | TR, JS |

- Pinger
 Altimeter
 Transmissometer
 BEACH Sea Tech Fluorometer
 OTG Seapoint Fluorometer
 ISUS
 PO Fluorometer

WOCE
Deep

MLD: 97
DCM: 112
S_{min}: 495

Cast Bottom: 22° 45.0040' N, 158° 00.0082' W

| | |
|--|--|
| Station: 2 | Cast: 1 |
| Latitude start: 22° 44.9986' end: 22° 45.0018' | Longitude start: 158° 00.0073' end: 158 00.0119' |
| Depth of water: 4746 meters | Date (GMT): 12 / 11 / 18 |
| Pressure on Deck | Time: |
| Begin: 0.4031 End: -0.2499 | Start Log: 17:25 In Water: 17:49 |
| Max cast pressure: 4801 dbar | Out of Water: 22:39 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| 1 | | 20:29:35 | 4800 | 4800 | |
| 2 | | 20:35:59 | 4603 | 4600 | |
| 3 | | 20:39:34 | 4501 | 4500 | |
| 4 | | 20:43:05 | 4400 | 4400 | |
| 5 | | 20:48:12 | 4204 | 4200 | |
| 6 | | 20:53:45 | 4001 | 4000 | |
| 7 | | 20:59:12 | 3799 | 3800 | |
| 8 | | 21:04:45 | 3600 | 3600 | |
| 9 | | 21:09:48 | 3403 | 3400 | |
| 10 | | 21:14:55 | 3201 | 3200 | |
| 11 | | 21:20:20 | 3001 | 3000 | |
| 12 | | 21:25:30 | 2801 | 2800 | |
| 13 | | 21:30:45 | 2598 | 2600 | |
| 14 | | 21:37:00 | 2401 | 2400 | |
| 15 | | 21:42:45 | 2200 | 2200 | |
| 16 | | 21:46:15 | 2000 | 2000 | |
| 17 | | 21:53:30 | 1799 | 1800 | |
| 18 | | 21:58:45 | 1599 | 1600 | |
| 19 | | 22:03:30 | 1401 | 1400 | |
| 20 | | 22:08:21 | 1201 | 1200 | |
| 21 | | 22:13:29 | 1001 | 1000 | |
| 22 | | 22:19:23 | 749 | 750 | |
| 23 | | 22:25:10 | 501 | 500 | |
| 24 | | 22:35:49 | 5 | 5 | |

| Hawaii Ocean Time Series | | | Station #: 2 | Cast #: 1 | Box #: 3 |
|---------------------------|-------|----------|-------------------|-----------|-------------------------|
| Salinity Sample Log Sheet | | | Cruise #: HOT-308 | | Sampler: KH, JS, TR, RO |
| Niskin # | Depth | Serial # | Comments | | |
| 1 | 4800 | 49 | | | |
| 2 | 4600 | 50 | | | |
| 3 | 4500 | 51 | | | |
| 4 | 4400 | 52 | | | |
| 5 | 4200 | 53 | | | |
| 6 | 4000 | 54 | | | |
| 7 | 3800 | 55 | | | |
| 8 | 3600 | 56 | | | |
| 9 | 3400 | 57 | | | |
| 10 | 3200 | 58 | | | |
| 11 | 3000 | 59 | | | |
| 12 | 2800 | 60 | | | |
| 13 | 2600 | 61 | | | |
| 14 | 2400 | 62 | | | |
| 15 | 2200 | 63 | | | |
| 16 | 2000 | 64 | | | |
| 17 | 1800 | 65 | | | |
| 18 | 1600 | 66 | | | |
| 19 | 1400 | 67 | | | |
| 20 | 1200 | 68 | | | |
| 21 | 1000 | 69 | | | |
| 22 | 750 | 70 | | | |
| 23 | 500 | 71 | | | |
| 24 | 5 | 72 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

HOT - 308

KM 18-23

CTD Configuration

CTD: 91361 (Beta)

Deck Unit: 112060 (secondary)

Pressure: 75434

Carousel: 518

T₁: 1416 T₂: 5519C₁: 4687 C₂: 3984O₁: 43918 O₂: 1601Pump₁: 968 Pump₂: 494

Fluorometer: SCF 3831

Altimeter: 7769

Bucket Thermometer: 3622

Transmissometer: 1192

Cruise Participants:

K. Babcock

Julianna Diehl - OTG

K. Björkman

Rob Palomares - OTG

M. Burgos

T. Burrell

D. Fitzgerald

C. Funkey

Kyla Hermann (UH. Education specialist)

Ross Langston (WCC, Professor)

S. Natarov

Rebecca O'Kusky (Volunteer)

T. Rohrer

D. Sadler

F. Santiago-Mandujano (Chief Scientist)

E. Shimabukuro

Michelle Smith (WCC, Lecturer)

J. Snyder

R. Tabata

B. Watkins

Loading Day 12/17/18

.322 WIRE 260 METERS

CLEAR CONDUCTOR 263 Ω

We need an additional
clipboard in the
Admin box

19 brand new Bullister bottles
installed in the rosette.
See bottle config. sheet.

- 681 WIRE, RED + BLACK (ARMOR)
R = 35 Ω

The 0538 ADCP is not working,
its deck box is down, only
the WH 300 is available

HOT-308

10 Dec 2018

- 18:50 Depart Snug Harbor
- 19:25 Pre-cruise Meeting
- 19:40 Safety Drill - Abandon Ship
- 21:35 Arrive Station Kahe
- 21:55 Start Weight Cast - $21^{\circ} 20.5764' N$, $158^{\circ} 16.3943' W$
 IN AIR WEIGHT: N/A → Winch readout not working
 IN WATER WEIGHT: N/A →
- 22:30 End Weight Cast - $21^{\circ} 20.5891' N$, $158^{\circ} 16.3916' W$
- 22:40 Begin Hyperpro - $21^{\circ} 20.5884' N$, $158^{\circ} 16.3934' W$
 (Current was 0.5 kts, ship moved ahead ~ 0.5 kts)
- 23:16 End Hyperpro - $21^{\circ} 20.4765' N$, $158^{\circ} 16.0364' W$
 depth, tension
- 23:20 Continuing Troubleshooting on Winch Readout
- 23:55 Begin Station 1 Cast 1, G1000 GPS. $21^{\circ} 20.6085' N$, $158^{\circ} 16.4172' W$
 Winch readout remains broken. No air/water weights possible.
 Drone filmed deployment for Windward Community College.
11 Dec 2018
- 1:15 End station 1 cast 1, G 1000 GPS.
 24 marks OK. Need to remove marks 16 to 24
- 1:25 TRANSIT TO ALOHA STATION.
- Checked bottles 16 to 24 for leaks. All of them passed vacuum test
- Will switch to trawl winch for CTD work, because can't get tension display/recording from Dynacon winch

0950

12:40

17:00

17:34

20:29

20:49

22:39

0100

HOT-308 11 December 2018

- 150 Arrived at Station ALOHA
Winds have been 25-30 kt during transit
- 2:40 Due to high winds and waves, wirewalker and sediment traps were not deployed. Primary Productivity cast was not performed either, so PP array was also not deployed.
- 7:00 Returned to center Station ALOHA and evaluated sea state.
- 7:34 Begin Station 2 Cast 1 - $22^{\circ} 44.9986' N$, $158^{\circ} 00.0073' W$
IN AIR WEIGHT (EMPTY): 850 lbs
IN WATER WEIGHT: 650 lbs
IN AIR WEIGHT (FULL): 1475 lbs
- 20:29 Bottom of Cast Position: $22^{\circ} 45.0040' N$, $158^{\circ} 00.0082' W$
7801 dbar, ~12m off bottom
- 20:49 Shipboard ADCP stopped working (not logging data) at 17:04. Restarted 20:49.
- 2:39 End Station 2 Cast 1 - $22^{\circ} 45.0018' N$, $158^{\circ} 00.0119' W$
24 Marks OK.

12 DECEMBER 2018

- 100 SAFETY ISSUE WITH THE A-FRAME FLAG BLOCK COUNTER WEIGHT. IT IS RUSTED AT A ELBOW WELD, ON THE VERGE OF BREAKING. TRANST TO H.H.

050

1735

HOT-308 12 December 2018

0501

TRANSMISSOMETER CALIBRATION

DARK V: 0.06960

Light V: 4.62109 VOLTS

- VOLTAGE 7

recorded in 599c1

735

Arrived to Pier 35, first line
End of cruise