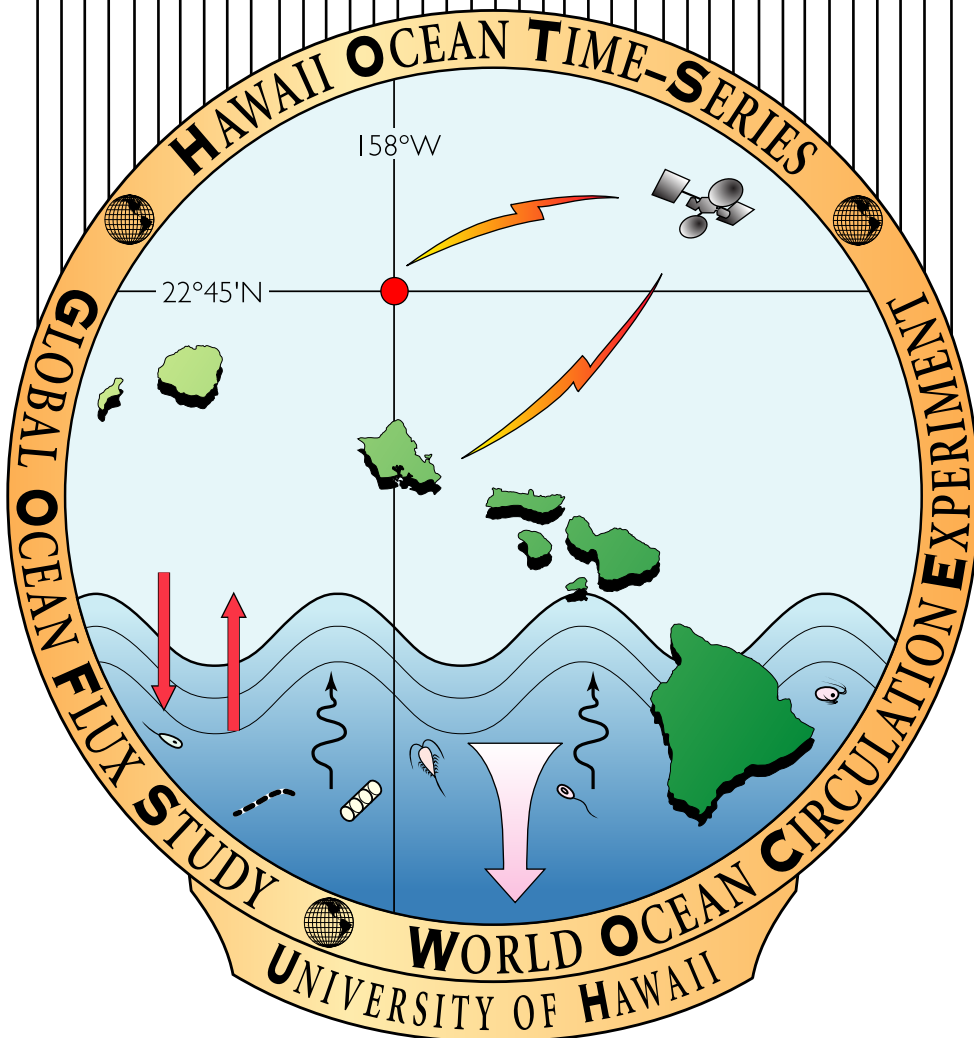


Hawaii Ocean Time-series Program

HOT 285



Hawaii Ocean Time-Series

HOT-285

KAHE Station Data Sheet

Station # 1
 Cast # 1
 Operator(s): AN DS BW JB TC SC BM GA ES

Date: 7/10/16 (HST)
 Time: 1400 (HST)

| Rosette Position | Desired Depth | Oxygen | Sample Temp. | DIC/Alk | pH | DOC | Nuts | LLN/LLP | Chl <i>a</i> | FCM |
|------------------|---------------|----------|--------------|---------|-------|-----|-------|---------|--------------|-------|
| 1 | 1000 | 1 | 6.7 | | | | 1 | | | |
| 2 | 900 | 2 | 7.1 | | | | 2 | | | |
| 3 | 800 | 3 | 7.3 | | | | 3 | | | |
| 4 | 750 | 4,125,6 | 8.1 | | | | 4A-B | | | |
| 5 | 700 | 7 | 7.9 | | | | 5 | | | |
| 6 | 600 | 8 | 8.5 | | | | 6 | | | |
| 7 | 500 | 9 | 9.6 | | | 7 | 7 | | | |
| 8 | 400 | 10 | 10.8 | | | | 8 | | | |
| 9 | 350 | 11 | 12.2 | | | 9 | 9A-B | | | |
| 10 | 300 | 12 | 13.8 | | | | 10 | | | |
| 11 | 250 | 13 | 15.4 | | | | 11 | | | |
| 12 | 225 | 14 | 16.1 | | | | 12 | | | |
| 13 | 200 | 124 | 17.2 | | | 13 | 13 | | | |
| 14 | 175 | 16 | 19.1 | | | 14 | 14 | | 14 | 14A-B |
| 15 | 150 | 17 | 20.1 | | | 15 | 15 | 15 | 15 | 15A-B |
| 16 | 125 | 18 | 20.9 | | | 16 | 16A-B | | 16 | 16A-B |
| 17 | 115 | 19 | 21.5 | | | | 17 | | | |
| 18 | 100 | 20,21,22 | 22.9 | | | 18 | 18 | 18 | 18A-B | 18A-B |
| 19 | 75 | 23 | 24.7 | | | 19 | 19 | | 19 | 19A-B |
| 20 | 60 | 24 | 25.3 | | | | 20 | | | |
| 21 | 45 | 25 | 25.6 | 21 | 1 | 21 | 21 | 21 | 21 | 21A-B |
| 22 | 25 | 26 | 25.9 | 22 | 2 | 22 | 22 | | 22A-B | 22A-B |
| 23 | 5 | 27 | 26.2 | 23 | 3,4,5 | 23 | 23 | 23 | 23 | 23A-B |
| 24 | 5 | QC | 26.4 | | | | | | | |

Notes:

Hawaii Ocean Time-series

HOT-285

Primary Production Data Sheet

Station # 2
 Cast # 1
 Operator(s): AN, DS, BW, TC, JB

Date: 07-11-16 (HST)
 Time: 0330 (HST)

| Rosette Position | Desired Depth | Light Bottle | Chl <i>a</i> | FCM | SFS pb | | |
|------------------|---------------|--------------|--------------|------|--------|--|--|
| 1 | 175 | | 1A-B | 1A-B | | | |
| 2 | 150 | | 2A-B | 2A-B | | | |
| 3 | 125 | 3-1 | 3 | 3 | X | | |
| 4 | 125 | 3-2 | 4 | 4 | X | | |
| 5 | 125 | 3-3 | 5 | 5 | X | | |
| 6 | 100 | 4-1 | 6 | 6 | X | | |
| 7 | 100 | 4-2 | 7 | 7 | X | | |
| 8 | 100 | 4-3 | 8 | 8 | X | | |
| 9 | 75 | 5-1 | 9 | 9 | X | | |
| 10 | 75 | 5-2 | 10 | 10 | X | | |
| 11 | 75 | 5-3 | 11 | 11 | X | | |
| 12 | 45 | 6-1 | 12 | 12 | X | | |
| 13 | 45 | 6-2 | 13 | 13 | X | | |
| 14 | 45 | 6-3 | 14 | 14 | X | | |
| 15 | 25 | 7-1 | 15 | 15 | X | | |
| 16 | 25 | 7-2 | 16 | 16 | X | | |
| 17 | 25 | 7-3 | 17 | 17 | X | | |
| 18 | 5 | 8-1 | 18 | 18 | X | | |
| 19 | 5 | 8-2 | 19 | 19 | X | | |
| 20 | 5 | 8-3 | 20 | 20 | X | | |
| 21 | | | | | | | |
| 22 | | | | | | | |
| 23 | | | | | | | |
| 24 | | | | | | | |

Notes:

Hawaii Ocean Time-series

HOT-285

WOCE Deep Data Sheet

Station # 2
 Cast # 2
 Operator(s): AN DS BW TC JB

Date: 7/11/16 (HST)
 Time: 0545 (HST)

| Rosette Position | Desired Depth | Oxygen | Sample Temp. | DIC/Alk | pH | DOC | Nutrient | Refrig. Si | |
|------------------|---------------|----------|--------------|---------|-------|-------|----------|------------|--|
| 1 | 4800 | 28 | 5.6 | | | | 1 | 1 | |
| 2 | 4600 | 29 | 5.7 | | | | 2 | 2 | |
| 3 | 4500 | 30,31,32 | 6.5 | 3A-B | 1,2,3 | 3ABC | 3A-B | 3A-B | |
| 4 | 4400 | 33 | 5.9 | | | | 4 | 4 | |
| 5 | 4200 | 34 | 5.8 | | | | 5 | 5 | |
| 6 | 4000 | 35,36,37 | 7.0 | | | 6ABC | 6A-B | 6A-B | |
| 7 | 3800 | 38 | 6.0 | | | | 7 | 7 | |
| 8 | 3600 | 39 | 6.6 | | | | 8 | 8 | |
| 9 | 3400 | 40 | 5.9 | | | | 9 | 9 | |
| 10 | 3200 | 41 | 5.9 | | | | 10 | 10 | |
| 11 | 3000 | 42,43,44 | 7.0 | 11 | 4 | 11ABC | 11A-B | 11A-B | |
| 12 | 2800 | 45 | 6.0 | | | | 12 | 12 | |
| 13 | 2600 | 46 | 6.2 | | | | 13 | 13 | |
| 14 | 2400 | 47 | 6.2 | | | | 14 | 14 | |
| 15 | 2200 | 48 | 6.5 | | | | 15 | 15 | |
| 16 | 2000 | 49,50,51 | 7.2 | 16 | 5 | 16ABC | 16A-B | 16A-B | |
| 17 | 1800 | 52 | 6.7 | | | | 17 | 17 | |
| 18 | 1600 | 53 | 7.0 | | | | 18 | 18 | |
| 19 | 1400 | 54 | 7.4 | | | | 19 | 19 | |
| 20 | 1200 | 55 | 7.7 | | | | 20 | 20 | |
| 21 | 1000 | 56 | 8.1 | | | | 21 | 21 | |
| 22 | 750 | 57 | 8.8 | | | | 22 | 22 | |
| 23 | 500 | 58 | 11.0 | | | | 23 | 23 | |
| 24 | 5 | 59 | 25.6 | | | | 24 | | |

Notes: squirt boom malfunction, package sat at 10m for fifteen minutes until it was resolved

Hawaii Ocean Time-series

HOT-285

PO Shallow Data Sheet

Station # 2
 Cast # 3
 Operator(s): AN DS BW TC JB

Date: 7/11/16 (HST)
 Time: 1100 (HST)

| Rosette Position | Desired Depth | Oxygen | Sample Temp. | DIC/Alk | pH | DOC | Nutrient | Refrig. Si | |
|------------------|---------------|----------|--------------|---------|-----|-----|----------|------------|--|
| 1 | 1020 | 60,61,62 | 6.7 | 1 | 1 | 1 | 1A-B | 1A-B | |
| 2 | 960 | 63 | 6.7 | | | | 2 | 2 | |
| 3 | 899 | 64 | 6.8 | | | | 3 | 3 | |
| 4 | 850 | 65 | 7.0 | | | | 4 | 4 | |
| 5 | 798 | 141 | 7.3 | | | | 5 | 5 | |
| 6 | 752 | 67,68,69 | 7.7 | 6 | 2 | 6 | 6 | 6 | |
| 7 | 706 | 70 | 7.6 | | | | 7 | 7 | |
| 8 | 647 | 71 | 8.0 | | | | 8 | 8 | |
| 9 | 604 | 72 | 8.0 | 9 | 3 | 9 | 9 | 9 | |
| 10 | 552 | 73 | 8.7 | | | | 10 | 10 | |
| 11 | 513 | 74 | 9.1 | | | | 11A-B | 11A-B | |
| 12 | 505 | 75 | 9.3 | 12 | 4 | 12 | 12 | 12 | |
| 13 | 440 | 76,77,78 | 11.0 | | | | 13 | 13 | |
| 14 | 384 | 79 | 11.9 | | | | 14 | 14 | |
| 15 | 352 | 80 | 13.0 | 15A-B | 5,6 | 15 | 15 | 15 | |
| 16 | 290 | 81 | 15.3 | | | | 16 | 16 | |
| 17 | 261 | 82 | 16.7 | 17 | 7 | 17 | 17 | 17 | |
| 18 | 204 | 83,84,85 | 20.0 | | | | 18 | 18 | |
| 19 | 152 | 86 | 22.2 | | | | 19A-B | | |
| 20 | 115 | 87 | 23.2 | | | | 20 | | |
| 21 | 103 | 88 | 23.7 | | | | 21 | | |
| 22 | 79 | 89 | 24.7 | | | | 22 | | |
| 23 | 42 | 90 | 25.6 | | | | 23 | | |
| 24 | 5 | 91 | 25.8 | | | | 24 | | |

Notes:

Hawaii Ocean Time-series

HOT- **285**

PC/PN Data Sheet

Station # 2 Date: 7/11/16 (HST)
 Cast # 4 Time: 1430 (HST)
 Operator(s): SC, BM, GA, ES, EK Pre-screen mesh size: 202 um
 Blank #'s B1 B2 B3

| Rosette Position | Desired Depth | Carboy # | Total Volume | Sample # | DNA | SF-S | |
|------------------|----------------|----------|--------------|----------|-----|------|--|
| 1 | 1000 | | | | | | |
| 2 | Sal min | | | | | | |
| 3 | 350 | 1 | 10 | 3 | | | |
| 4 | 350 | 2 | 10 | 4 | | | |
| 5 | 250 | 3 | 10 | 5 | | | |
| 6 | 200 | 4 | 10 | 6 | | | |
| 7 | 175 | 5 | 10 | 7 | | | |
| 8 | 150 | 6 | 10 | 8 | | | |
| 9 | 125 | 7,8 | 4,4 | 9A-B | | | |
| 10 | 125 | | | | | X | |
| 11 | 100 | 9 | 4 | 11 | | | |
| 12 | 100 | | | | | X | |
| 13 | 75 | 10 | 4 | 13 | | | |
| 14 | 75 | | | | X | | |
| 15 | 75 | | | | | X | |
| 16 | 45 | 11 | 4 | 16 | | | |
| 17 | 45 | | | | X | | |
| 18 | 45 | | | | | X | |
| 19 | 25 | 12,13 | 4,4 | 19A-B | | | |
| 20 | 25 | | | | X | | |
| 21 | 25 | | | | | X | |
| 22 | 5 | 14 | 4 | 22 | | | |
| 23 | 5 | | | | X | | |
| 24 | 5 | | | | | X | |

Notes:

Hawaii Ocean Time-series

HOT- 285

Particulate Phosphorus Data Sheet

Station # 2 Date: 07-11-16 (HST)
 Cast # 5 Time: 1700 (HST)
 Operator(s): SC, BM, ES, GA Pre-screen mesh size: 202 um
 Blank #'s B1 B2 B3

| Rosette Position | Desired Depth | Carboy # | Total Volume | Sample # | SF-S | | |
|------------------|----------------|----------|--------------|----------|------|--|--|
| 1 | 1000 | | | | | | |
| 2 | Sal min | | | | | | |
| 3 | 350 | 1 | 10 | 3 | | | |
| 4 | 350 | 2 | 10 | 4 | | | |
| 5 | 250 | 3 | 10 | 5 | | | |
| 6 | 200 | 4 | 10 | 6 | | | |
| 7 | 175 | 5 | 10 | 7 | | | |
| 8 | 150 | 6 | 10 | 8 | | | |
| 9 | 125 | 7,8 | 4,4 | 9A-B | | | |
| 10 | 100 | 9 | 4 | 10 | | | |
| 11 | 75 | 11 | 4 | 11 | | | |
| 12 | 45 | 10 | 4 | 12 | | | |
| 13 | 25 | 12,13 | 4,4 | 13A-B | | | |
| 14 | 25 | | | | X | | |
| 15 | 5 | 14 | 4 | 15 | | | |
| 16 | 5 | | | | X | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |
| 21 | | | | | | | |
| 22 | | | | | | | |
| 23 | | | | | | | |
| 24 | | | | | | | |

Notes: Sample #10 filter was dropped on shelf.

Hawaii Ocean Time-series

HOT-285

BEACH Shallow Data Sheet (1/2)

Station # 2
 Cast # 6
 Operator(s): SC, BM, ES, GA

Date: 07-11-16 (HST)
 Time: 2000 (HST)

| Rosette Position | Desired Depth | Oxygen | Sample Temp. | DIC/ALK | Quay DIC | Keeling DIC | SF-S | pH | DOC |
|------------------|--------------------------|-------------|--------------|---------|----------|-------------|-------|-----|-----|
| 1 | 1000 | 92 | 6.9 | | | | | | |
| 2 | O₂ min | 93 | 7.9 | | | | | | |
| 3 | Sal min | 94 | 9.9 | | | | | | |
| 4 | 200 | 95 | 20.0 | 4 | | | | 1 | 4 |
| 5 | 175 | 96 | 21.6 | | | | | | 5 |
| 6 | 165 | 97 | 22.1 | | | | | | |
| 7 | 150 | 98 | 22.6 | 7 | | | | 2 | 7 |
| 8 | 130 | | | | | | | | |
| 9 | 125 | 99 | 23.3 | | | | | | 9 |
| 10 | 115 | 100 | 23.7 | | | | | | |
| 11 | 110 | | | | | | | | |
| 12 | 100 | 101,102,103 | 24.0 | 12 | | | | 3 | 12 |
| 13 | 90 | | | | | | | | |
| 14 | 85 | 104 | 24.6 | | | | | | |
| 15 | 75 | 105 | 25.1 | 15 | | | | 4 | 15 |
| 16 | 60 | | | | | | | | 16 |
| 17 | 45 | 106 | 25.6 | 17 | | | | 5 | 17 |
| 18 | 35 | | | | | | | | 18 |
| 19 | 25 | 107 | 25.7 | 19 | | | | 6 | 19 |
| 20 | 25 | | | | 20 | | 20A-B | | |
| 21 | 25 | | | | | | | | 21 |
| 22 | 5 | 108 | 25.7 | 22A-B | | | | 7,8 | 22 |
| 23 | 5 | | | | 23 | 23A-B | | | |
| 24 | 5 | | | | | | 24A-B | | |

Notes: Console Error; bottle 21 fired at 25m not 15m.

**Keeling 23A = 21:43:00
 23B = 21:45:53**

Hawaii Ocean Time-series

HOT-285

BEACH Shallow Data Sheet (2/2)

Station # 2
 Cast # 6
 Operator(s): SC, BM, ES, GA

Date: 07-11-16 (HST)
 Time: 2000 (HST)

| Rosette Position | Desired Depth | Nutrient | Refrig. Si | LLN | LLP | | | |
|------------------|--------------------------|----------|------------|-------|-----|--|--|--|
| 1 | 1000 | | | | | | | |
| 2 | O₂ min | | | | | | | |
| 3 | Sal min | | | | | | | |
| 4 | 200 | 4 | 4 | | | | | |
| 5 | 175 | 5 | | 5 | 5 | | | |
| 6 | 165 | | | 6 | | | | |
| 7 | 150 | 7 | | 7A-B | 7 | | | |
| 8 | 130 | | | 8 | | | | |
| 9 | 125 | 9A-B | | 9 | 9 | | | |
| 10 | 115 | | | 10 | 10 | | | |
| 11 | 110 | | | 11 | | | | |
| 12 | 100 | 12 | | 12A-B | 12 | | | |
| 13 | 90 | | | 13 | | | | |
| 14 | 85 | | | 14 | 14 | | | |
| 15 | 75 | 15 | | 15 | 15 | | | |
| 16 | 60 | 16 | | 16 | 16 | | | |
| 17 | 45 | 17A-B | | 17 | 17 | | | |
| 18 | 35 | 18 | | 18 | | | | |
| 19 | 25 | 19 | | 19 | 19 | | | |
| 20 | 25 | | | | | | | |
| 21 | 15 | 21 | | 21 | | | | |
| 22 | 5 | 22 | | 22A-B | 22 | | | |
| 23 | 5 | | | | | | | |
| 24 | 5 | | | | | | | |

Notes:

Hawaii Ocean Time-series

HOT-285

PUR Data Sheet

Station # 2

Date: 07-11-16 (HST)

Cast # 7

Time: 2325 (HST)

Operator(s): SC, BM, ES, GA

| Rosette Position | Desired Depth | Carboy # | Total Volume | PUR | SF-S | DNA | | |
|------------------|----------------|----------|--------------|-------|------|-----|--|--|
| 1 | 1000 | | | | | | | |
| 2 | Sal Min | | | | | | | |
| 3 | 175 | 1 | 10 | 3 | | | | |
| 4 | 175 | | | | | X | | |
| 5 | 150 | 2 | 10 | 5 | | | | |
| 6 | 150 | | | | | X | | |
| 7 | 125 | 7,8 | 4,4 | 7A-B | | | | |
| 8 | 125 | | | | | X | | |
| 9 | 100 | 9 | 4 | 9 | | | | |
| 10 | 100 | | | | | X | | |
| 11 | 75 | 10 | 4 | 11 | | | | |
| 12 | 45 | 11,12 | 4,4 | 12A-B | | | | |
| 13 | 25 | 3 | 10 | 13 | | | | |
| 14 | 25 | | | | X | | | |
| 15 | 5 | 4 | 10 | 15 | | | | |
| 16 | 5 | | | | X | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | | | | | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |

Notes:

Hawaii Ocean Time-series

HOT- 285

Gas Array Experiment Data Sheet

Station # 2
 Cast # 8
 Operator(s): AN DS BW

Date: 07-12-16 (HST)
 Time: 0200 (HST)

| Rosette Position | Desired Depth | 15N2 | SF-S | | | | |
|------------------|----------------|------|------|--|--|--|--|
| 1 | 1000 | | | | | | |
| 2 | Sal Min | | | | | | |
| 3 | 125 | X | | | | | |
| 4 | 125 | X | | | | | |
| 5 | 125 | X | | | | | |
| 6 | 100 | X | | | | | |
| 7 | 100 | X | | | | | |
| 8 | 100 | X | | | | | |
| 9 | 75 | X | | | | | |
| 10 | 75 | X | | | | | |
| 11 | 75 | X | | | | | |
| 12 | 45 | X | | | | | |
| 13 | 45 | X | | | | | |
| 14 | 45 | X | | | | | |
| 15 | 25 | X | | | | | |
| 16 | 25 | X | | | | | |
| 17 | 25 | X | | | | | |
| 18 | 25 | | X | | | | |
| 19 | 5 | X | | | | | |
| 20 | 5 | X | | | | | |
| 21 | 5 | X | | | | | |
| 22 | 5 | | X | | | | |
| 23 | | | | | | | |
| 24 | | | | | | | |

Notes:

Hawaii Ocean Time-series

HOT-285

OPEN CAST Data Sheet

Station # 2
 Cast # 9
 Operator(s): AN DS BW TC JB EK

Date: 7/12/16 (HST)
 Time: 0500 (HST)

| Rosette Position | Desired Depth | Salts | SF-S | DNA | EK | | |
|------------------|----------------|-------|------|-----|----|--|--|
| 1 | 1000 | X | | | | | |
| 2 | Sal Min | X | | | | | |
| 3 | 275 | | | X | | | |
| 4 | 250 | | | X | | | |
| 5 | 225 | | | X | | | |
| 6 | 200 | | | X | | | |
| 7 | 150 | | | | X | | |
| 8 | 150 | | | | X | | |
| 9 | 150 | | | | X | | |
| 10 | 150 | | | | X | | |
| 11 | 150 | | | | X | | |
| 12 | 150 | | | | X | | |
| 13 | 150 | | | | X | | |
| 14 | 150 | | | | X | | |
| 15 | 150 | | | | X | | |
| 16 | 150 | | | | X | | |
| 17 | 150 | | | | X | | |
| 18 | 150 | | | | X | | |
| 19 | 150 | | | | X | | |
| 20 | 150 | | | | X | | |
| 21 | 150 | | | | X | | |
| 22 | 150 | | | | X | | |
| 23 | 25 | | X | | | | |
| 24 | 5 | X | X | | | | |

Notes:

Hawaii Ocean Time-series

HOT- 285

Particulate Silica Data Sheet

Station # 2 Date: 7/12/16 (HST)
 Cast # 10 Time: 0830 (HST)
 Operator(s): AN DS BW TC JB Pre-screen mesh size: none
 Blank # **B1, B2, B3**

| Rosette Position | Desired Depth | Carboy # | Total Volume | Sample # | SF-S | KW-B | |
|------------------|----------------|----------|--------------|----------|------|------|--|
| 1 | 1000 | | | | | | |
| 2 | Sal min | | | | | | |
| 3 | 175 | 7 | 4 | 3 | | | |
| 4 | 150 | 8 | 4 | 4 | | | |
| 5 | 125 | 9,10 | 4,4 | 5A-B | | | |
| 6 | 100 | 11 | 4 | 6 | | | |
| 7 | 75 | 12 | 4 | 7 | | | |
| 8 | 45 | 13 | 4 | 8 | | | |
| 9 | 45 | | | | | X | |
| 10 | 25 | 14,15 | 4,4 | 10A-B | | | |
| 11 | 25 | | | | | X | |
| 12 | 25 | | | | X | | |
| 13 | 5 | 16 | 4 | 13 | | | |
| 14 | 5 | | | | | X | |
| 15 | 5 | | | | X | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |
| 21 | | | | | | | |
| 22 | | | | | | | |
| 23 | | | | | | | |
| 24 | | | | | | | |

Notes:

Hawaii Ocean Time-series

HOT- 285

OPEN Data Sheet

Station # 2
 Cast # 11
 Operator(s): AN DS BW TC JB

Date: 7/12/16 (HST)
 Time: 1100 (HST)

| Rosette Position | Desired Depth | Salts | SF-S | SF-S | | | |
|------------------|----------------|-------|------|------|--|--|--|
| 1 | 1000 | X | | | | | |
| 2 | 800 | | | X | | | |
| 3 | 800 | | | X | | | |
| 4 | 600 | | | X | | | |
| 5 | 600 | | | X | | | |
| 6 | Sal Min | X | | | | | |
| 7 | 400 | | | X | | | |
| 8 | 400 | | | X | | | |
| 9 | 200 | | | X | | | |
| 10 | 200 | | | X | | | |
| 11 | 150 | | | X | | | |
| 12 | 150 | | | X | | | |
| 13 | 100 | | | X | | | |
| 14 | 100 | | | X | | | |
| 15 | 75 | | | X | | | |
| 16 | 75 | | | X | | | |
| 17 | 45 | | | X | | | |
| 18 | 45 | | | X | | | |
| 19 | 25 | | | X | | | |
| 20 | 25 | | | X | | | |
| 21 | 25 | | X | | | | |
| 22 | 5 | | | X | | | |
| 23 | 5 | | | X | | | |
| 24 | 5 | | X | | | | |

Notes:

Hawaii Ocean Time-series

HOT- 285

ATP Data Sheet

Station # 2 Date: 7/12/16 (HST)
 Cast # 12 Time: 1400 (HST)
 Operator(s): SC BM ES GA Pre-screen mesh size: 202um
 Blank #'s 28, 29, 30

| Rosette Position | Desired Depth | ATP Tube #'s | Volume Filtered | Carboy # | SF-S | DNA | |
|------------------|----------------|--------------|-----------------|----------|------|-----|--|
| 1 | 1000 | | | | | | |
| 2 | 770 | | | | | X | |
| 3 | 770 | | | | | X | |
| 4 | Sal min | | | | | | |
| 5 | 500 | | | | | X | |
| 6 | 500 | | | | | X | |
| 7 | 400 | | | | | X | |
| 8 | 400 | | | | | X | |
| 9 | 350 | 1 – 3 | 3x2 | 1 | | | |
| 10 | 300 | | | | | X | |
| 11 | 300 | | | | | X | |
| 12 | 250 | 4 – 6 | 3x2 | 2 | | | |
| 13 | 150 | 7 – 9 | 3x1 | 7 | | | |
| 14 | 125 | 10 – 12 | 3x1 | 8 | | | |
| 15 | 125 | | | | X | | |
| 16 | 100 | 13 – 15 | 3x1 | 9 | | | |
| 17 | 75 | 16 – 18 | 3x1 | 10 | | | |
| 18 | 45 | 19 – 21 | 3x1 | 11 | | | |
| 19 | 25 | | | | X | | |
| 20 | 25 | 22 – 24 | 3x1 | 12 | | | |
| 21 | 25 | | | | X | | |
| 22 | 5 | 25 - 27 | 3x1 | 13 | | | |
| 23 | 5 | | | | X | | |
| 24 | | | | | | | |

Notes:

Hawaii Ocean Time-series

HOT-285

OPEN CAST Data Sheet

Station # 2
 Cast # 13
 Operator(s): SC, BM, ES, GA

Date: 07-12-16 (HST)
 Time: 1700 (HST)

| Rosette Position | Desired Depth | MC | SW | SF-S | | | |
|------------------|----------------|----|----|------|--|--|--|
| 1 | 1000 | | | | | | |
| 2 | 700 | | X | | | | |
| 3 | Sal Min | | | | | | |
| 4 | 175 | X | X | | | | |
| 5 | 150 | X | X | | | | |
| 6 | 125 | X | X | | | | |
| 7 | 100 | X | X | | | | |
| 8 | 75 | X | X | | | | |
| 9 | 45 | X | X | | | | |
| 10 | 25 | X | X | | | | |
| 11 | 25 | | | X | | | |
| 12 | 5 | X | X | | | | |
| 13 | 5 | | | X | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |
| 21 | | | | | | | |
| 22 | | | | | | | |
| 23 | | | | | | | |
| 24 | | | | | | | |

Notes:

Hawaii Ocean Time-series

HOT-285

HPLC & Chl *a.* Bottle Data Sheet

Station # 2
 Cast # 14
 Operator(s): SC BM ES GA

Date: 07-12-16 (HST)
 Time: 2000 (HST)

| Rosette Position | Desired Depth | Carboy # | Total Volume | HPLC | Chl <i>a.</i> | SLIDES | | |
|------------------|----------------|----------|--------------|-------|---------------|--------|--|--|
| 1 | 1000 | | | | | | | |
| 2 | Sal min | | | | | | | |
| 3 | 175 | 1 | 10 | 3 | 3 | | | |
| 4 | 175 | | | | | X | | |
| 5 | 150 | 2 | 10 | 5 | 5 | | | |
| 6 | 150 | | | | | X | | |
| 7 | 135 | 7 | 4 | 7 | 7A-B | | | |
| 8 | 125 | 8,9 | 4,4 | 8A-B | 8 | | | |
| 9 | 125 | | | | | X | | |
| 10 | 115 | 10 | 4 | 10 | 10 | | | |
| 11 | 100 | 11 | 4 | 11 | 11 | | | |
| 12 | 100 | | | | | X | | |
| 13 | 85 | 12 | 4 | 13 | 13 | | | |
| 14 | 75 | 13 | 4 | 14 | 14 | | | |
| 15 | 75 | | | | | X | | |
| 16 | 60 | 14 | 4 | 16 | 16A-B | | | |
| 17 | 45 | 15,16 | 4,4 | 17A-B | 17 | | | |
| 18 | 45 | | | | | X | | |
| 19 | 25 | 3 | 10 | 19 | 19 | | | |
| 20 | 25 | | | | | X | | |
| 21 | 5 | 4 | 10 | 21 | 21 | | | |
| 22 | 5 | | | | | X | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |

Notes: DO NOT PRE-SCREEN
Carboy #9 = sample 8B filtered quickly;filter askew/torn.

Hawaii Ocean Time-series

HOT-285

WOCE Deep 2 Data Sheet

Station # 2

Date: 07-12-16 (HST)

Cast # 15

Time: 2300 (HST)

Operator(s): SC BM GA ES

| Rosette Position | Desired Depth | Oxygen | Sample Temp. | DNA | | | | |
|------------------|----------------|--------|--------------|-----|--|--|--|--|
| 1 | 4800 | 109 | 3.1 | | | | | |
| 2 | 4000 | 110 | 3.3 | | | | | |
| 3 | 4000 | | | X | | | | |
| 4 | 3000 | 111 | 3.3 | | | | | |
| 5 | 3000 | | | X | | | | |
| 6 | 2000 | 112 | 3.7 | | | | | |
| 7 | 2000 | | | X | | | | |
| 8 | 1000 | | | X | | | | |
| 9 | O2 min | 113 | 6.0 | | | | | |
| 10 | Sal min | 114 | 8.6 | | | | | |
| 11 | O2 max | 115 | 24.6 | | | | | |
| 12 | 5 | 116 | 25.7 | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | | | | | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |

Notes:

Hawaii Ocean Time-series

HOT- 285

STATION 50 Data Sheet

Station # 50
 Cast # 1
 Operator(s): AN DS BW TC JB

Date: 7/13/16 (HST)
 Time: 1210 (HST)

| Rosette Position | Desired Depth | DIC/TA | pH | KW-B | SW | SF-S |
|------------------|---------------|--------|----|------|----|------|
| 1 | 125 | | | | | X |
| 2 | 125 | | | | | X |
| 3 | 45 | | | X | | |
| 4 | 25 | | | X | | |
| 5 | 25 | | | | X | |
| 6 | 25 | | | | X | |
| 7 | 25 | | | | X | |
| 8 | 25 | | | | X | |
| 9 | 25 | | | | X | |
| 10 | 25 | | | | X | |
| 11 | 25 | | | | | X |
| 12 | 25 | | | | | X |
| 13 | 25 | | | | | X |
| 14 | 25 | | | | | X |
| 15 | 25 | | | | | X |
| 16 | 25 | | | | | X |
| 17 | 25 | | | | | X |
| 18 | 25 | | | | | X |
| 19 | 25 | | | | | X |
| 20 | 25 | | | | | X |
| 21 | 25 | | | | | X |
| 22 | 25 | | | | | X |
| 23 | 5 | | | X | | |
| 24 | 5 | X | X | | | |

Notes:

Hawaii Ocean Time-series

HOT- 285

STATION Kaena Data Sheet

Station # 6
 Cast # 1
 Operator(s): SC ES GA BM

Date: 07-13-16 (HST)
 Time: 2105 (HST)

| Rosette Position | Desired Depth | Chl a. | | | | |
|------------------|---------------|--------|--|--|--|--|
| 1 | 2500 | | | | | |
| 2 | 2000 | | | | | |
| 3 | 1500 | | | | | |
| 4 | 1000 | | | | | |
| 5 | 500 | | | | | |
| 6 | 175 | 6 | | | | |
| 7 | 150 | 7 | | | | |
| 8 | 125 | 8 | | | | |
| 9 | 100 | 9 | | | | |
| 10 | 75 | 10 | | | | |
| 11 | 45 | 11 | | | | |
| 12 | 25 | 12 | | | | |
| 13 | 5 | 13 | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |

Notes:

Hawaii Ocean Time-series

HOT-285

Sediment Trap Data Sheet

Type of traps: PIT
Operator(s): SC, ES, GA, BW, BM
Position in: 22°45.810'N 158°0.551'W

Date: 07-11-16
Wind: _____
Sea State: _____

Time in: 150 m X
(HST) _____

Notes: 0250-Traps in water; 0300 array released

Operator(s): DS BW BW TC JB
Position out: 22°39.505'N 158°10.897'W
Overall sea state: _____

Date: 7-13-16
Wind: 10-15 kts
Sea state: 7-9'

Time Out: 150 m _____
(HST) _____

Notes: Traps out of the water 0746

Data Sheet for Sediment Trap Volumes

Cruise #: 285

Analyst: AN DS BW

- Directions:
- 1) Mark the traps with 2 lines
 - a) Line #1 is at the interface
 - b) Line #2 is 2" (5 cm) above the interface
 - 2) Siphon off the top of the trap to Line #2 - 2" above the interface
 - 3) Measure the distance from the bottom of the trap to Line #2 2" above the interface and record the result in this table.

| Trap Name | Depth (m) | Height (cm) at Line #2 (Top Line) | Volume (L) at top line = (Height in cm x 0.038) |
|-----------|-----------|-----------------------------------|-------------------------------------------------|
| | | | |
| A | 150 | 37.5 | 1.425 |
| B | 150 | 37.0 | 1.406 |
| C | 150 | 37.5 | 1.425 |
| D | 150 | 36.5 | 1.387 |
| E | 150 | 34.5 | 1.311 |
| F | 150 | 36.5 | 1.387 |
| G | 150 | 36.5 | 1.387 |
| H | 150 | 38.3 | 1.4554 |
| I | 150 | 35.5 | 1.349 |
| J | 150 | 36.0 | 1.368 |
| K | 150 | 36.5 | 1.387 |
| L | 150 | 32.5 | 1.235 |
| | | | |

Hawaii Ocean Time-series

HOT-285

In Situ Primary Production Data Sheet

Operators: AN DS TC BW BW JB SC ES GA BM

Date in: 7/11/16 Time in: 0522 (HST)Date out: 07-11-16 Time out: 1955 (HST)

| Incubation Depth | ✓ | Insertion Depth | Owner |
|------------------|---|-----------------|---------|
| <i>175</i> | ✓ | _____ | _____ |
| <i>150</i> | ✓ | _____ | _____ |
| <i>125</i> | ✓ | _____ | HOT+SFS |
| <i>100</i> | ✓ | _____ | HOT+SFS |
| <i>75</i> | ✓ | _____ | HOT+SFS |
| <i>45</i> | ✓ | _____ | HOT+SFS |
| <i>25</i> | ✓ | _____ | HOT+SFS |
| <i>5</i> | ✓ | _____ | HOT+SFS |

Position in: 22° 44.091'N 158° 00.058'WPosition out: 22°42.367'N 158°3.590'W

Average weather condition during incubation: 10-15 kt winds; mostly sunny

Average sea state during incubation: 6-8ft

Begin Inoculation 0443

End Inoculation _____

Filtration time _____

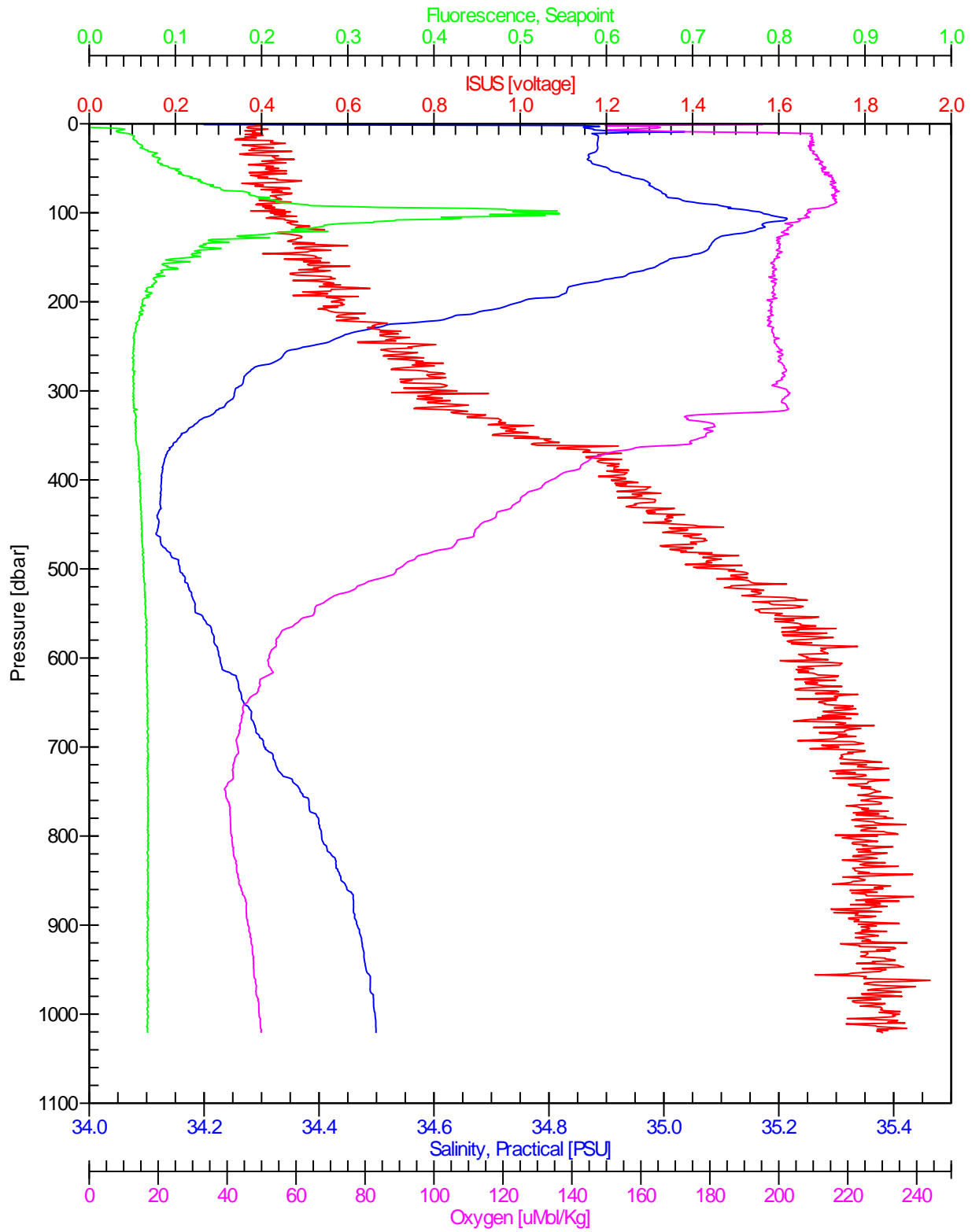
Hawaii Ocean Time-series HOT-285 In Situ Gas Array Data Sheet

| | |
|---------------------------------------------|----------------------------------------------|
| Operators: AN DS BW BW | Operators: AN DS BW BW TC JB |
| Date Deployed: 7/12/16 | Date Recovered: 7/13/16 |
| Time (HST): 0425 | Time (HST): 0649 |
| Position: 22°45.171 N 158° 01.171' W | Position: 22° 40.018'N 158° 07.654' W |

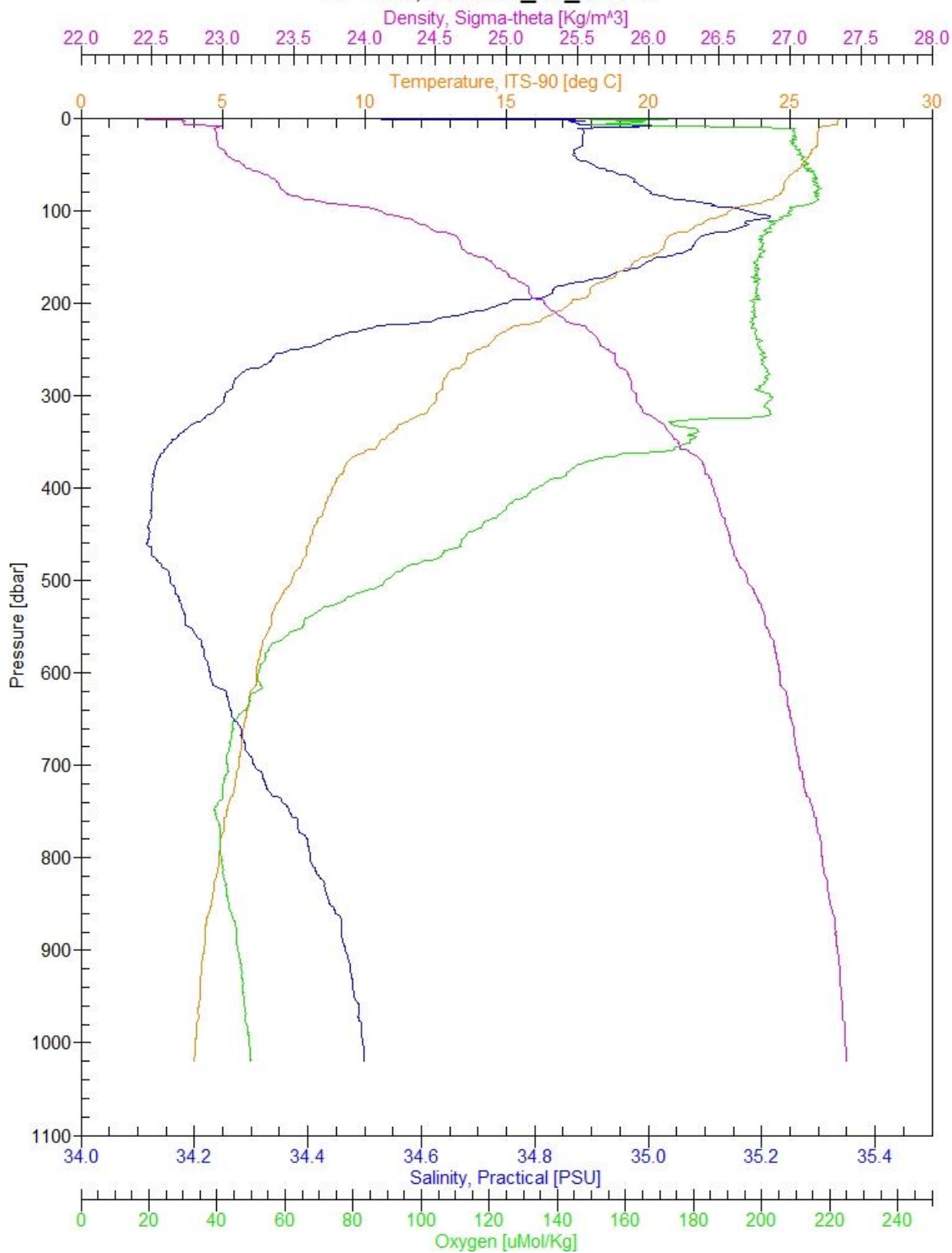
Nitrogen Fixation Sample Processing Sheet

| Sample ID | Date Spiked | Time Spiked | Date filtered | Time Filtered | 15N Batch | Comments |
|-----------|-------------|-------------|---------------|---------------|-----------|--------------------------------------------------------------------------|
| 3-1 | 7/12/16 | 0324 | 7/13/16 | 0710 | | |
| 3-2 | 7/12/16 | 0325 | 7/13/16 | 0710 | | |
| 3-3 | 7/12/16 | 0326 | 7/13/16 | 0659 | | |
| 4-1 | 7/12/16 | 0326 | 7/13/16 | 0659 | | |
| 4-2 | 7/12/16 | 0327 | 7/13/16 | 0658 | | |
| 4-3 | 7/12/16 | 0328 | 7/13/16 | 0658 | | |
| 5-1 | 7/12/16 | 0328 | 7/13/16 | 0658 | | Filter frit put in backards, resulted in uneven filtering |
| 5-2 | 7/12/16 | 0330 | 7/13/16 | 0657 | | |
| 5-3 | 7/12/16 | 0330 | 7/13/16 | 0657 | | |
| 6-1 | 7/12/16 | 0326 | 7/13/16 | 0656 | | |
| 6-2 | 7/12/16 | 0327 | 7/13/16 | 0652 | | |
| 6-3 | 7/12/16 | 0328 | 7/13/16 | 0651 | | |
| 7-1 | 7/12/16 | 0328 | 7/13/16 | 0651 | | |
| 7-2 | 7/12/16 | 0329 | 7/13/16 | 0651 | | |
| 7-3 | 7/12/16 | 0330 | 7/13/16 | 0651 | | |
| 8-1 | 7/12/16 | 0324 | 7/13/16 | 0650 | | |
| 8-2 | 7/12/16 | 0325 | 7/13/16 | 0650 | | |
| 8-3 | 7/12/16 | 0326 | 7/13/16 | 0650 | | |

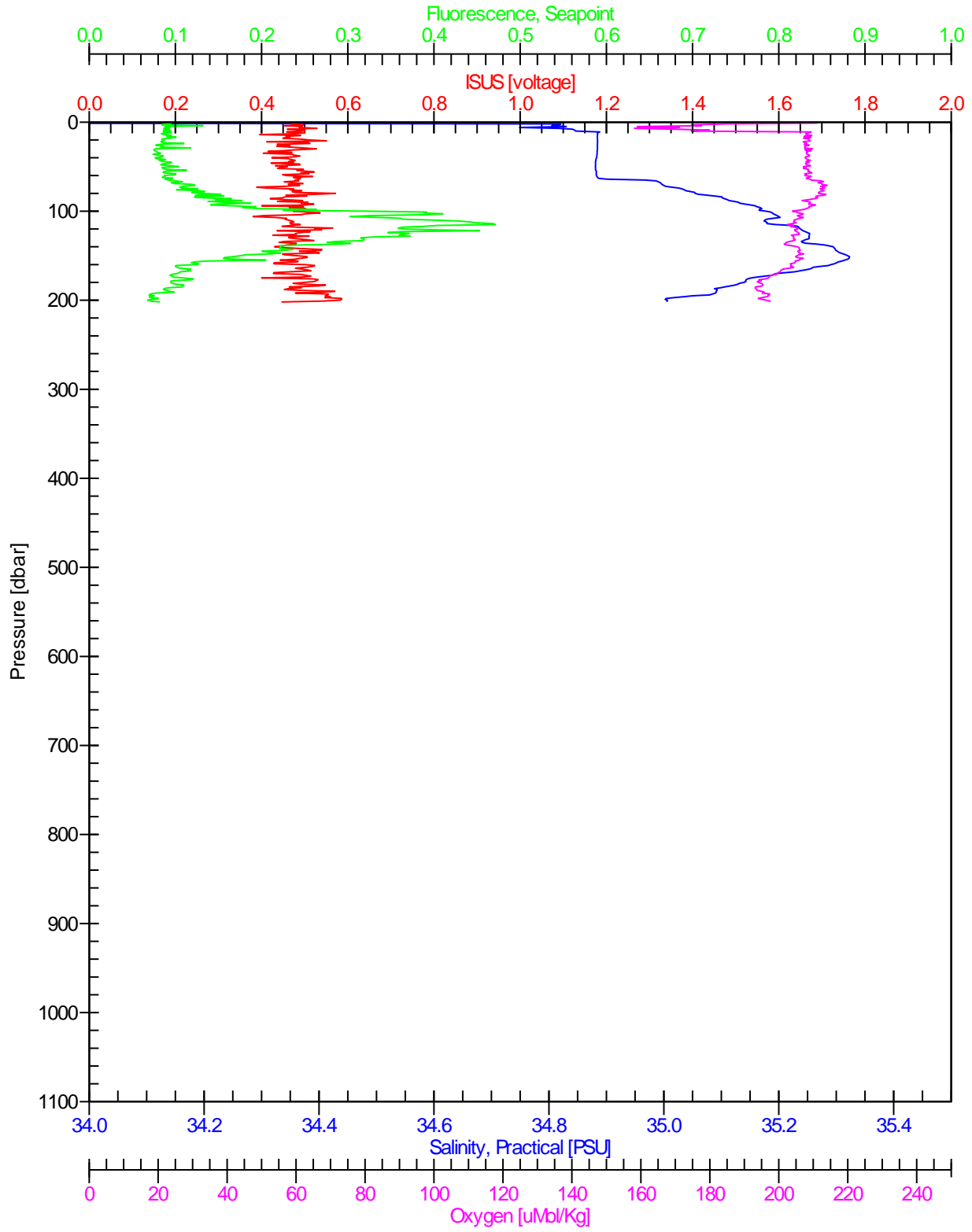
G-1000, hot-285_s1_c1.cnv



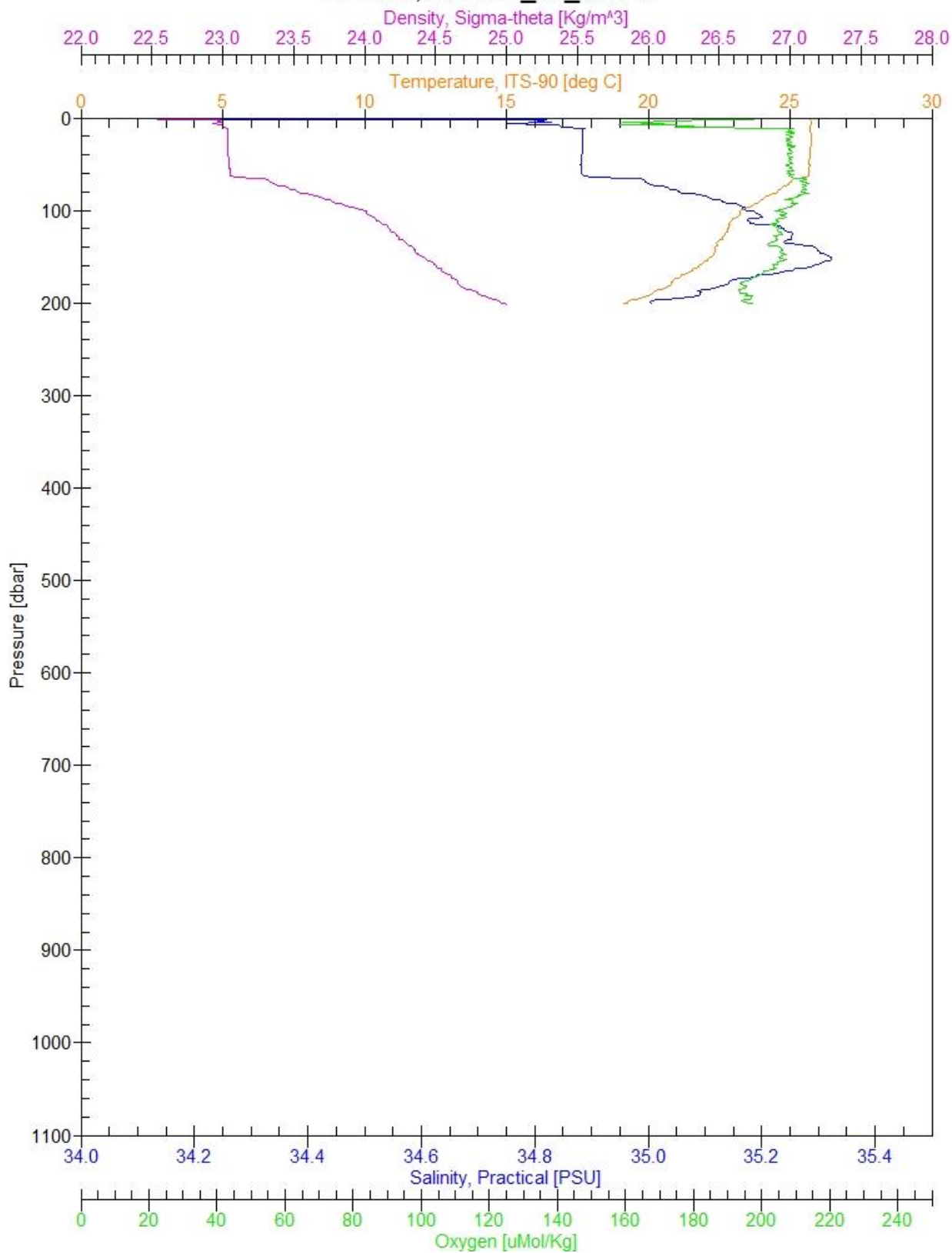
W-1000, hot-285_s1_c1.cnv



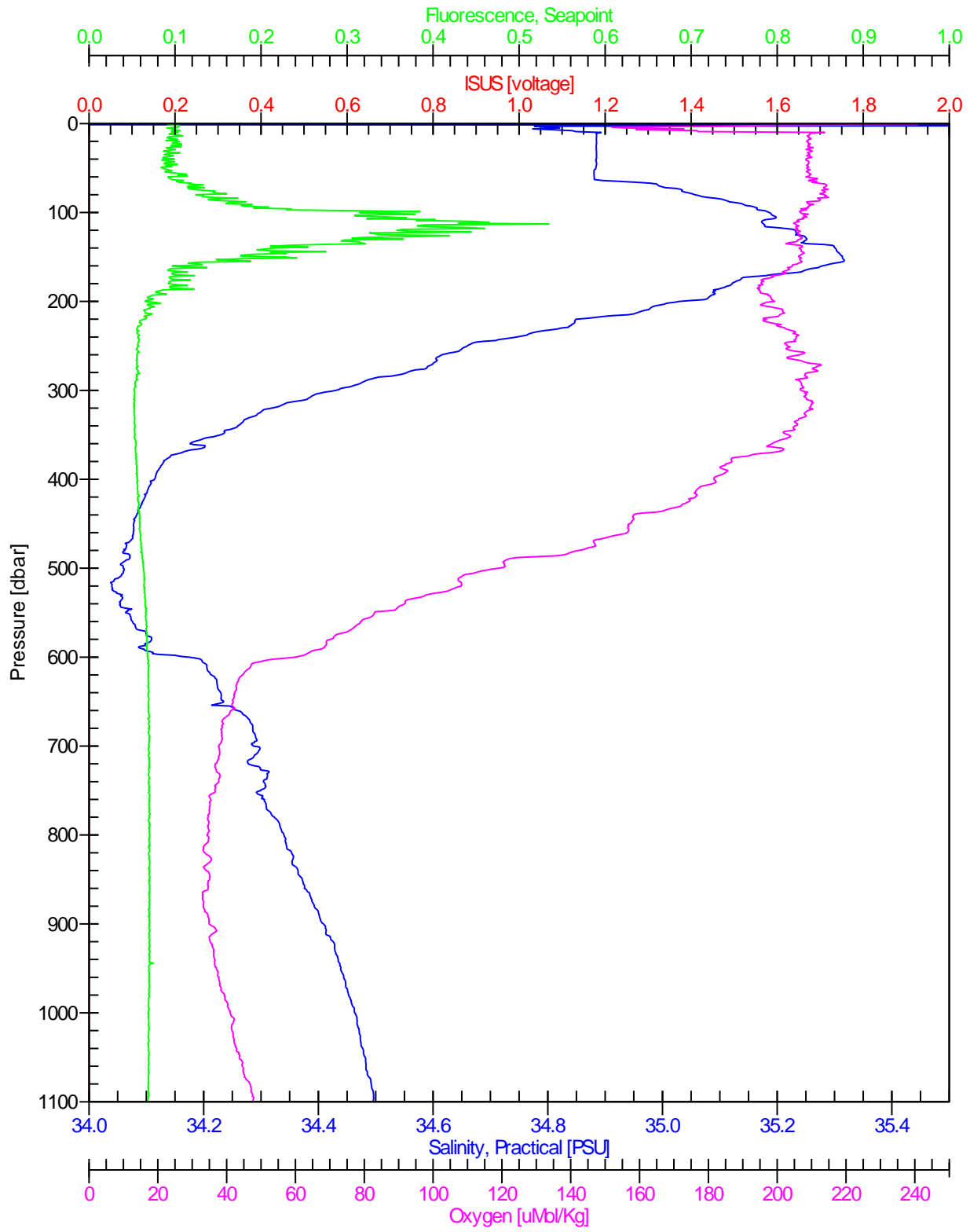
G-1000, hot-285_s2_c1.cnv



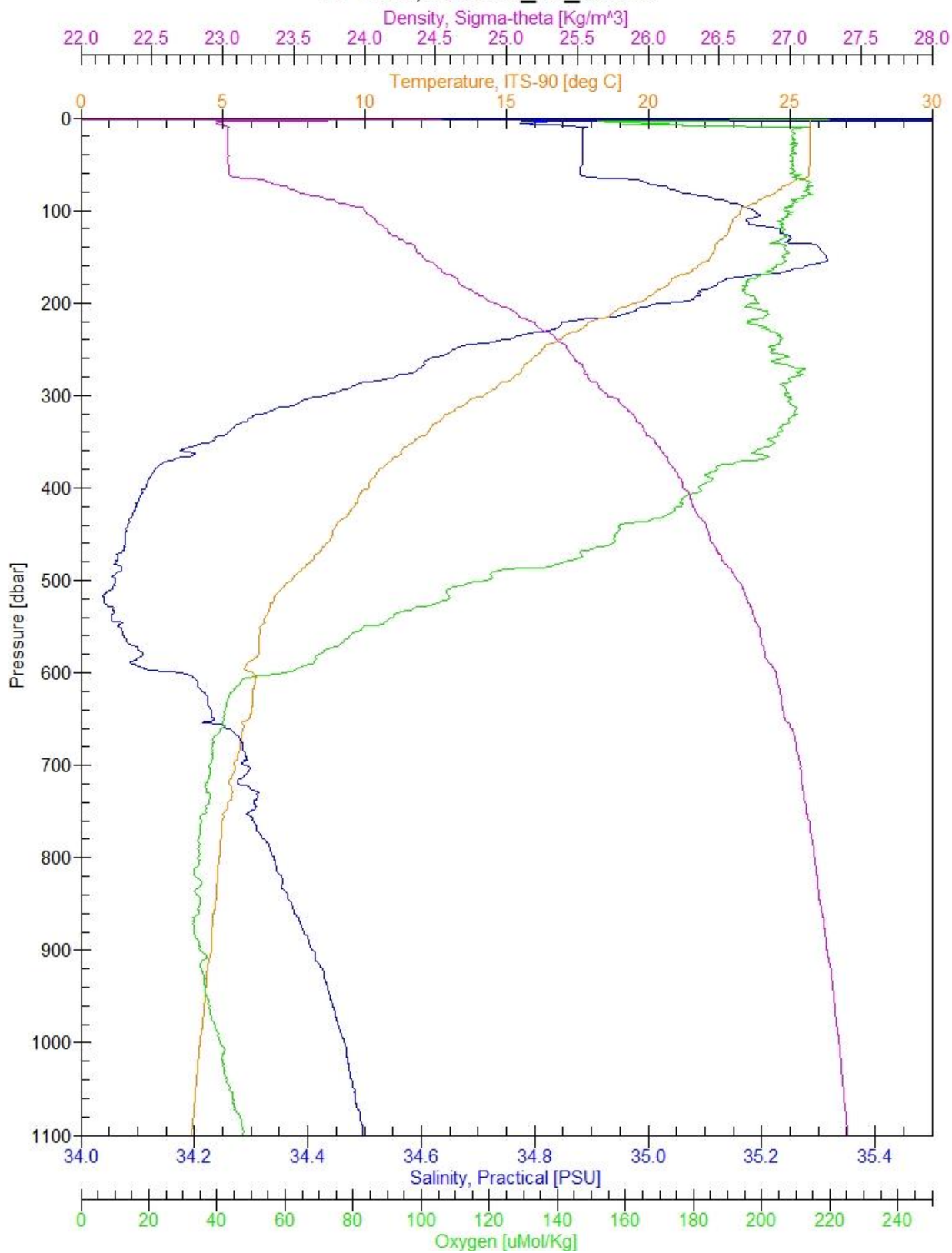
W-1000, hot-285_s2_c1.cnv



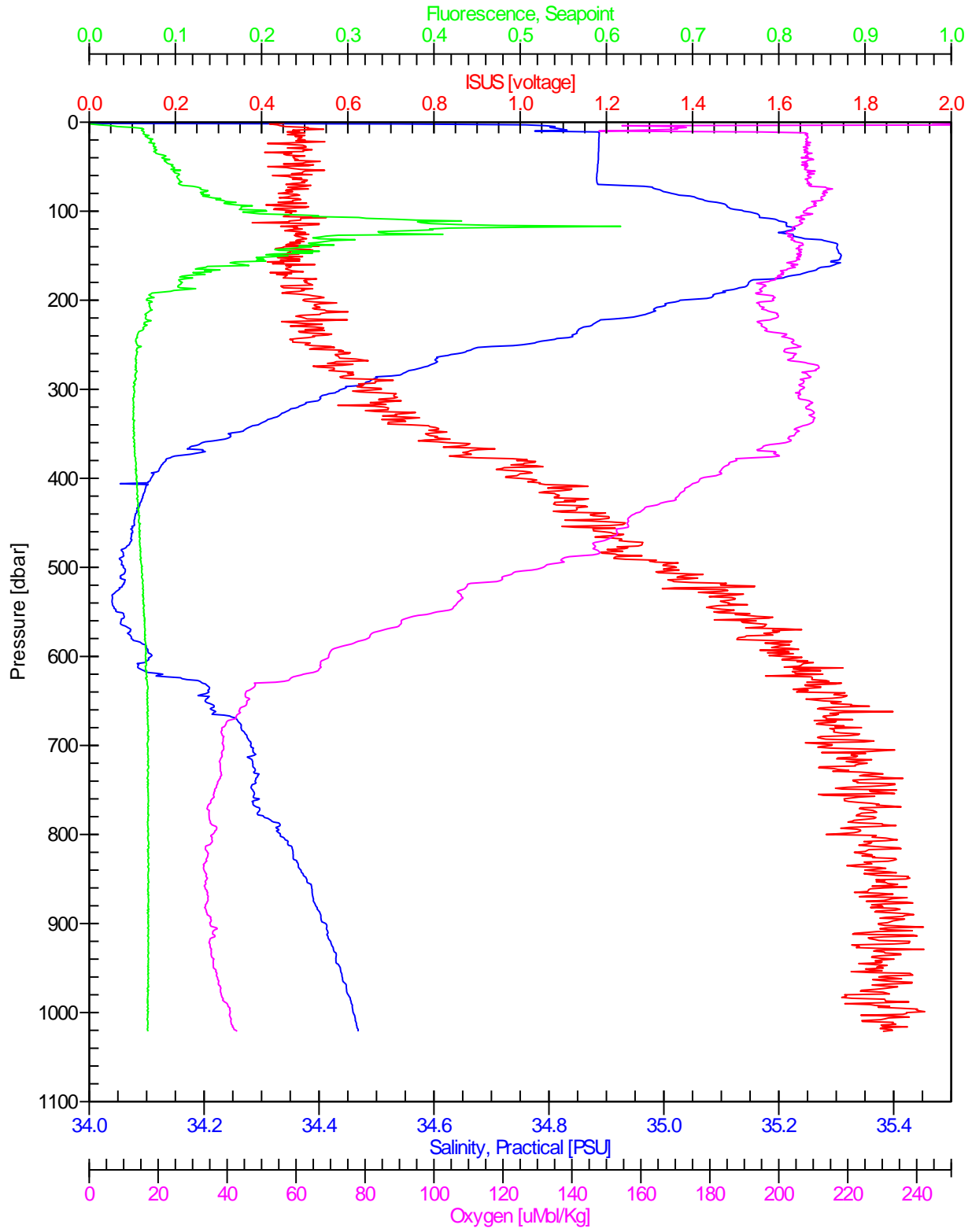
G-1000, hot-285_s2_c2.cnv



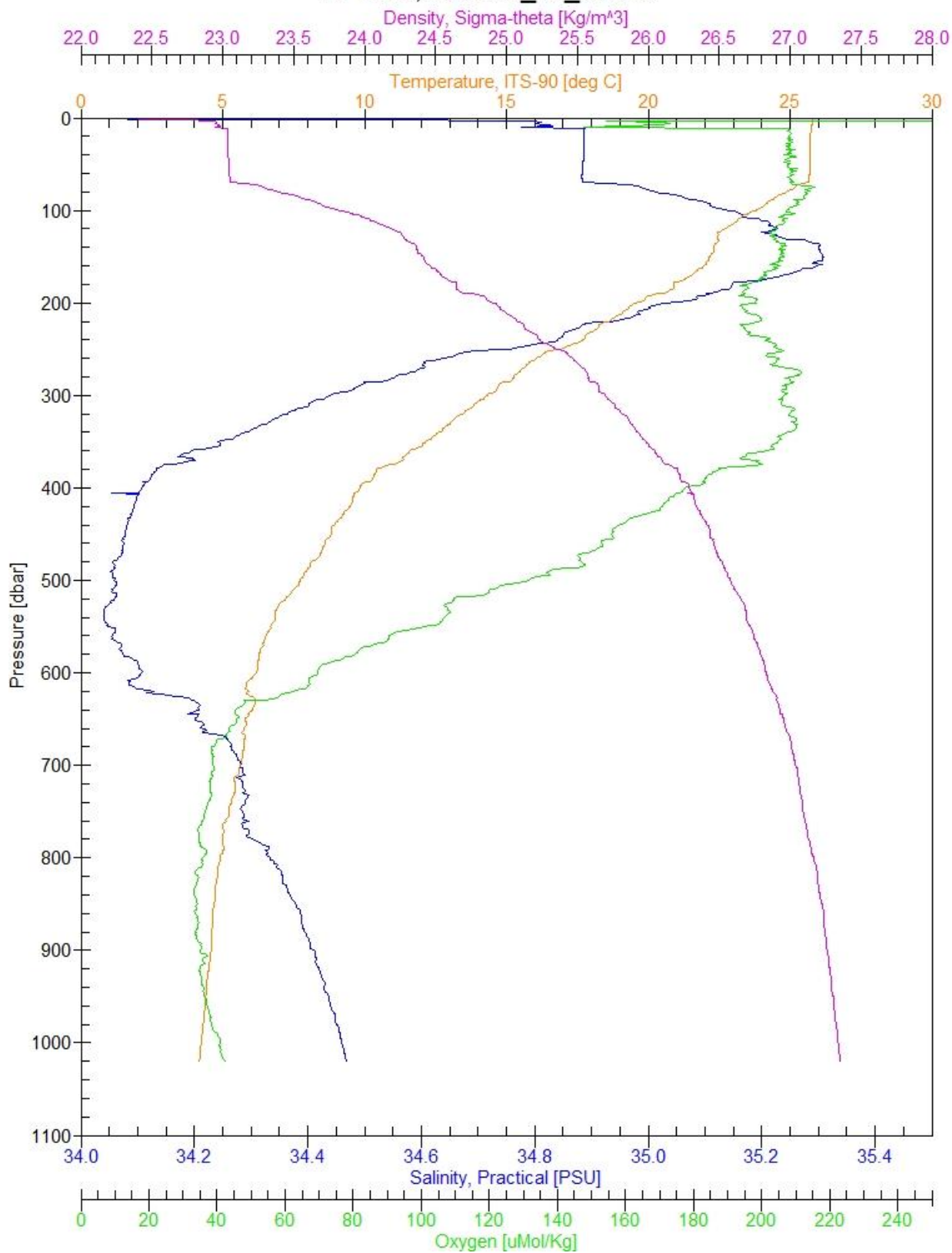
W-1000, hot-285_s2_c2.cnv



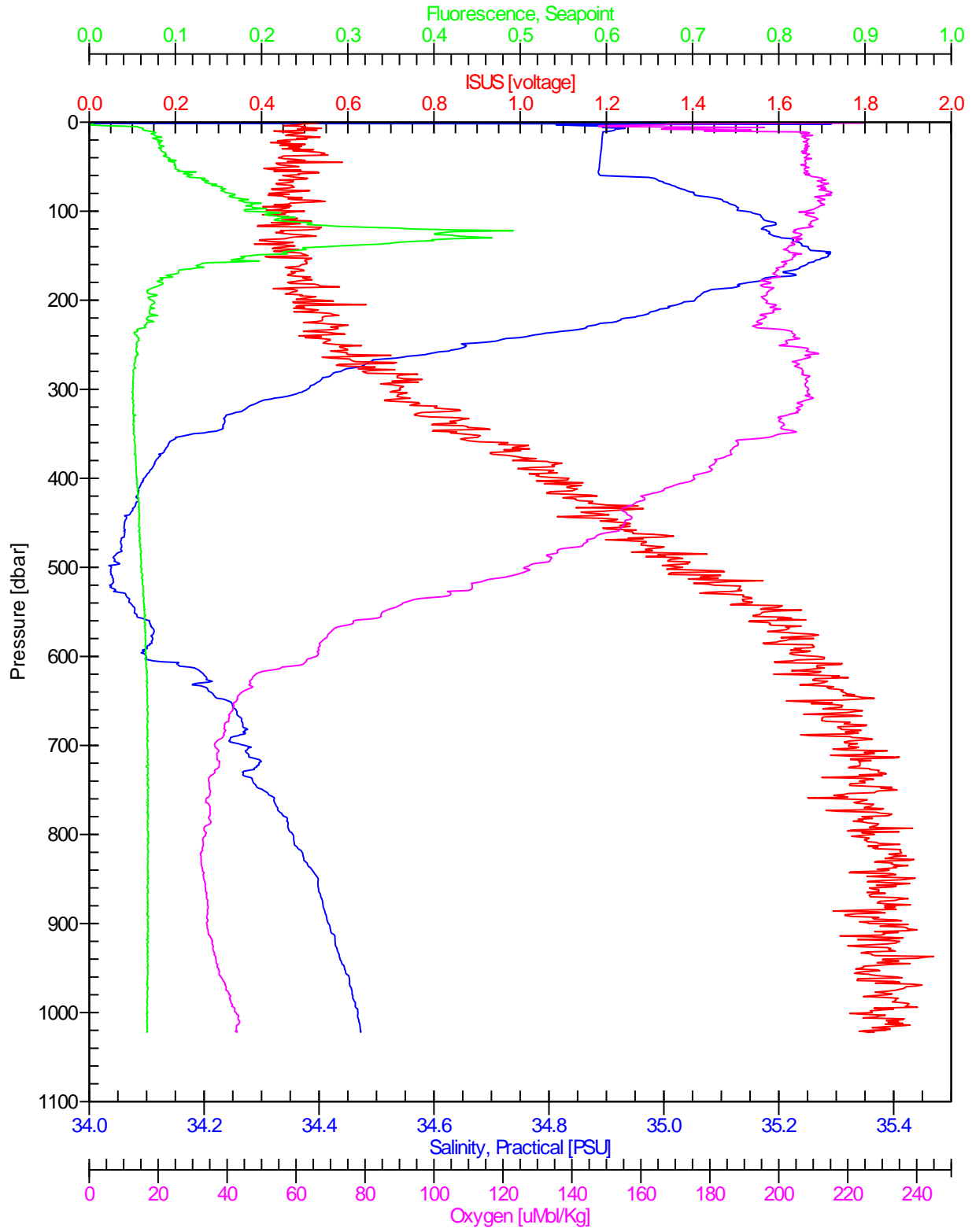
G-1000, hot-285_s2_c3.cnv



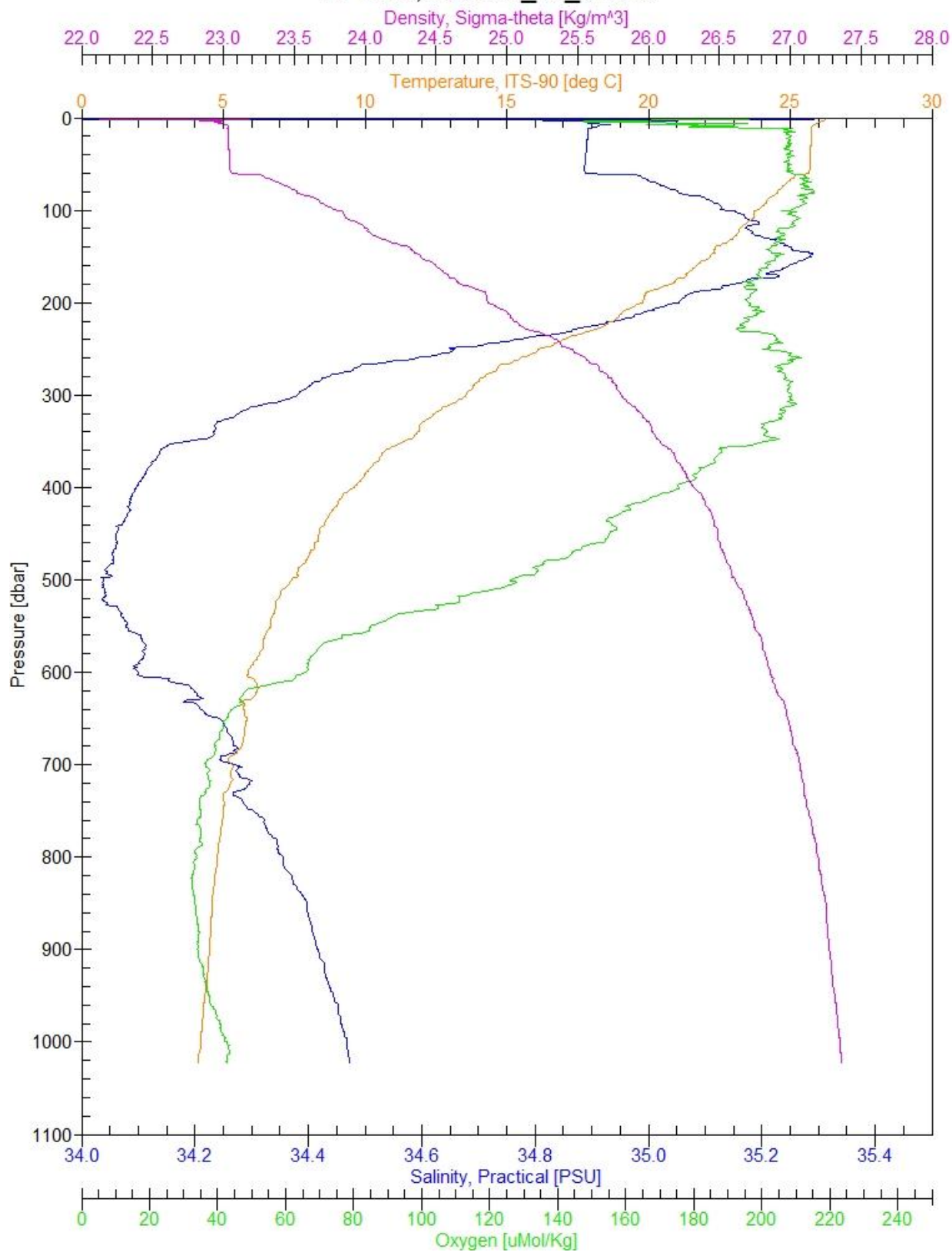
W-1000, hot-285_s2_c3.cnv



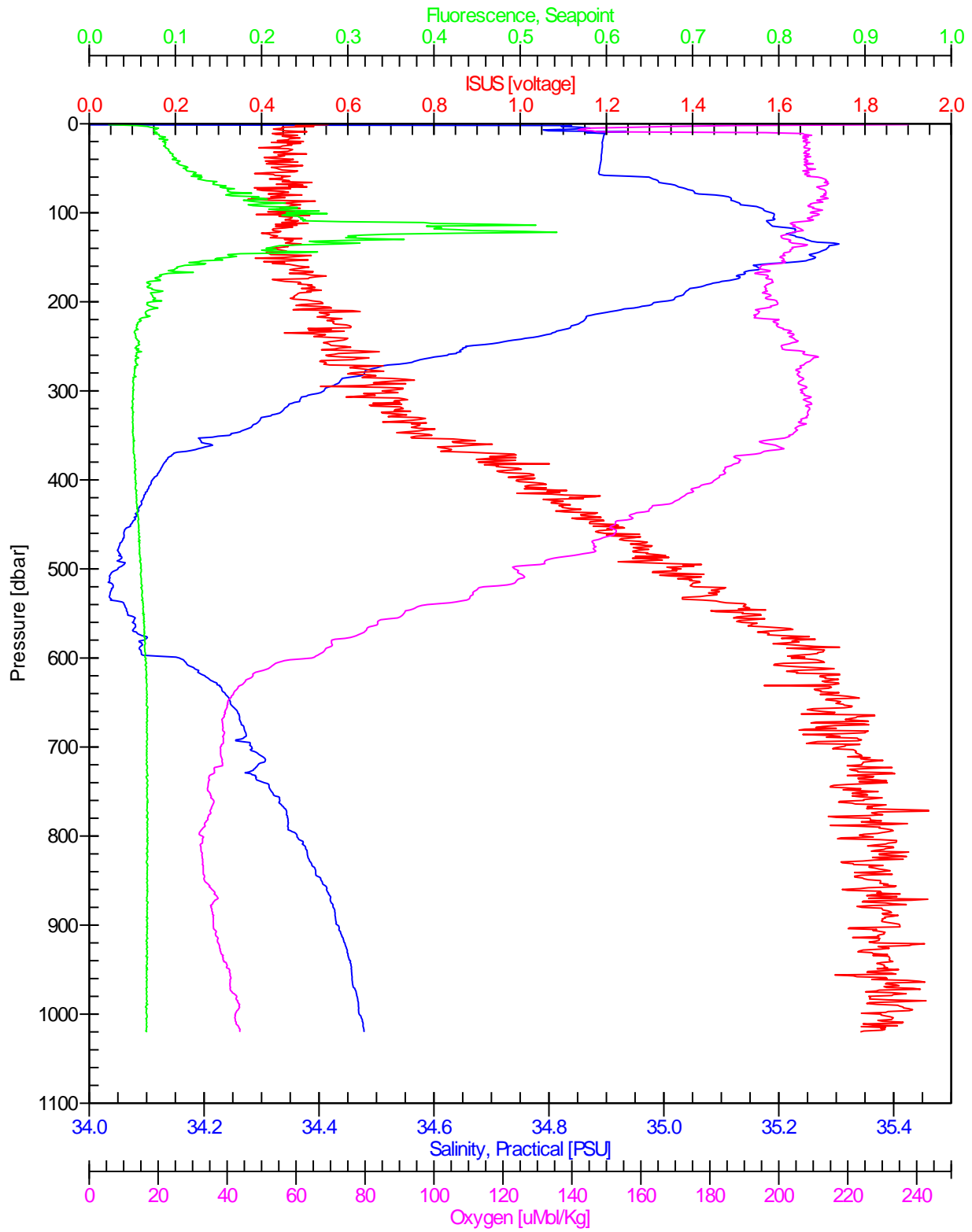
G-1000, hot-285_s2_c4.cnv



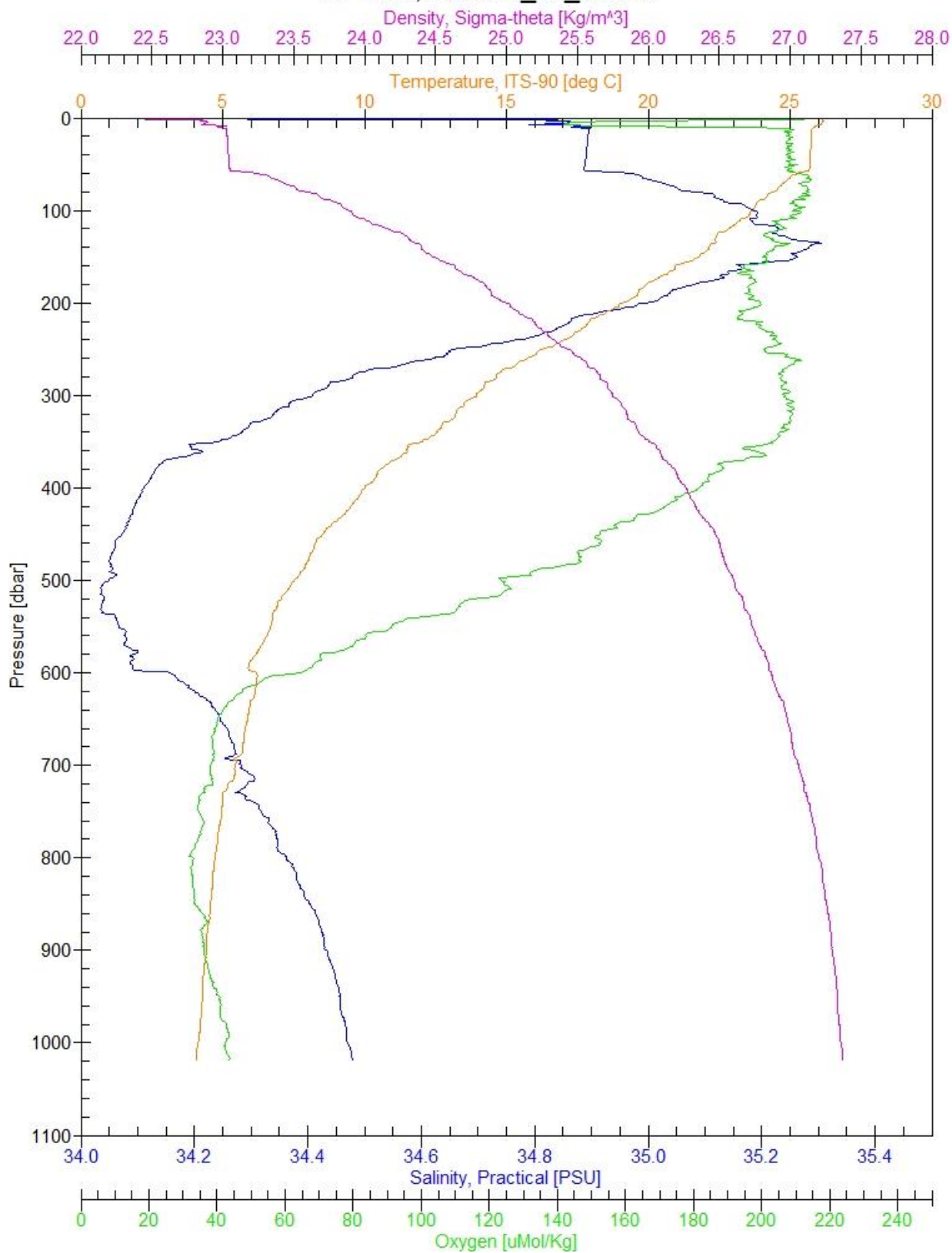
W-1000, hot-285_s2_c4.cnv



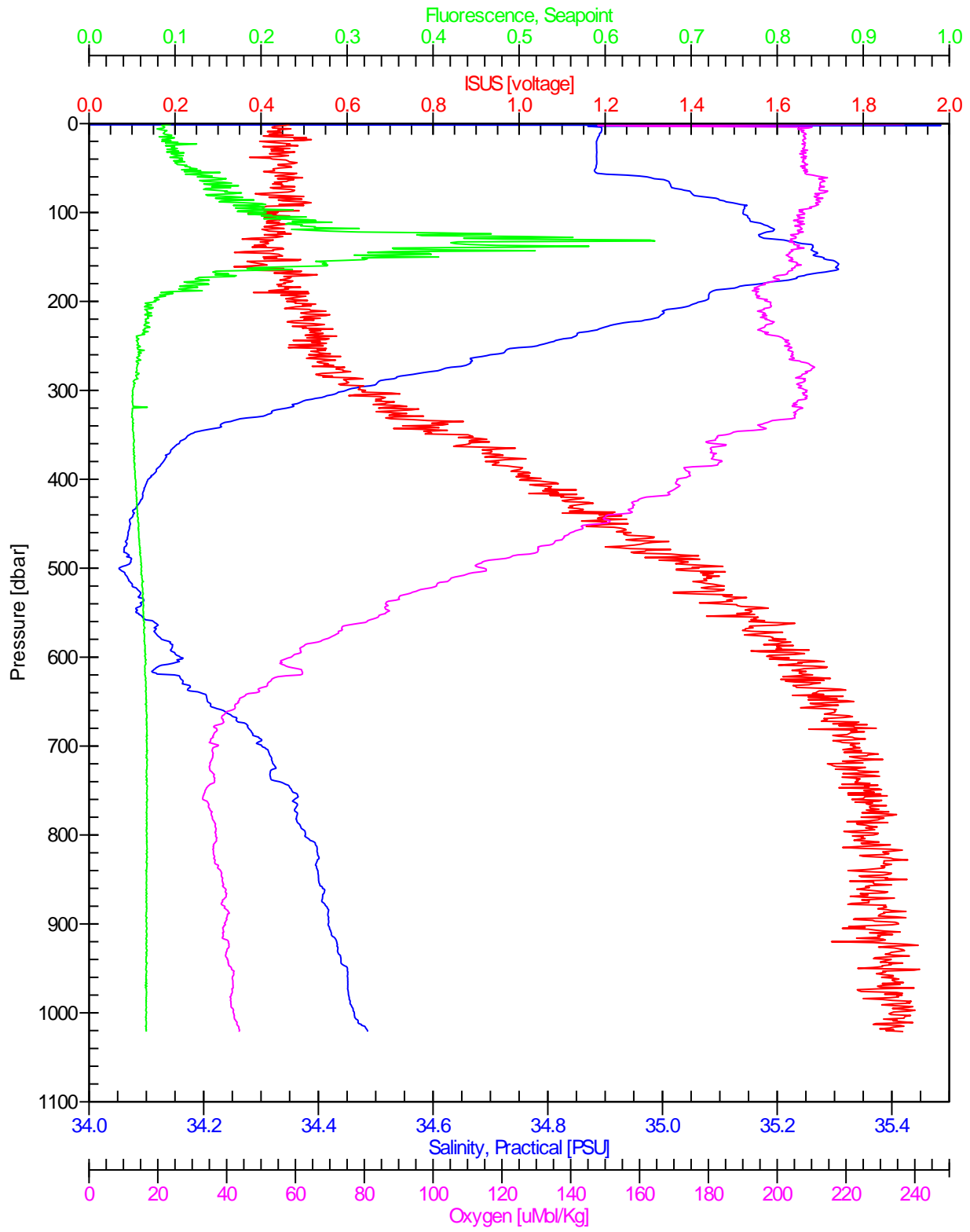
G-1000, hot-285_s2_c5.cnv



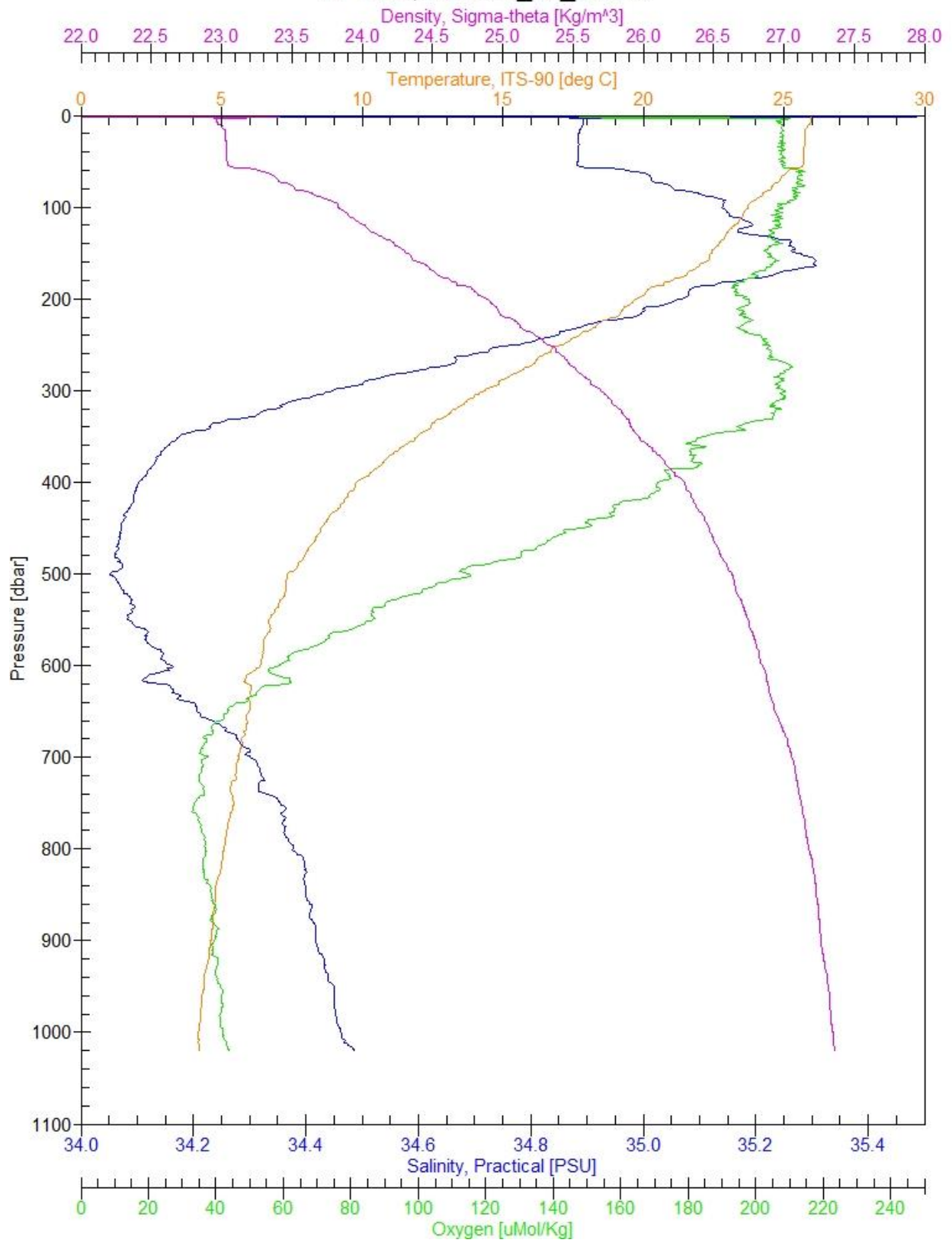
W-1000, hot-285_s2_c5.cnv



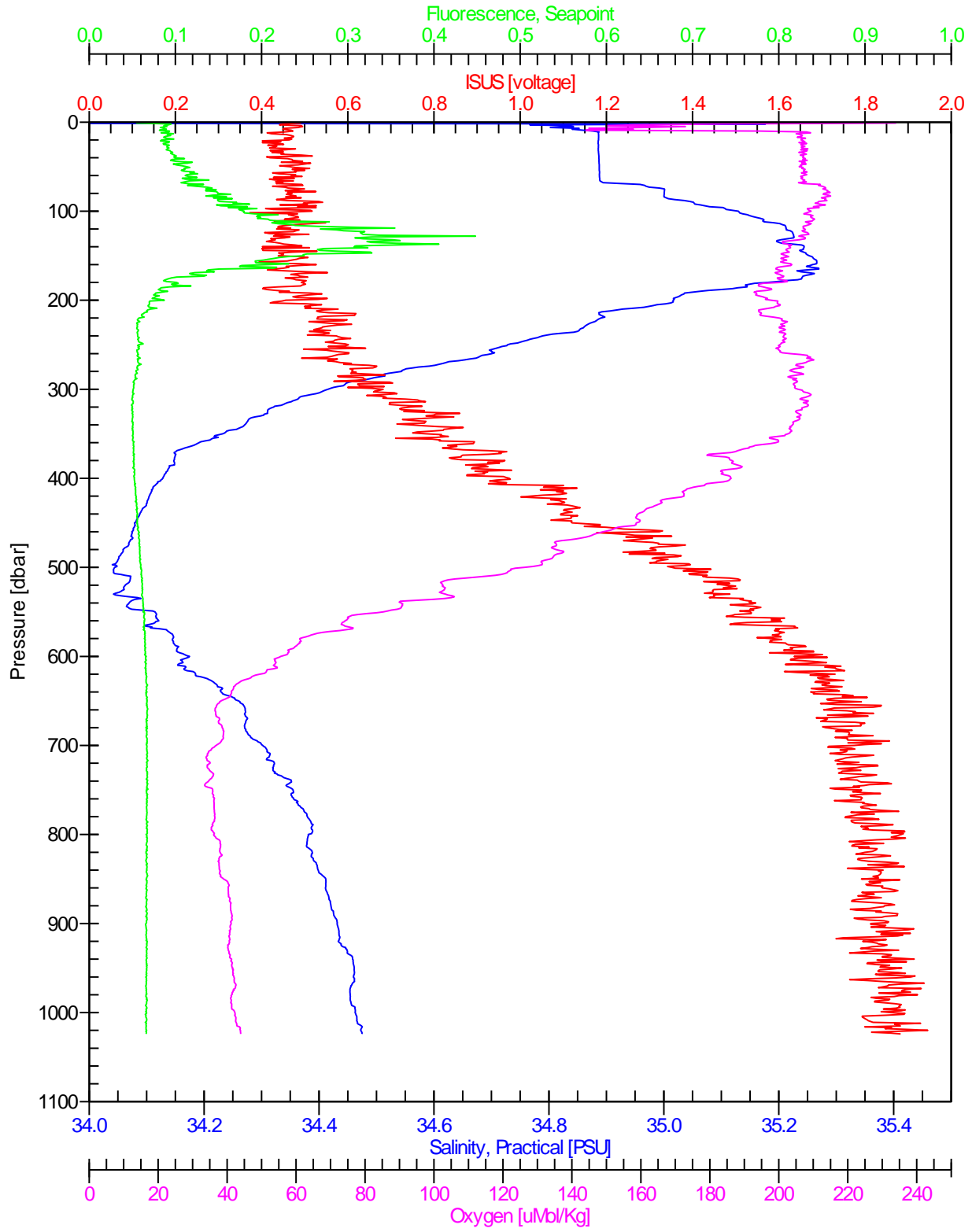
G-1000, hot-285_s2_c6.cnv



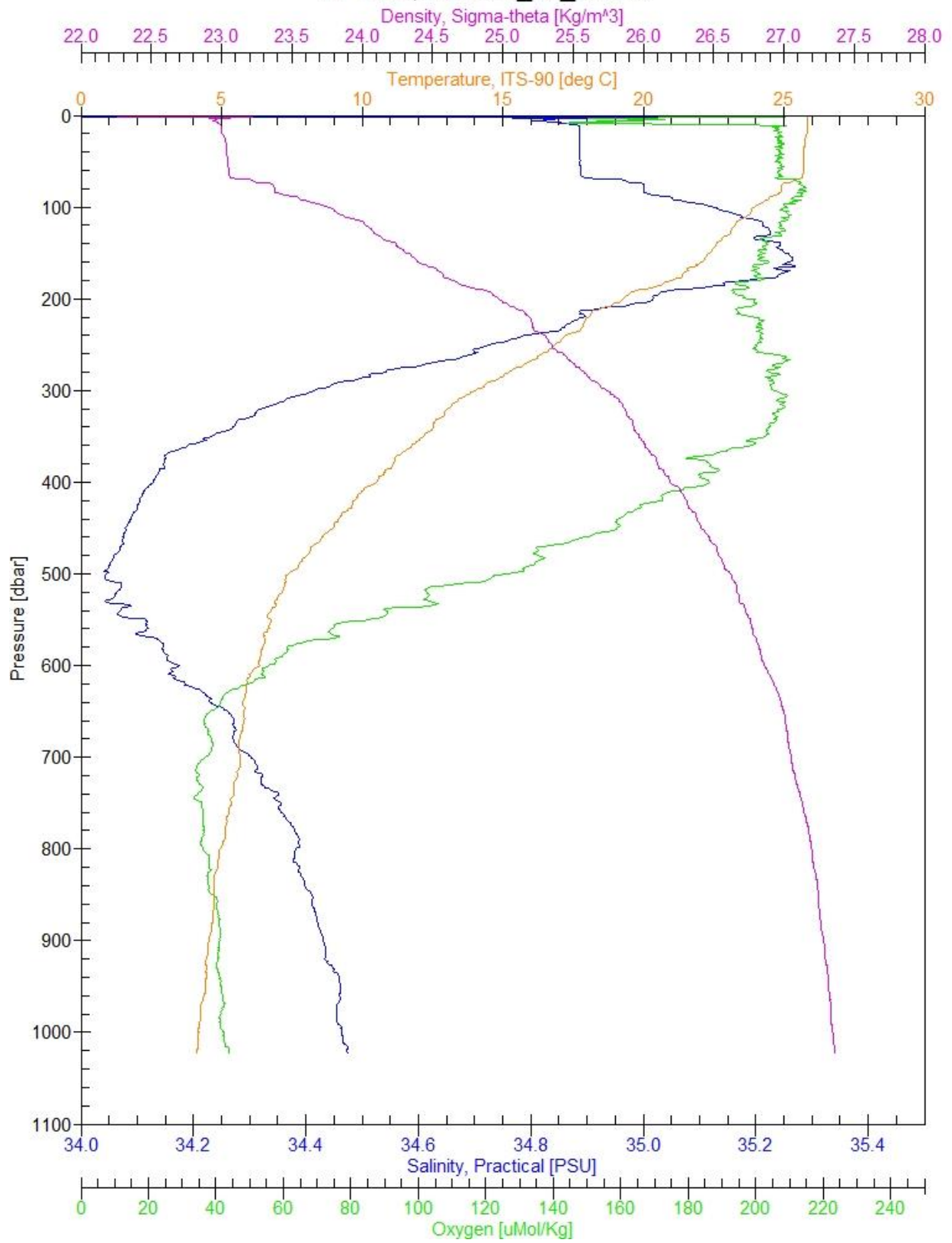
W-1000, hot-285_s2_c6.cnv



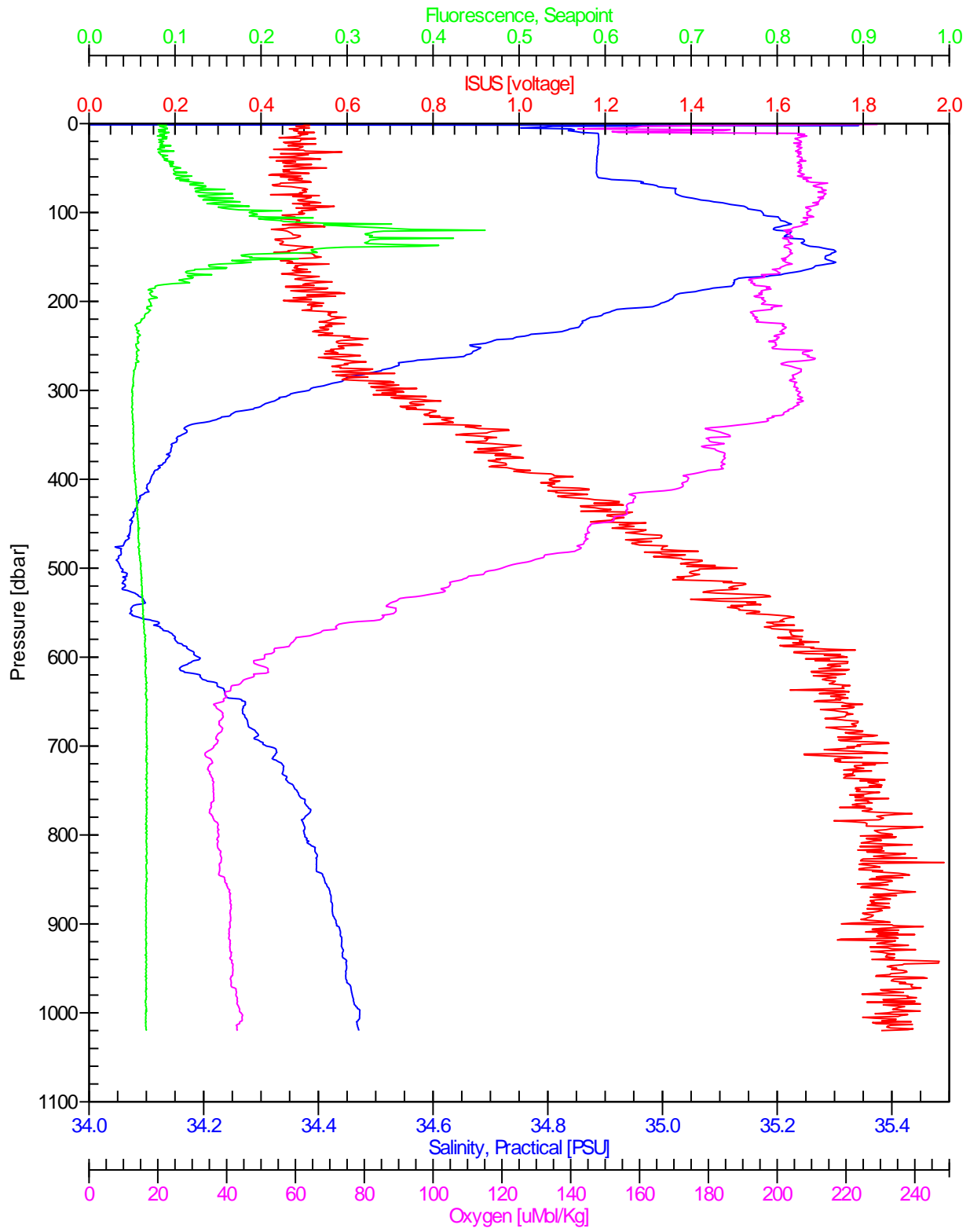
G-1000, hot-285_s2_c7.cnv



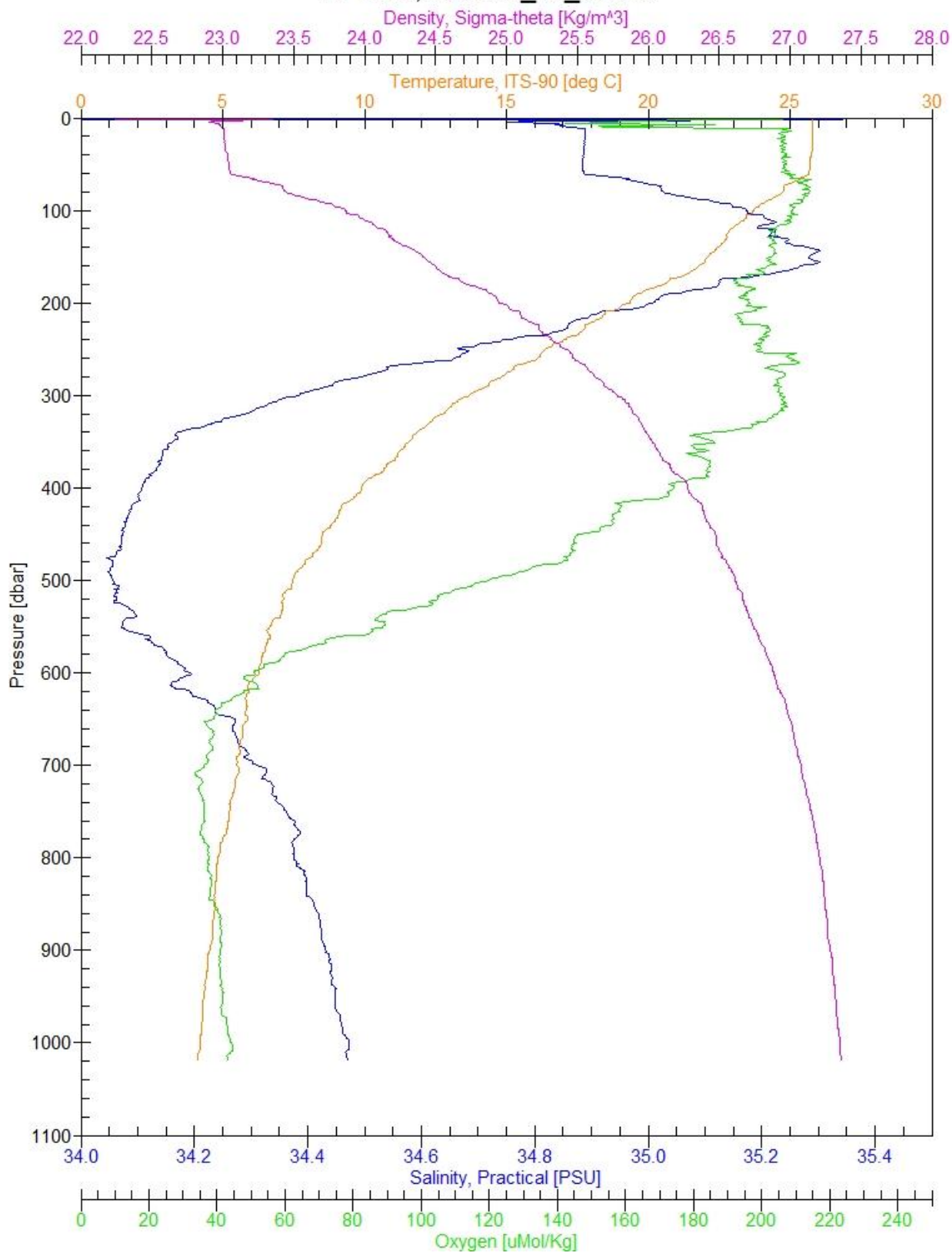
W-1000, hot-285_s2_c7.cnv



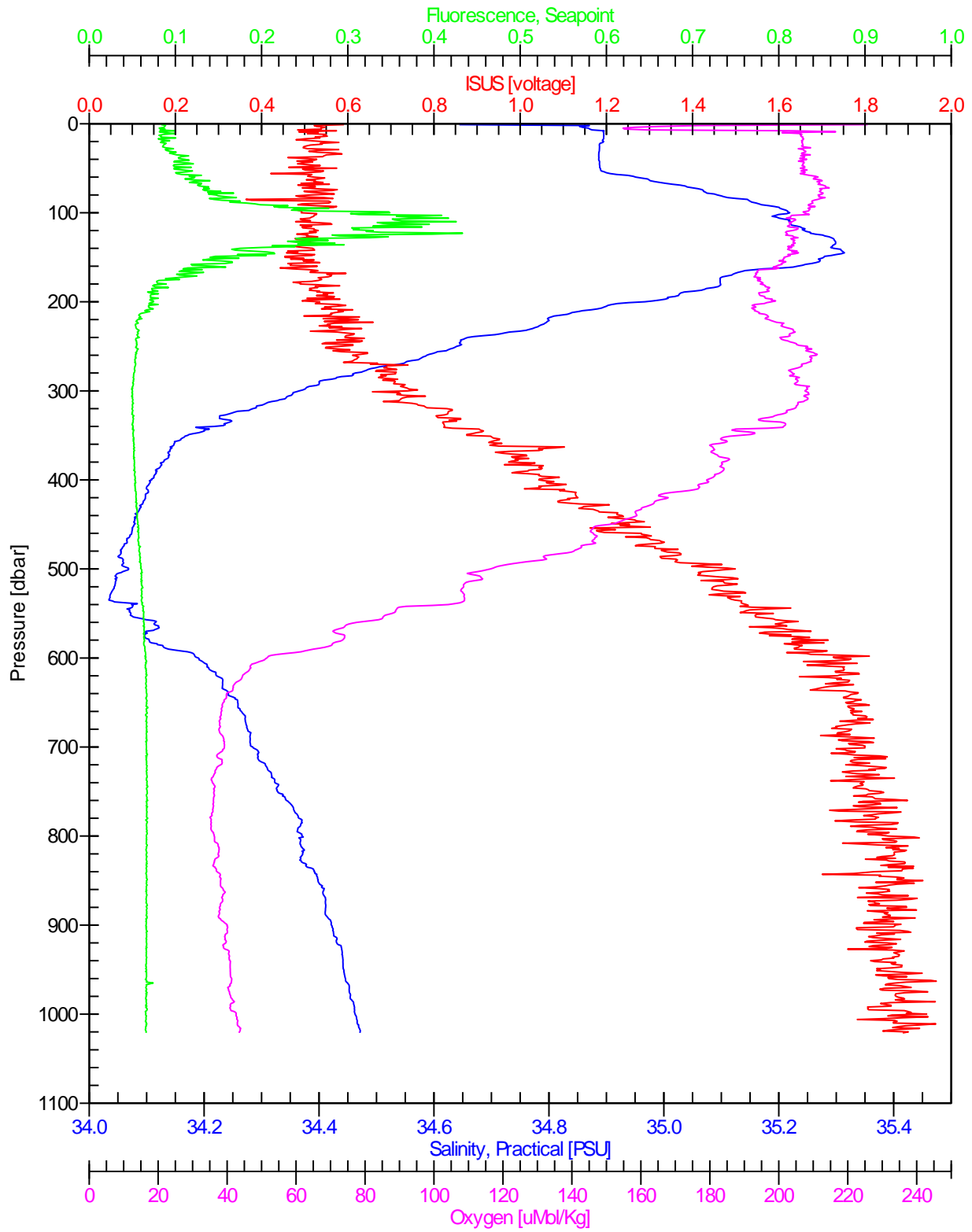
G-1000, hot-285_s2_c8.cnv



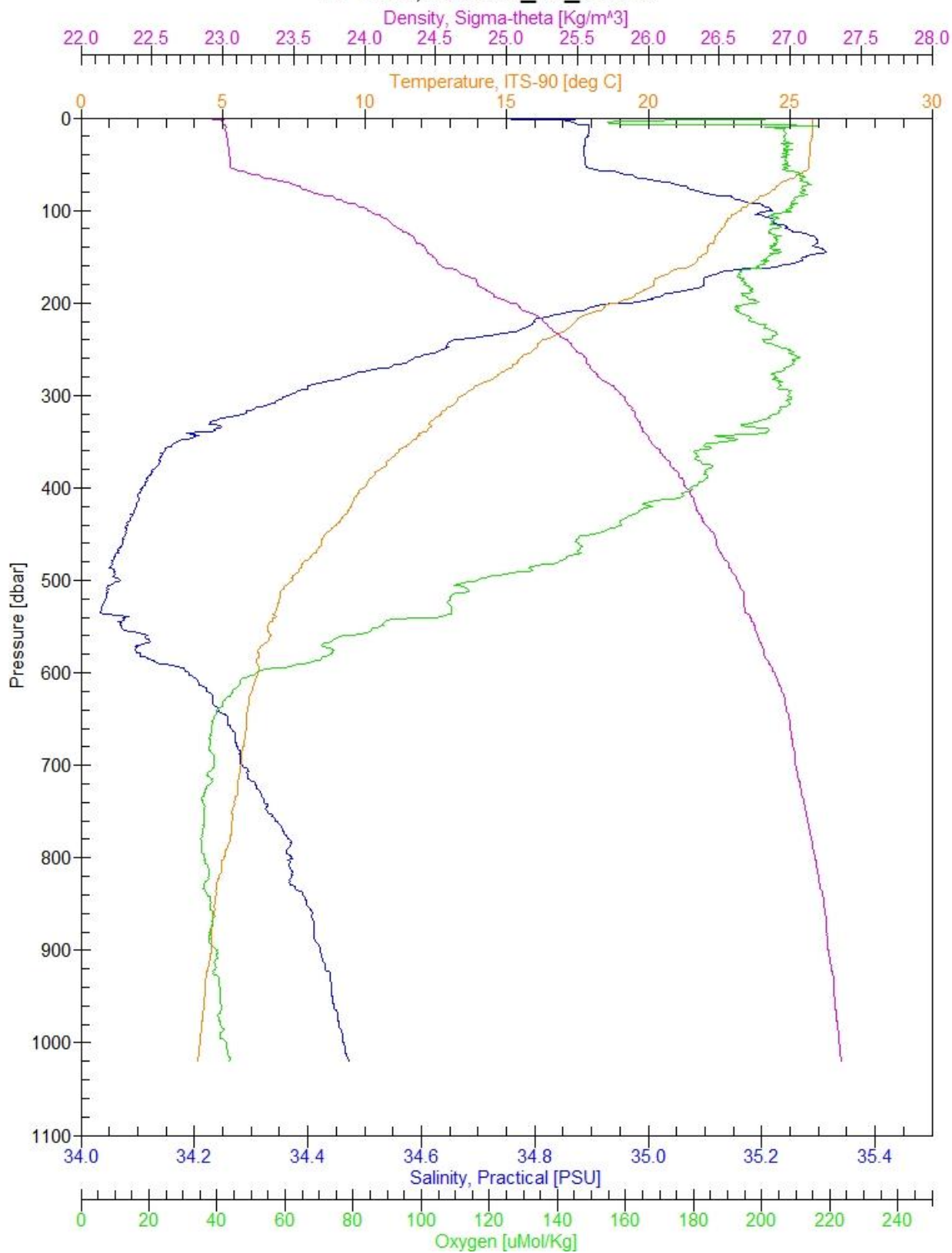
W-1000, hot-285_s2_c8.cnv



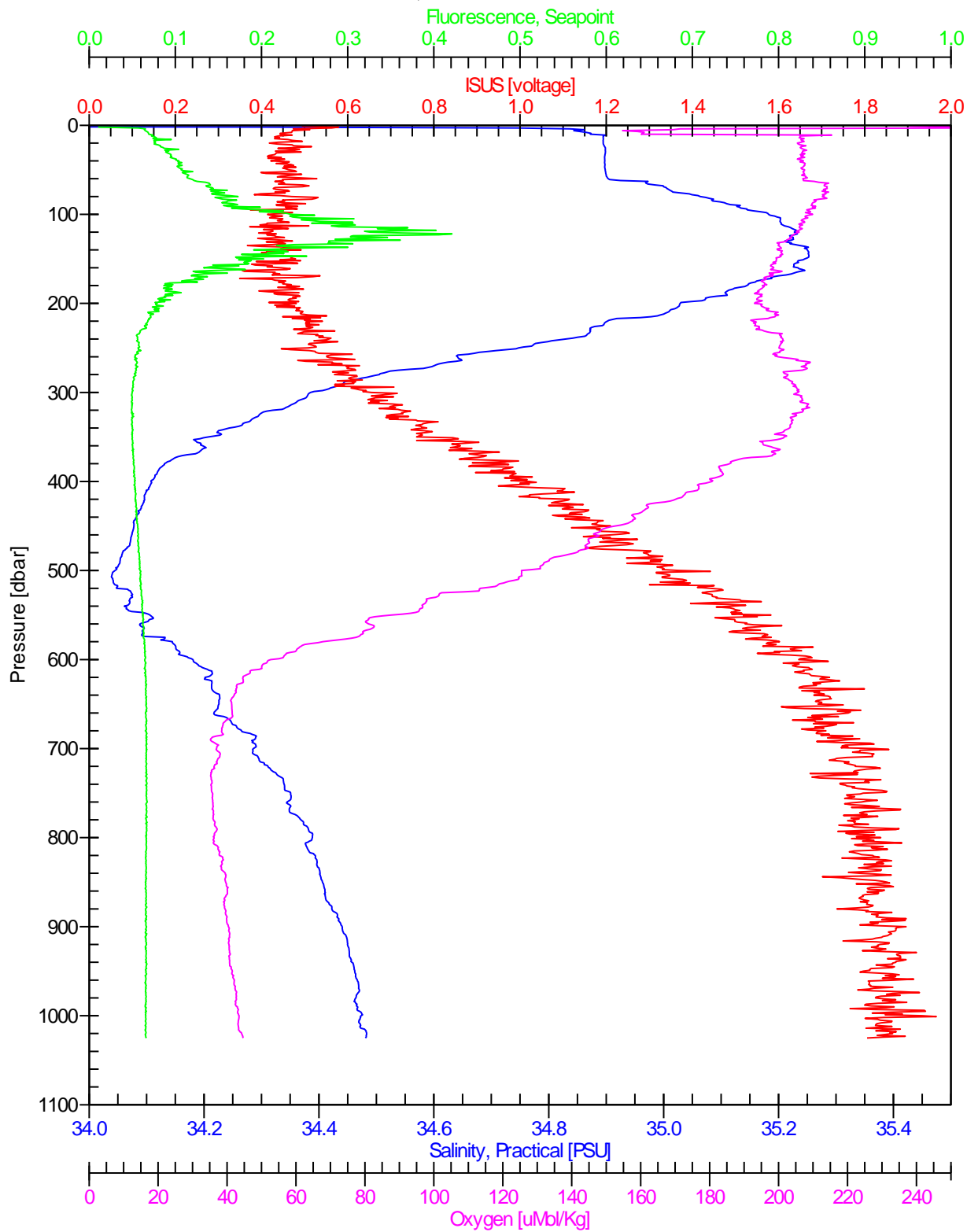
G-1000, hot-285_s2_c9.cnv



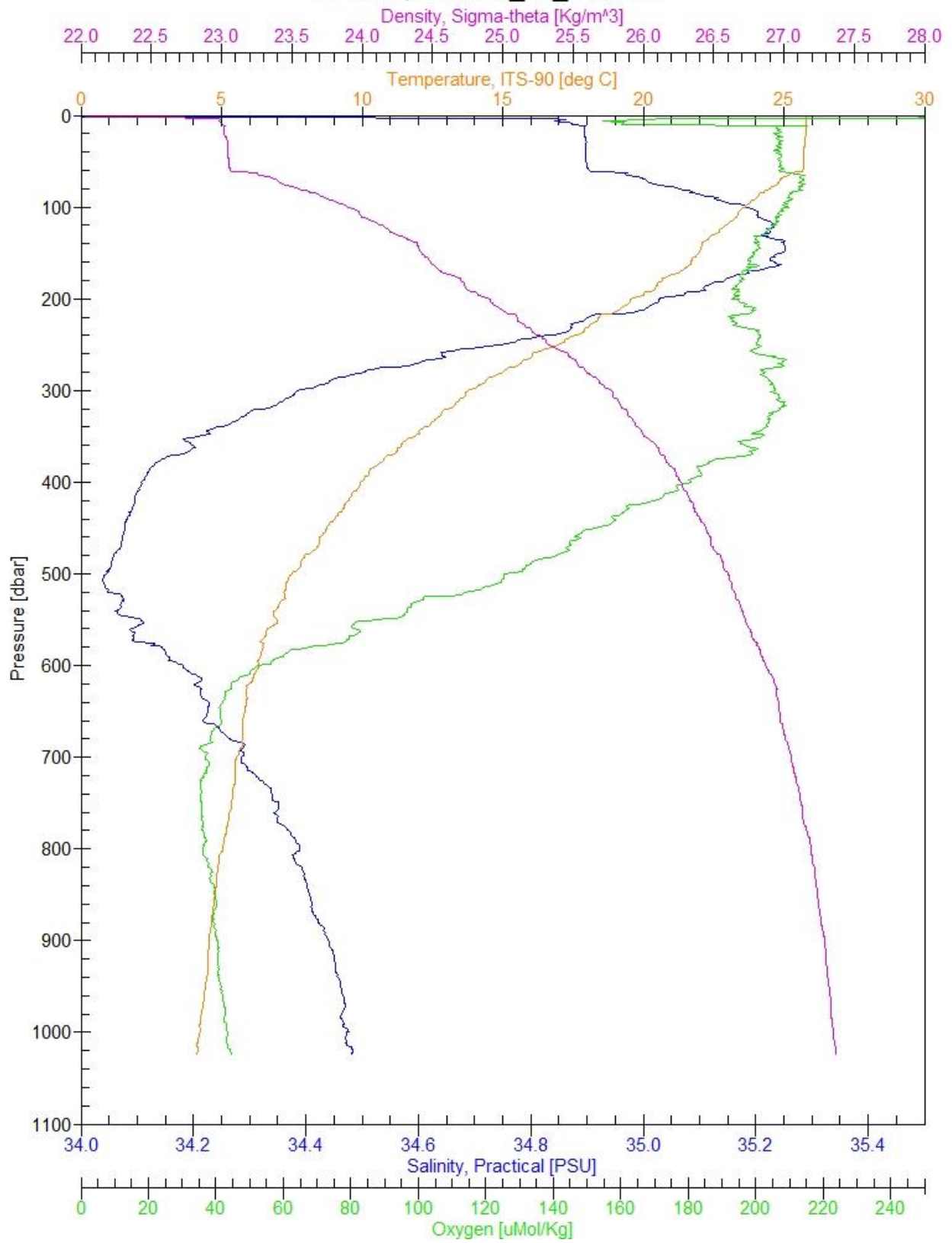
W-1000, hot-285_s2_c9.cnv



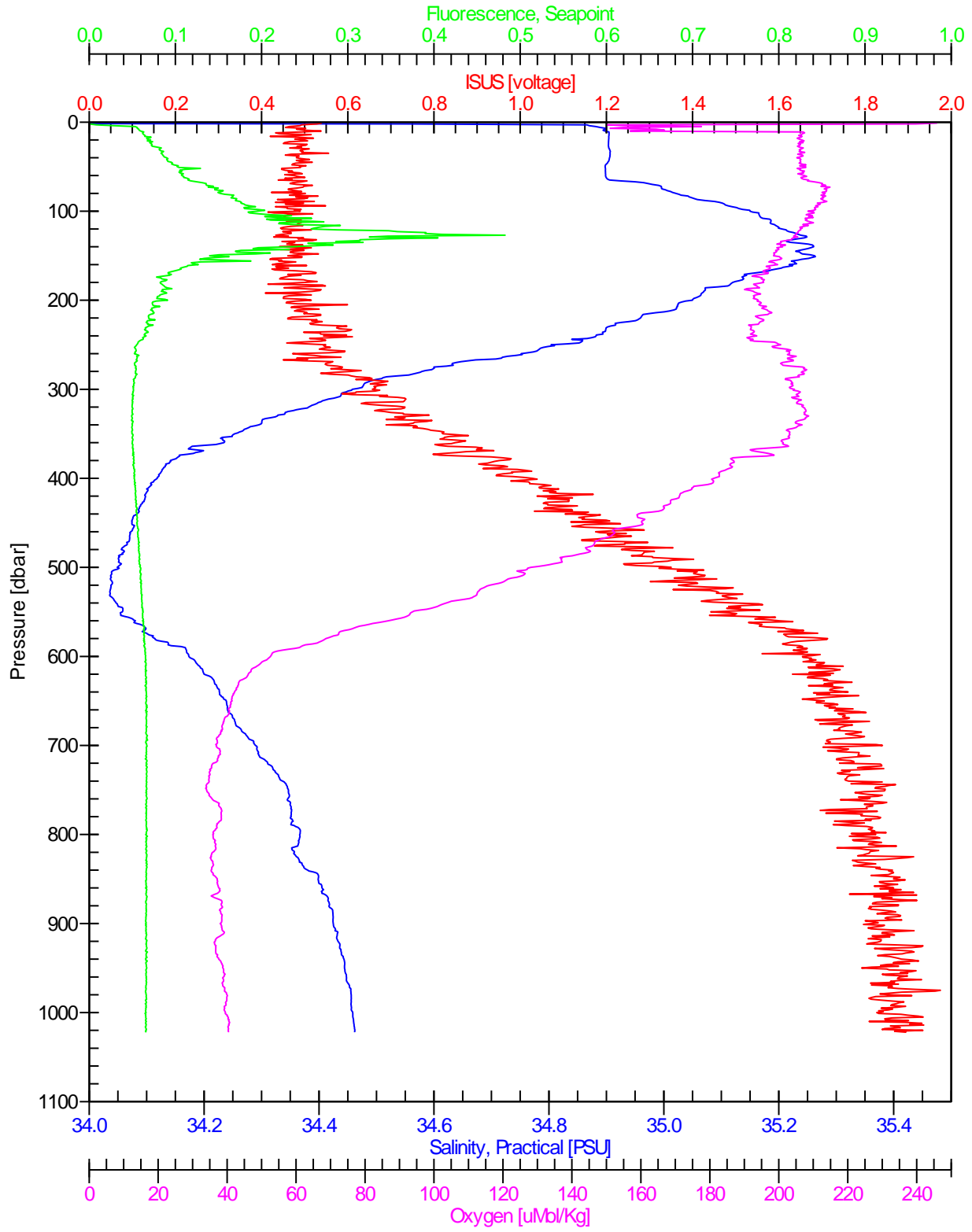
G-1000, hot-285_s2_c10.cnv



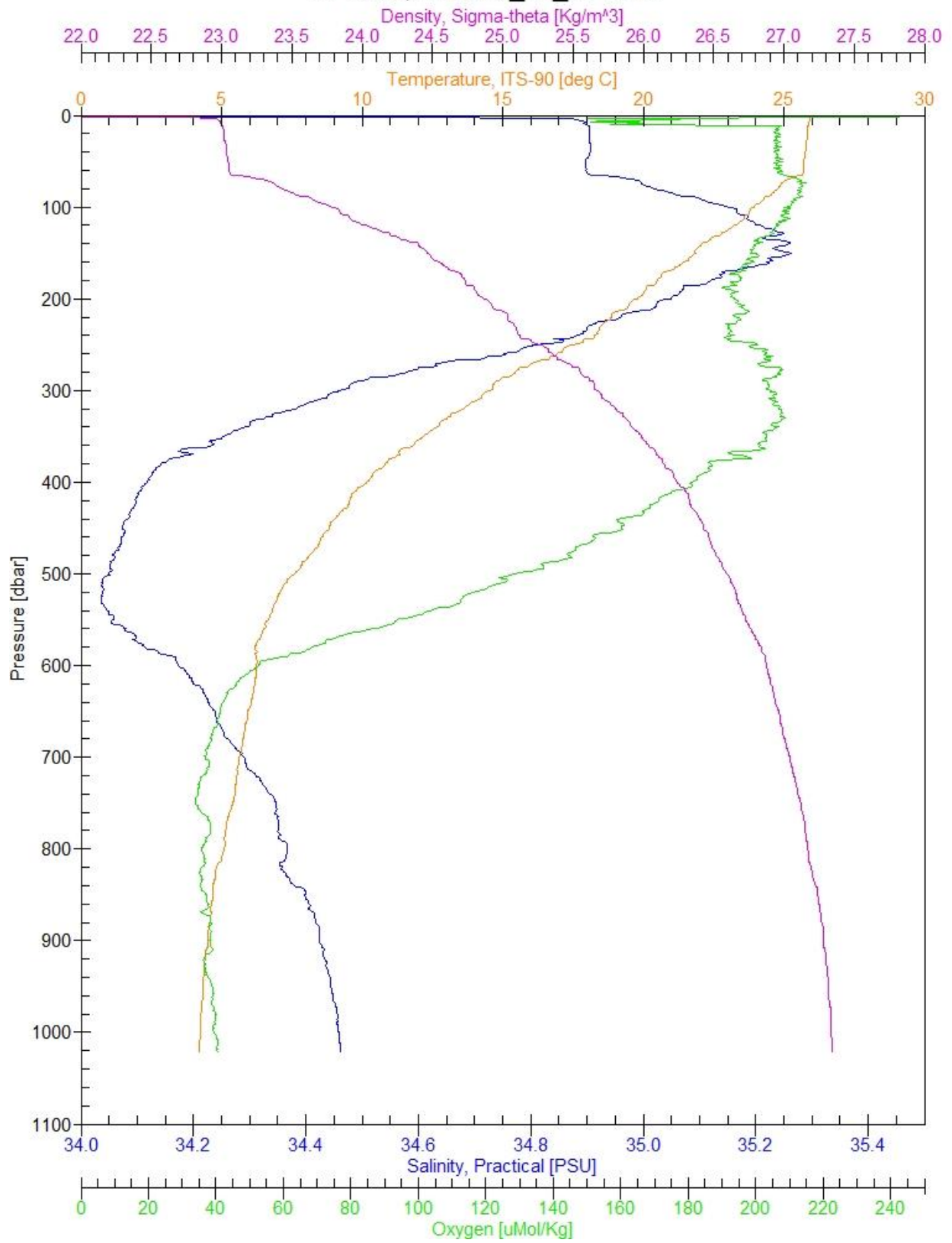
W-1000, hot-285_s2_c10.cnv



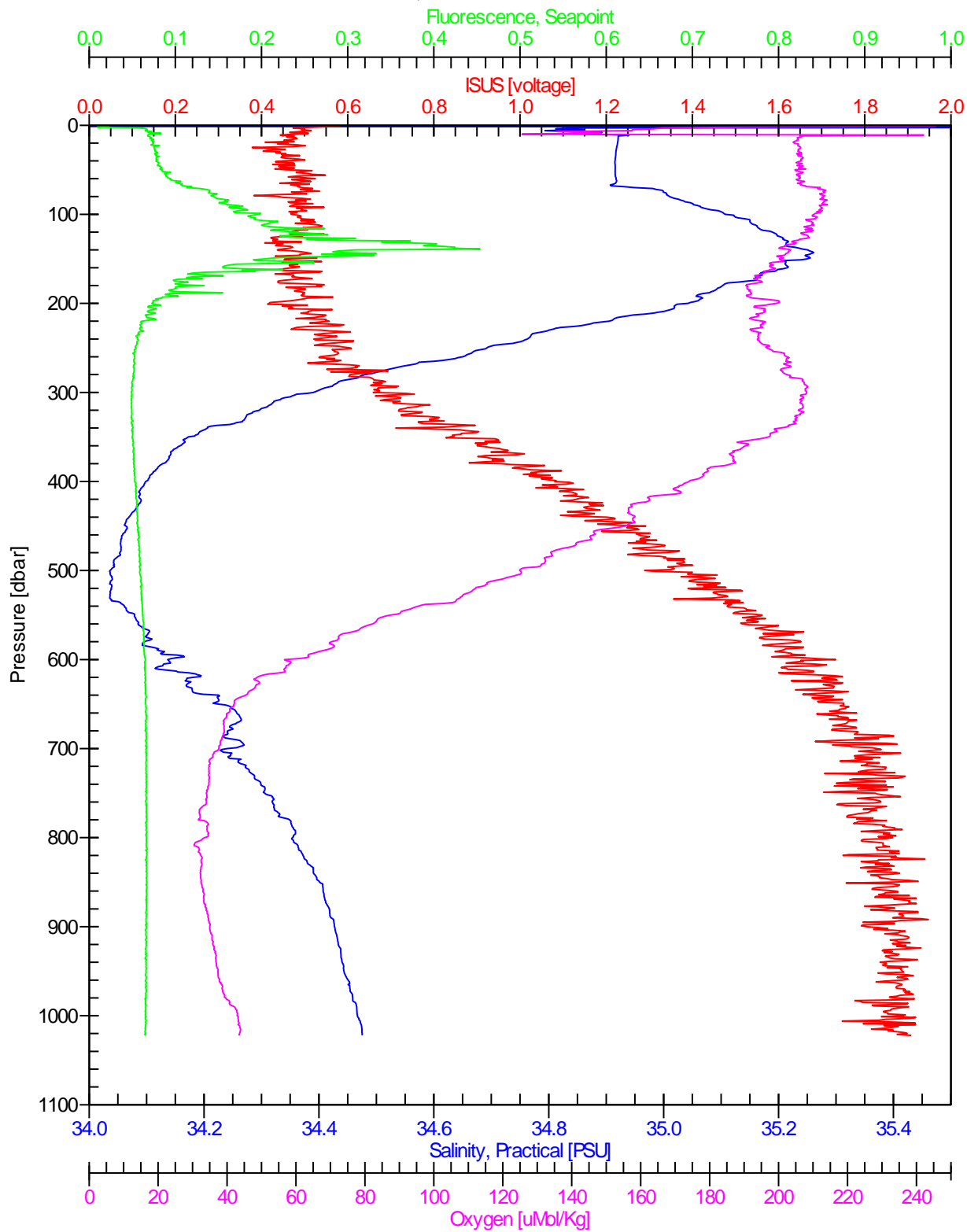
G-1000, hot-285_s2_c11.cnv



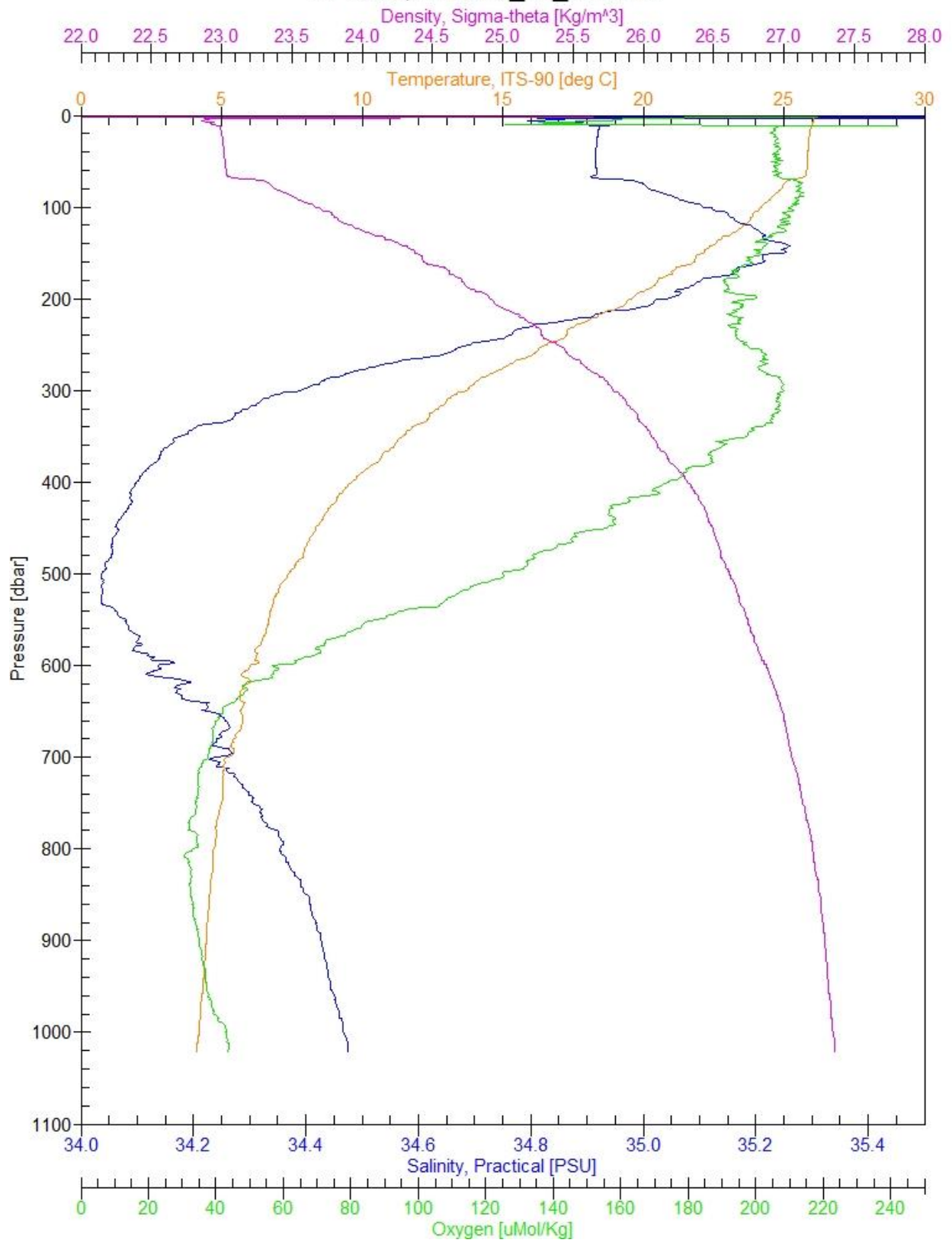
W-1000, hot-285_s2_c11.cnv



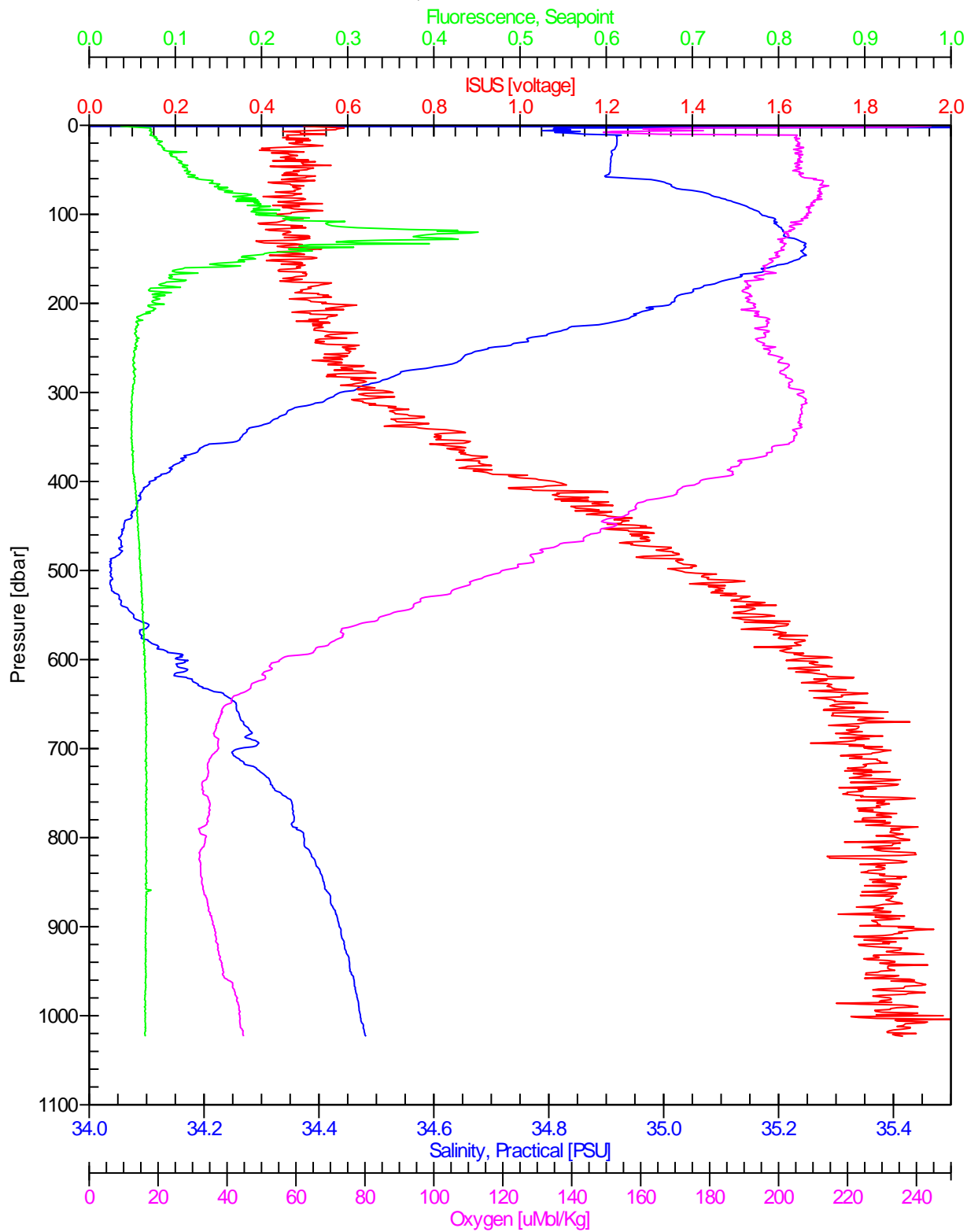
G-1000, hot-285_s2_c12.cnv



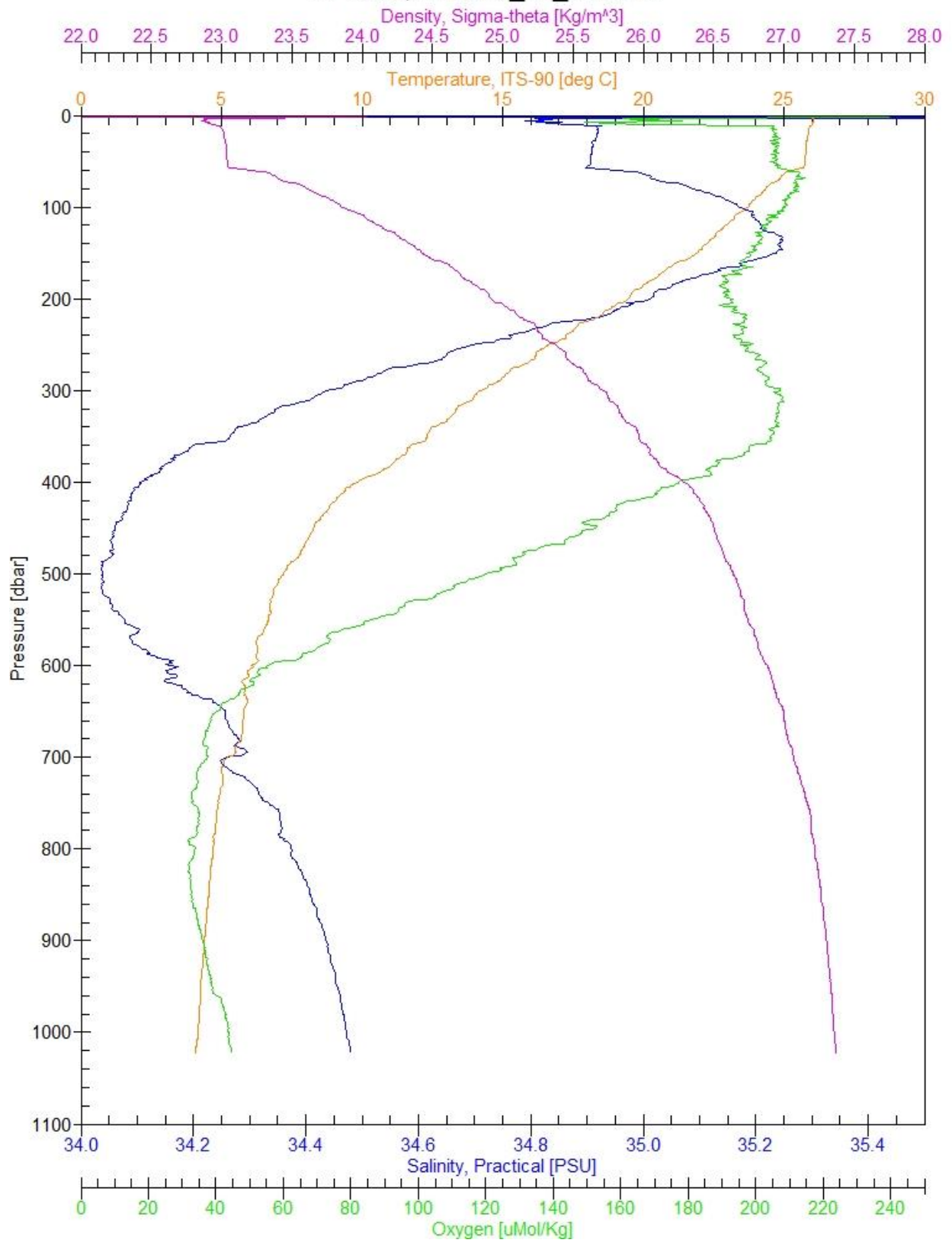
W-1000, hot-285_s2_c12.cnv



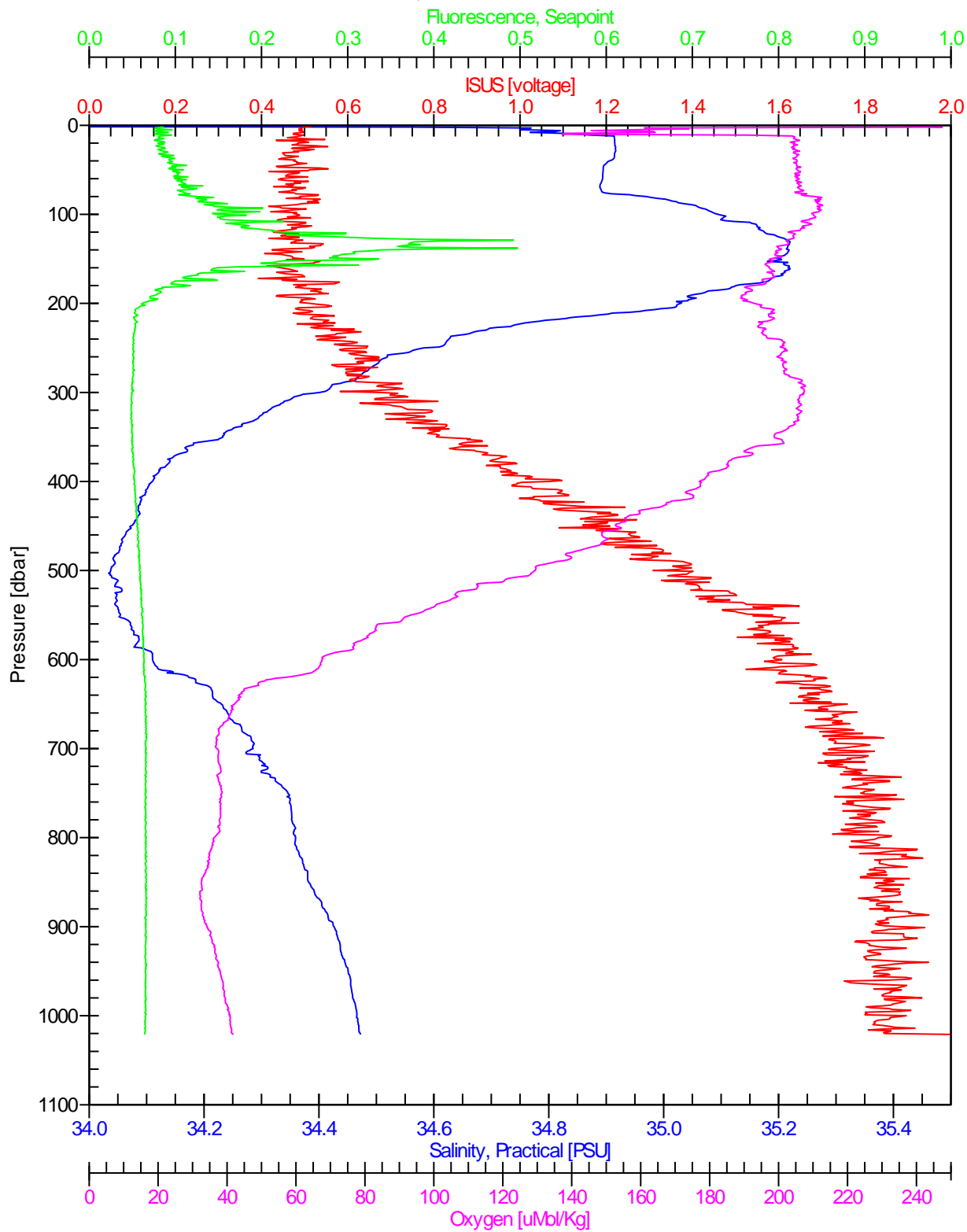
G-1000, hot-285_s2_c13.cnv



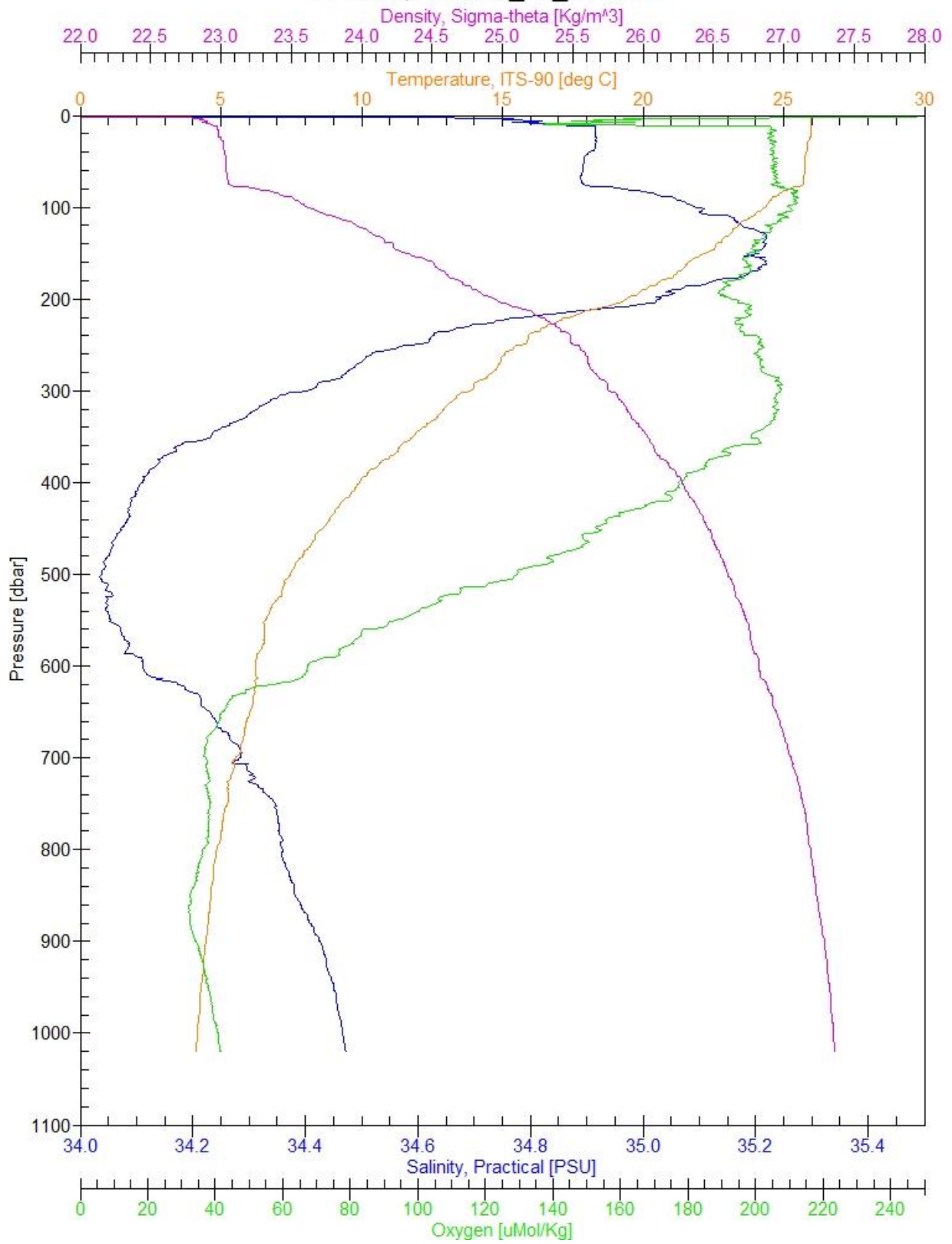
W-1000, hot-285_s2_c13.cnv



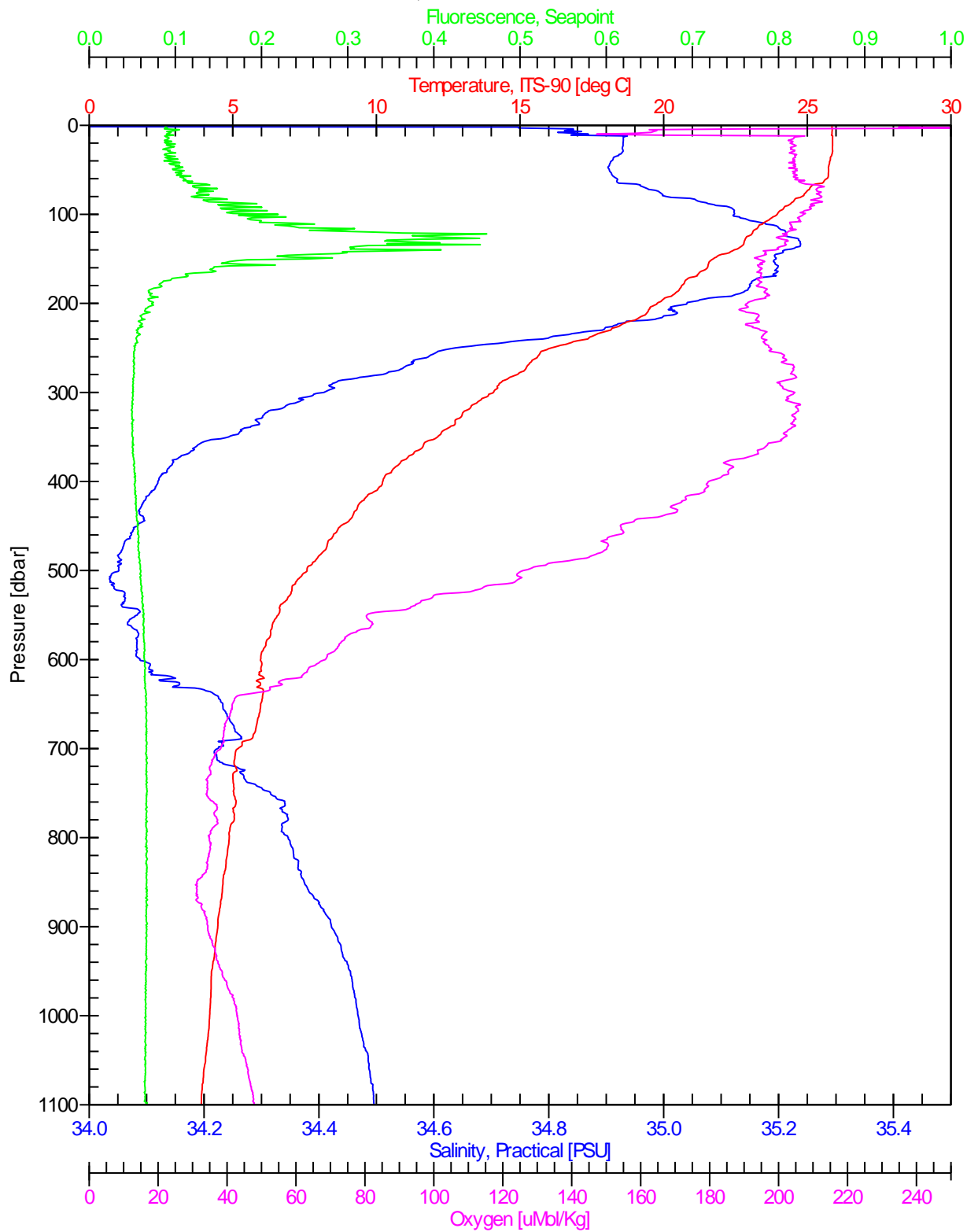
G-1000, hot-285_s2_c14.cnv



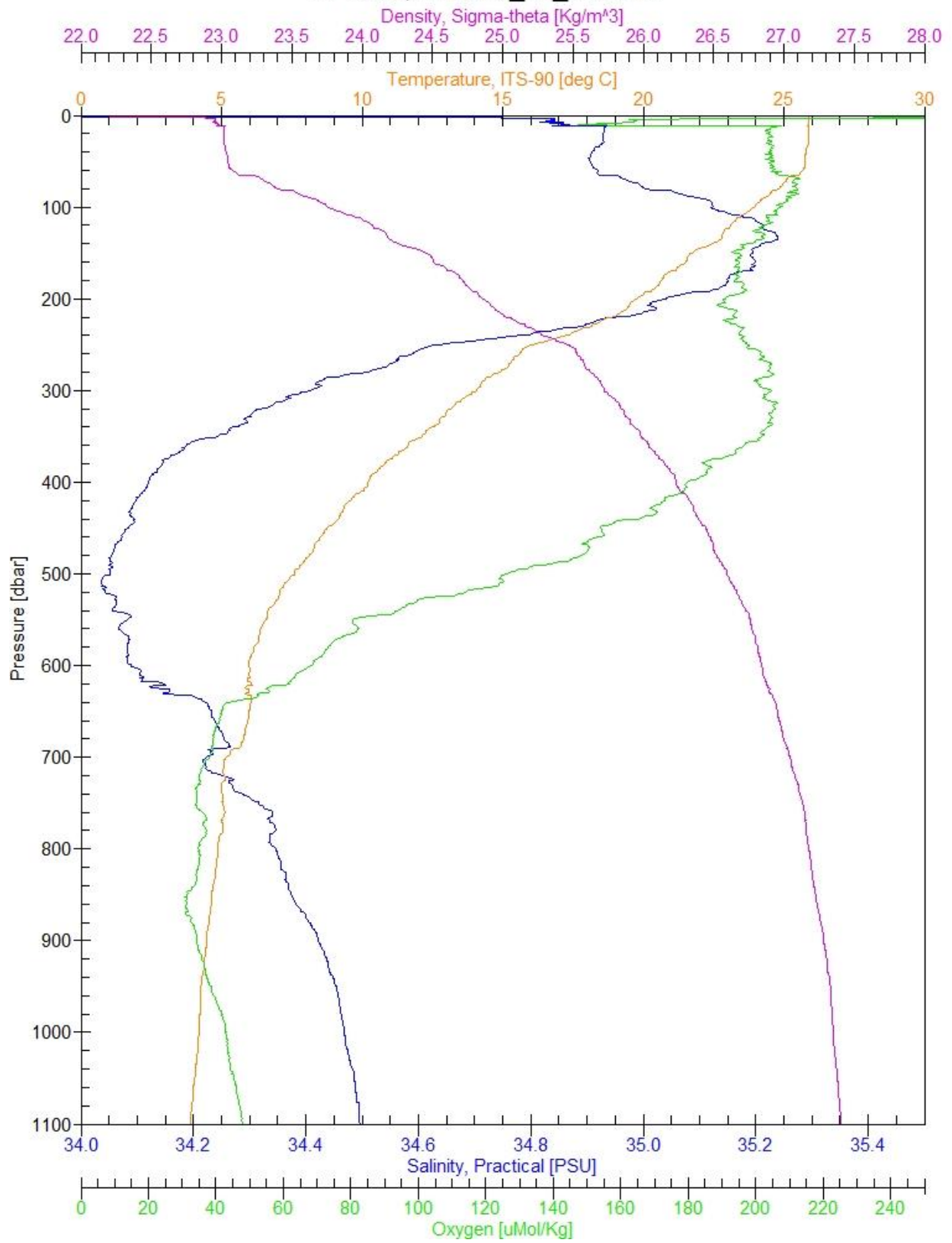
W-1000, hot-285_s2_c14.cnv



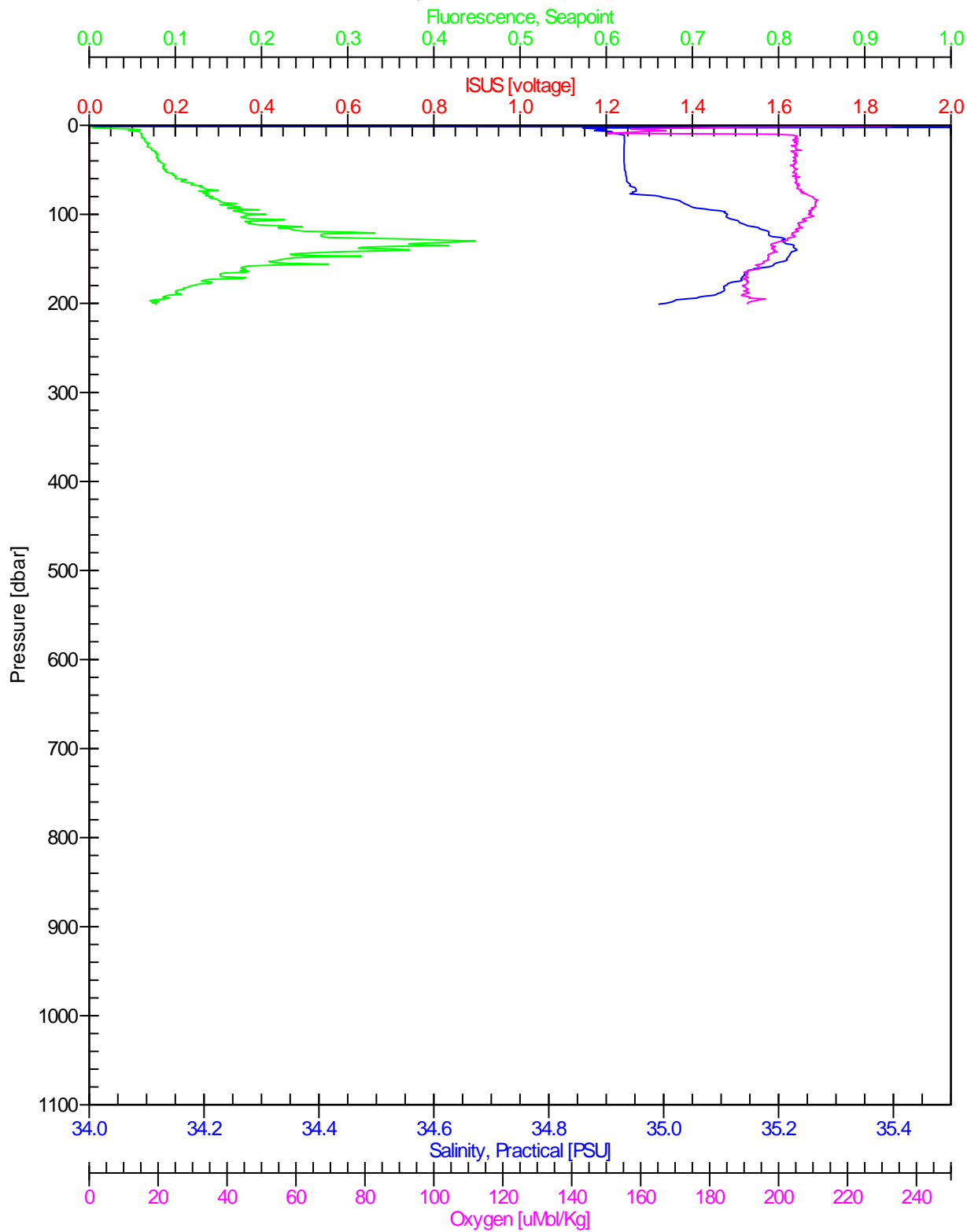
G-1000, hot-285_s2_c15.cnv



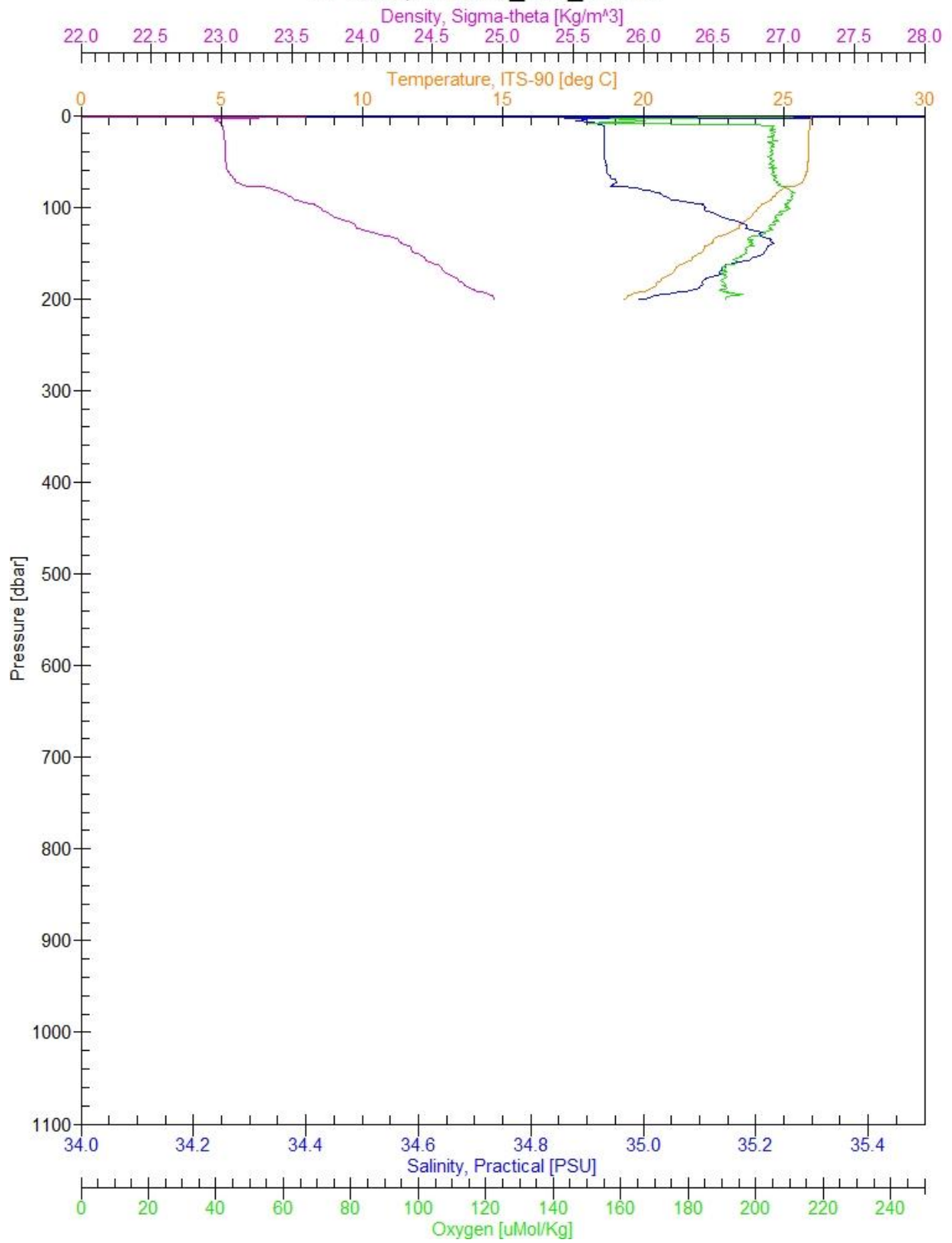
W-1000, hot-285_s2_c15.cnv



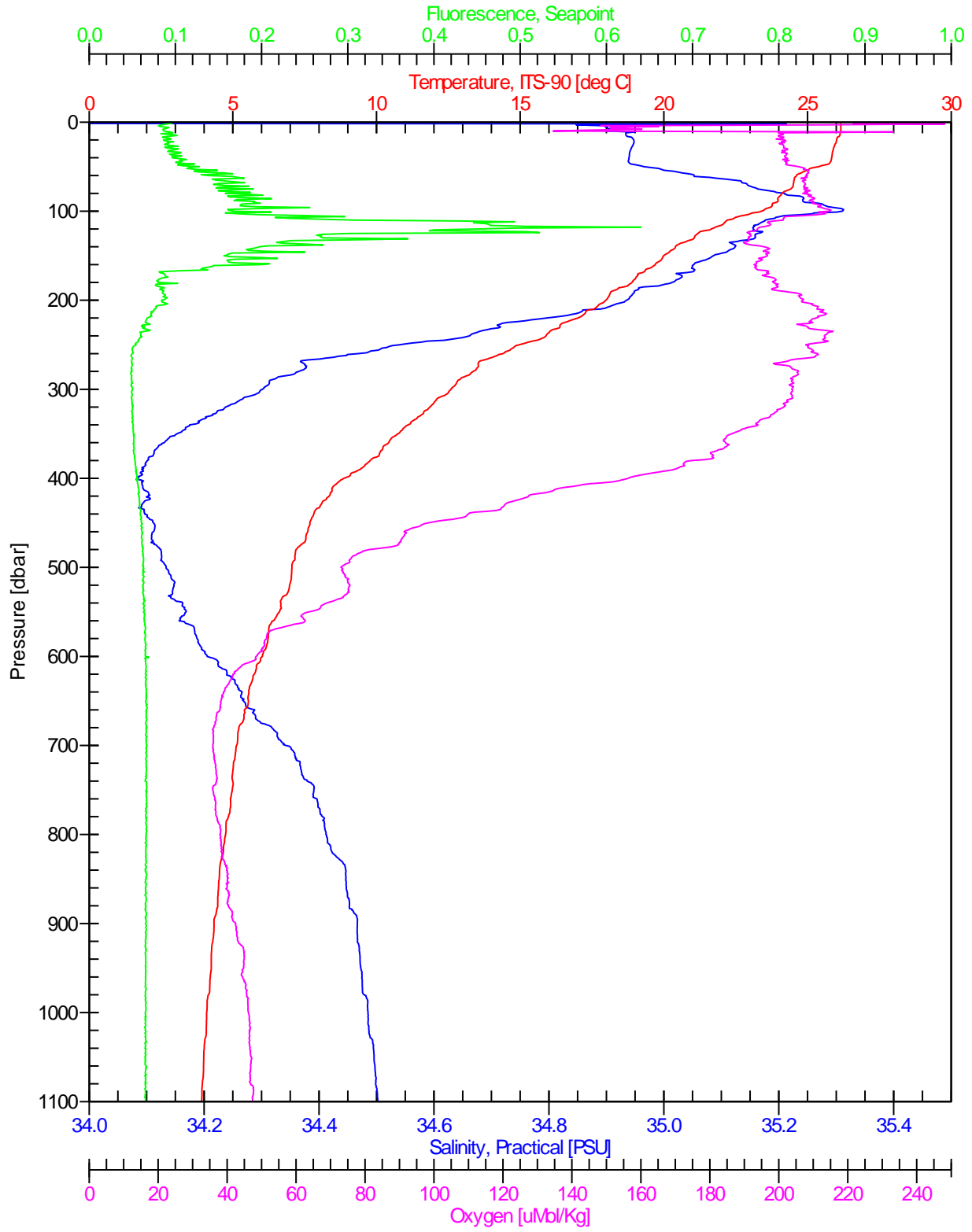
G-1000, hot-285_s50_c1.cnv



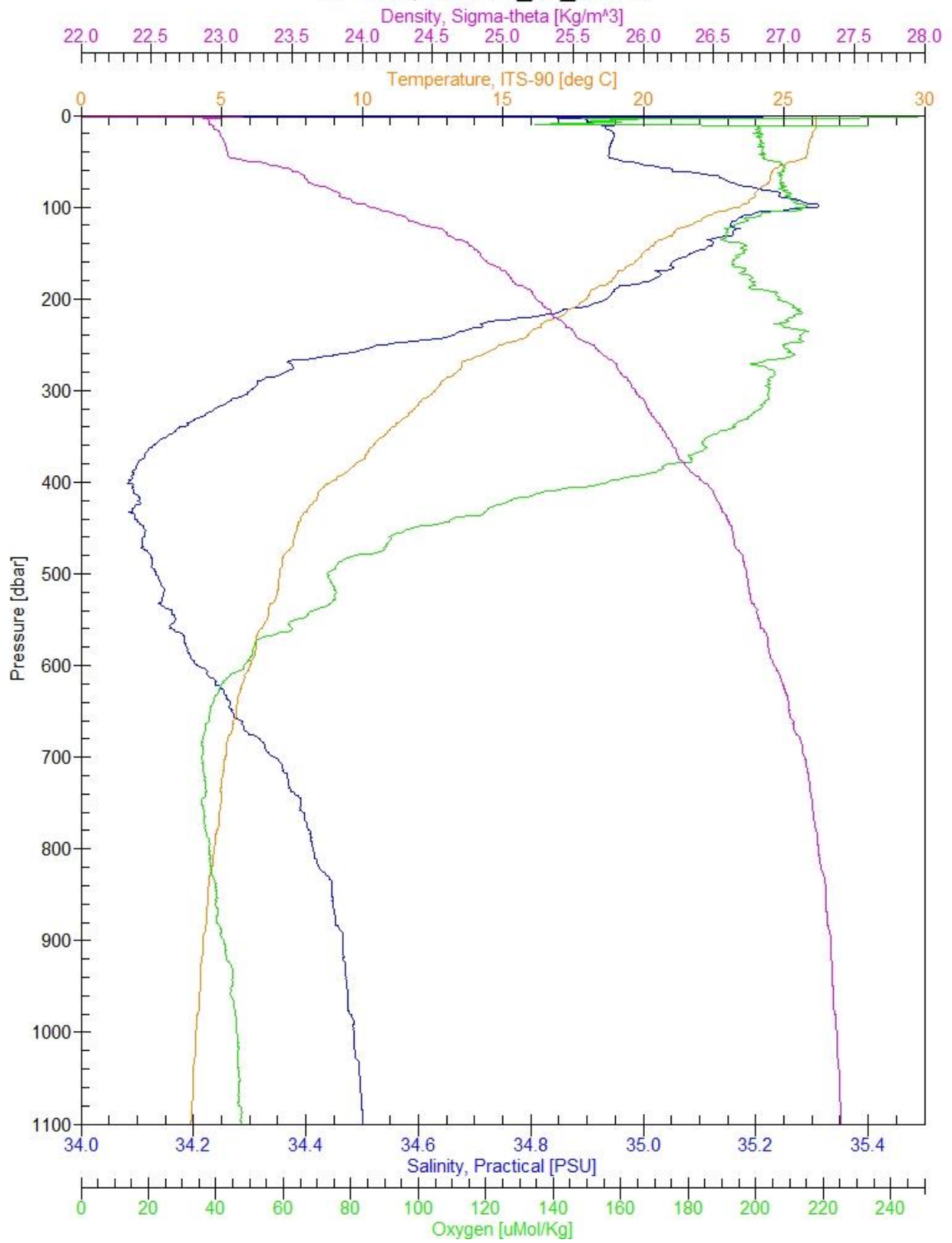
W-1000, hot-285_s50_c1.cnv



G-1000, hot-285_s6_c1.cnv



W-1000, hot-285_s6_c1.cnv



Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000GPS | 12L | 26.55 | WD/IKR |

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

mixed: 30 dbar
 sal min: 450 dbar

* sharp
 decrease in O₂
 @ ~325 dbar

| | |
|--------------------------------------------------------|-----------------------------------------------------------|
| Station: 1 | Cast: 1 |
| Latitude start: 21° 20.526' N end: 21° 20.053' N | Longitude start: 158° 16.388' W end: 158° 15.556' W |
| Depth of water: 1477 meters | Date (GMT): 7 1 11 18 |
| Pressure on Deck | Time: |
| Begin: -0.16 | Start Log: 0001 |
| End: 0.13 | In Water: 0005 |
| Max cast pressure: 1020 dbar | Out of Water: 0410 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| 1 | 00:27:40 | 00:28:00 | 1020 | 1020 | |
| 2 | 30:50 | 31:10 | 900 | 900 | |
| 3 | 33:46 | 34:06 | 801 | 800 | |
| 4 | 39:40 | 36:00 | 750 | 750 | |
| 5 | 37:40 | 38:00 | 703 | 700 | |
| 6 | 41:18 | 41:38 | 602 | 600 | |
| 7 | 44:08 | 44:28 | 501 | 500 | |
| 8 | 47:05 | 47:25 | 401 | 400 | |
| 9 | 49:05 | 49:25 | 349 | 350 | |
| 10 | | 51:00 | 299 | 300 | |
| 11 | | 52:55 | 250 | 250 | |
| 12 | | 54:30 | 225 | 225 | |
| 13 | | 55:55 | 199 | 200 | |
| 14 | | 57:25 | 175 | 175 | |
| 15 | | 58:55 | 150 | 150 | |
| 16 | | 01:00:20 | 124 | 125 | |
| 17 | | 01:01:27 | 115 | 115 | |
| 18 | | 01:02:40 | 100 | 100 | |
| 19 | | 01:04:05 | 75 | 75 | |
| 20 | | 01:05:20 | 60 | 60 | |
| 21 | | 01:06:30 | 44 | 45 | |
| 22 | | 01:07:50 | 25 | 25 | |
| 23 | | 01:09:10 | 4 | [5] | |
| 24 | | 01:09:20 | 5 | [5] | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000GPS | 12 L | 25.78 | WD |

- Pinger
 Altimeter
 Transmissometer
 BEACH Sea Tech Fluorometer
 OTG Seapoint Fluorometer
 ISUS
 PO Fluorometer
- mixed: 60 dbar

* forgot to
run videotape

| | |
|----------------------------------------------------|-------------------------------------------------------|
| Station: 2 | Cast: 1 |
| Latitude start: 22°45.535'N end: 22°45.688'N | Longitude start: 157°59.376'W end: 157°59.536'W |
| Depth of water: 4714 meters | Date (GMT): 7 11 16 |
| Pressure on Deck | Time: |
| Begin: -0.20 | Start Log: 1320 |
| End: -0.18 | In Water: 1324 |
| Max cast pressure: 200 dbar | Out of Water: 1347 |

| Trip/ Niskin | Time | Confirm | Pressure | Target Depth | Comments |
|-----------------|----------|----------|----------|-----------------|----------|
| | stopped | tripped | | | |
| 1 | 13:33:25 | 13:33:45 | 175 | 175 | |
| 2 | 35:00 | 35:20 | 150 | 150 | |
| 3 | 36:40 | 37:00 | 126 | 125 | |
| 4 | | :10 | 126 | 125 | |
| 5 | | :20 | 127 | 125 | |
| 6 | 38:35 | 38:55 | 100 | 100 | |
| 7 | | 39:05 | 99 | 100 | |
| 8 | | :15 | 99 | 100 | |
| 9 | 40:20 | 40:40 | 74 | 75 | |
| 10 | | :50 | 74 | 75 | |
| 11 | | 41:00 | 74 | 75 | |
| 12 | 42:15 | 42:35 | 45 | 45 | |
| 13 | | :45 | 45 | 45 | |
| 14 | | :55 | 44 | 45 | |
| 15 | 44:00 | 44:20 | 24 | 25 | |
| 16 | | :30 | 24 | 25 | |
| 17 | | :40 | 24 | 25 | |
| 18 | 45:45 | 46:10 | 5 | 5 | |
| 19 | | :20 | 5 | 5 | |
| 20 | | :30 | 4 | 5 | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G5000GRS | 12L | 25.74 | WD |

- Pinger
 Altimeter
 Transmissometer
 BEACH Sea Tech Fluorometer
 OTG Seapoint Fluorometer
 ISUS
 PO Fluorometer
 mixed: 60 dbar
 sal mini: 520 dbar

*spikes in secondary O₂ below ~4475 dbar on downcast, some smaller spikes on upcast

| | |
|----------------------------------------------------|-----------------------------------------------------|
| Station: 2 | Cast: 2 |
| Latitude start: 22°44.876'W end: 22°45.067'N | Longitude start: 157°59.942 end: 157°59.509'W |
| Depth of water: 4736 meters | Date (GMT): 7 11 16 |
| Pressure on Deck | Time: |
| Begin: -0.21 | Start Log: 1542 |
| End: -0.35 | In Water: 1557 |
| Max cast pressure: 4803 dbar | Out of Water: 1925 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| 1 | | 17:29:45 | 4803 | 4800 | ~9m oFP |
| 2 | 17:34:15 | 34:35 | 4600 | 4600 | |
| 3 | 37:05 | 37:30 | 4499 | 4500 | |
| 4 | 39:45 | 40:05 | 4401 | 4400 | |
| 5 | 44:20 | 44:40 | 4200 | 4200 | |
| 6 | 48:50 | 49:10 | 3999 | 4000 | |
| 7 | 53:30 | 53:50 | 3800 | 3800 | |
| 8 | 58:10 | 58:30 | 3597 | 3600 | |
| 9 | 18:02:20 | 18:02:40 | 3400 | 3400 | |
| 10 | 06:30 | 06:50 | 3199 | 3200 | |
| 11 | 10:50 | 11:10 | 2999 | 3000 | |
| 12 | 15:40 | 16:00 | 2798 | 2800 | |
| 13 | 20:00 | 20:20 | 2600 | 2600 | |
| 14 | 24:07 | 24:28 | 2399 | 2400 | |
| 15 | 28:20 | 28:40 | 2197 | 2200 | |
| 16 | 32:35 | 32:55 | 1999 | 2000 | |
| 17 | 36:50 | 37:10 | 1800 | 1800 | |
| 18 | 41:10 | 41:30 | 1599 | 1600 | |
| 19 | 45:35 | 45:55 | 1400 | 1400 | |
| 20 | 49:45 | 50:05 | 1199 | 1200 | |
| 21 | 54:00 | 54:20 | 1000 | 1000 | |
| 22 | 59:25 | 59:45 | 750 | 750 | |
| 23 | 19:05:40 | 19:06:00 | 500 | 500 | |
| 24 | 22:22 | 22:42 | 4 | 5 | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000GAS | 1ZL | 25.61 | WD |

- Pinger
 Altimeter
 Transmissometer
 BEACH Sea Tech Fluorometer
 OTG Seapoint Fluorometer
 ISUS
 PO Fluorometer
 mixed: 70 dbar
 sal min: 505 dbar

| | |
|-------------------------------------------------|----------------------------------------------------|
| Station: 2 | Cast: 3 |
| Latitude start: 22°45.039'N end: 22°45.047'N | Longitude start: 157°59.973'W end: 157°59.919'W |
| Depth of water: 4747 meters | Date (GMT): 7 / 11 / 16 |
| Pressure on Deck | Time: |
| Begin: -0.29 End: -0.17 | Start Log: 21:05 In Water: 21:10 |
| Max cast pressure: 1021 dbar | Out of Water: 22:24 |

| Trip/ Niskin | Time | Confirm | Pressure | Target Depth | Comments |
|-----------------|----------|----------|----------|-----------------|----------|
| | stopped | tripped | | | |
| 1 | 21:32:50 | 21:33:10 | 1020 | 1020 | |
| 2 | 35:15 | 35:35 | 959 | 960 | |
| 3 | 37:13 | 37:35 | 898 | 899 | |
| 4 | 38:35 | 39:15 | 850 | 850 | |
| 5 | 41:20 | 41:40 | 798 | 798 | |
| 6 | 44:15 | 44:35 | 751 | 752 | |
| 7 | 46:40 | 47:00 | 706 | 706 | |
| 8 | 49:40 | 50:00 | 647 | 647 | |
| 9 | 51:55 | 52:15 | 604 | 604 | |
| 10 | 54:20 | 54:40 | 551 | 552 | |
| 11 | 56:30 | 56:50 | 512 | 513 | |
| 12 | 57:50 | 58:10 | 504 | 505 | |
| 13 | 22:00:35 | 22:00:55 | 440 | 440 | |
| 14 | 03:00 | 03:20 | 385 | 384 | |
| 15 | 05:10 | 05:30 | 352 | 352 | |
| 16 | 07:50 | 08:10 | 289 | 290 | |
| 17 | 09:25 | 09:42 | 261 | 261 | |
| 18 | 11:45 | 12:05 | 205 | 204 | |
| 19 | 14:00 | 14:20 | 151 | 152 | |
| 20 | 16:05 | 16:25 | 115 | 115 | |
| 21 | 17:10 | 17:30 | 103 | 103 | |
| 22 | 19:00 | 19:20 | 78 | 79 | |
| 23 | 20:55 | 21:15 | 43 | 42 | |
| 24 | 23:15 | 23:35 | 5 | 5 | |

| | | | |
|-----------|--------------------|-------------|---------------------|
| Station: | <u>2</u> | Cast: | <u>3</u> |
| Latitude: | <u>22°45.039'N</u> | Longitude: | <u>157°59.973'W</u> |
| Date: | <u>7/11/16</u> | Time (GMT): | <u>21:05</u> |
| Operator: | <u>WD</u> | | |

| $\delta\theta$ | $\sigma\theta$ | Depth |
|----------------|----------------|------------|
| 700 | 20.76 | |
| 650 | 21.28 | |
| 600 | 21.80 | |
| 550 | 22.33 | |
| 500 | 22.85 | |
| 450 | 23.37 | <u>79</u> |
| 400 | 23.90 | <u>103</u> |
| 350 | 24.42 | <u>152</u> |
| 300 | 24.95 | <u>204</u> |
| 250 | 25.47 | <u>261</u> |
| 200 | 26.00 | <u>352</u> |
| 180 | 26.21 | <u>384</u> |
| 160 | 26.42 | <u>440</u> |
| 140 | 26.63 | <u>513</u> |
| 130 | 26.73 | <u>552</u> |
| 120 | 26.84 | <u>604</u> |
| 110 | 26.94 | <u>647</u> |
| 100 | 27.05 | <u>706</u> |
| 90 | 27.16 | <u>798</u> |
| 80 | 27.26 | <u>899</u> |
| 70 | 27.37 | |

| | |
|------------------|------------|
| S _{max} | <u>152</u> |
| S _{min} | <u>505</u> |
| S _{max} | |
| S _{min} | |

| | |
|------------------|------------|
| O _{max} | <u>79</u> |
| O _{min} | <u>204</u> |
| O _{max} | <u>290</u> |
| O _{min} | <u>850</u> |
| O _{max} | |

| | |
|------------------|------------|
| F _{max} | <u>115</u> |
| F _{min} | <u>290</u> |
| F _{max} | |
| F _{min} | |
| F _{max} | |

| Bottle | Depth |
|--------|-------------|
| 1 | <u>1020</u> |
| 2 | <u>960</u> |
| 3 | <u>899</u> |
| 4 | <u>850</u> |
| 5 | <u>798</u> |
| 6 | <u>752</u> |
| 7 | <u>706</u> |
| 8 | <u>647</u> |
| 9 | <u>604</u> |
| 10 | <u>552</u> |
| 11 | <u>513</u> |
| 12 | <u>505</u> |
| 13 | <u>440</u> |
| 14 | <u>384</u> |
| 15 | <u>352</u> |
| 16 | <u>290</u> |
| 17 | <u>261</u> |
| 18 | <u>204</u> |
| 19 | <u>152</u> |
| 20 | <u>115</u> |
| 21 | <u>103</u> |
| 22 | <u>79</u> |
| 23 | <u>42</u> |
| 24 | <u>5</u> |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000GPS | 12L | 26.33 | WD/KR |

- Pinger
 Altimeter
 Transmissometer
 BEACH Sea Tech Fluorometer
 OTG Seapoint Fluorometer
 ISUS
 PO Fluorometer
 mixed: 60 dbar
 sal min: 510 dbar

| | |
|-------------------------------------------------|----------------------------------------------------|
| Station: 2 | Cast: 4 |
| Latitude start: 22°46.040'N end: 22°46.247'N | Longitude start: 157°59.785'W end: 157°59.631'W |
| Depth of water: 4731 meters | Date (GMT): 7/12/16 |
| Pressure on Deck | Time: |
| Begin: -0.21 End: -0.16 | Start Log: 0023 In Water: 0028 |
| Max cast pressure: 1020 dbar | Out of Water: 0125 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| 1 | | 00:51:10 | 1020 | 1020 | |
| 2 | | 01:01:20 | 509 | 510 | Sal Min |
| 3 | | 01:05:10 | 350 | [350] | |
| 4 | | 01:05:20 | 349 | [350] | |
| 5 | | 01:08:00 | 250 | 250 | |
| 6 | | 01:10:20 | 200 | 200 | |
| 7 | | 01:11:40 | 175 | 175 | |
| 8 | | 01:13:20 | 151 | 150 | |
| 9 | | 01:14:40 | 129 | [125] | |
| 10 | | 01:14:50 | 125 | [125] | |
| 11 | | 01:16:20 | 99 | [100] | |
| 12 | | 01:16:30 | 99 | [100] | |
| 13 | | 01:17:10 | 75 | [75] | |
| 14 | | 01:17:20 | 75 | [75] | |
| 15 | | 01:17:30 | 76 | [75] | |
| 16 | | 01:20:20 | 45 | [45] | |
| 17 | | 01:20:30 | 44 | [45] | |
| 18 | | 01:20:40 | 45 | [45] | |
| 19 | | 01:22:00 | 25 | [25] | |
| 20 | | 01:22:10 | 25 | [25] | |
| 21 | | 01:22:20 | 25 | [25] | |
| 22 | | 01:23:50 | 5 | [5] | |
| 23 | | 01:24:00 | 5 | [5] | |
| 24 | | 01:40:10 | 5 | [5] | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| Globo GPS | 12L | 26.43 | KR/DM |

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

8408

mixed: 58 dbar

Sal min: 510 dbar

rosette went to 500 dbar before correcting

| | |
|-----------------------------------------------------|--------------------------------------------------------|
| Station: 2 | Cast: 5 |
| Latitude start: 22° 44.914' N end: 22° 45.218' N | Longitude start: 158° 00.128' W end: 157° 59.723' W |
| Depth of water: 4740 meters | Date (GMT): 7112116 |
| Pressure on Deck | Time: |
| Begin: -0.19 | Start Log: 0254 |
| End: -0.15 | In Water: 0304 |
| Max cast pressure: 1018 dbar | Out of Water: 0405 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| | | | | | |
| 2 | | 03:38:05 | 510 | 510 | S-min |
| 3 | | 03:42:20 | 350 | 350 | |
| 4 | | 03:42:30 | 350 | 350 | |
| 5 | | 03:45:40 | 248 | 250 | |
| 6 | | 03:48:30 | 202 | 200 | |
| 7 | | 03:50:40 | 173 | 175 | |
| 8 | | 03:53:00 | 149 | 150 | |
| 9 | | 03:59:40 | 124 | 125 | |
| 10 | | 03:56:40 | 99 | 100 | |
| 11 | | 03:58:50 | 76 | 75 | |
| 12 | | 04:00:50 | 45 | 45 | |
| 13 | | 04:02:40 | 25 | [25] | |
| 14 | | 04:02:50 | 25 | [25] | |
| 15 | | 04:04:30 | 4 | [5] | |
| 16 | | 04:04:40 | 4 | [5] | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000 GPS | 12 L | 26.10 | KR |

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

>731

Mixed layer: 56 dbar

Sal min: 480 dbar

O₂ min: 755 dbar

| | |
|------------------------------------------------------|-------------------------------------------------------|
| Station: 2 | Cast: 6 |
| Latitude start: 22° 42.165'N end: 22° 42.049'N | Longitude start: 158° 3.584'W end: 158° 3.286'W |
| Depth of water: 4764 meters | Date (GMT): 7 1 12 116 |
| Pressure on Deck | Time: |
| Begin: -0.17 End: -0.17 | Start Log: 0600 In Water: 0614 |
| Max cast pressure: 1021 dbar | Out of Water: 0728 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|--------------------|
| 1 | | 06:45:40 | 1021 | 1020 | |
| 2 | | 06:54:10 | 754 | 755 | O ₂ min |
| 3 | | 07:00:30 | 479 | 480 | S-min |
| 4 | | 07:07:20 | 201 | 200 | |
| 5 | | 07:09:00 | 174 | 175 | |
| 6 | | 07:10:10 | 164 | 165 | |
| 7 | | 07:11:20 | 150 | 150 | |
| 8 | | 07:12:40 | 131 | 130 | |
| 9 | | 07:13:30 | 125 | 125 | |
| 10 | | 07:14:40 | 113 | 115 | |
| 11 | | 07:16:00 | 107 | 110 | |
| 12 | | 07:17:10 | 100 | 100 | |
| 13 | | 07:18:20 | 90 | 90 | |
| 14 | | 07:19:10 | 85 | 85 | |
| 15 | | 07:20:10 | 73 | 75 | |
| 16 | | 07:21:10 | 61 | 60 | |
| 17 | | 07:22:20 | 45 | 45 | |
| 18 | | 07:23:20 | 34 | 35 | |
| 19 | | 07:24:10 | 23 | [25] | |
| 20 | | :24:20 | 23 | [25] | |
| 21 | | :24:30 | 23 | 15 | Mis-fire @ 25 m !! |
| 22 | | :26:00 | 7 | [5] | |
| 23 | | :26:10 | 6 | [5] | |
| 24 | | :26:20 | 7 | [5] | |

| Hawaii Ocean Time Series | | | Station #: 2 | Cast #: 6 | Box #: 8/9 |
|---------------------------|-------|----------|--------------------------|----------------|------------|
| Salinity Sample Log Sheet | | | Cruise #: HOT- 285 | Sampler: DM/KR | |
| Niskin # | Depth | Serial # | Comments | | |
| 1 | 1020 | 173 | | | |
| 2 | 755 | 174 | | | |
| 3 | 480 | 175 | | | |
| 4 | 200 | 176 | | | |
| 5 | 175 | 177 | | | |
| 6 | 165 | 178 | | | |
| 7 | 150 | 179 | | | |
| 8 | 130 | 180 | | | |
| 9 | 125 | 181 | | | |
| 10 | 115 | 182 | | | |
| 11 | 110 | 183 | | | |
| 12 | 100 | 184 | | | |
| 13 | 90 | 185 | | | |
| 14 | 85 | 186 | | | |
| 15 | 75 | 187 | | | |
| 16 | 60 | 188 | | | |
| 17 | 45 | 189 | | | |
| 18 | 35 | 190 | | | |
| 19 | 25 | 191 | | | |
| 20 | 25 | 192 | | | |
| 21 | (25) | 193 | was 15 dbar, misfired... | | |
| 22 | 5 | 194 | | | |
| 23 | 5 | 195 | | | |
| 24 | 5 | 196 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000.4PS | 12L | 25.80 | KR |

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

Mixed: 70 dbar
 Sal min: 507 dbar

| | |
|------------------------------------------------------|-------------------------------------------------------|
| Station: 2 | Cast: 7 |
| Latitude start: 22° 44.039'N end: 22° 43.826'N | Longitude start: 158° 5.208'W end: 158° 5.113'W |
| Depth of water: 4760 meters | Date (GMT): 7/12/16 |
| Pressure on Deck | Time: |
| Begin: -0.19 | Start Log: 0925 |
| End: -0.12 | In Water: 0938 |
| Max cast pressure: 1022 dbar | Out of Water: 1030 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| 1 | 09:59:41 | 10:00:00 | 1022 | 1020 | |
| 2 | | 10:10:30 | 507 | 507 | S-min |
| 3 | | 10:17:40 | 174 | [175] | |
| 4 | | 10:17:50 | 175 | [175] | |
| 5 | | 10:19:30 | 150 | [150] | |
| 6 | | 10:19:40 | 150 | [150] | |
| 7 | | 10:21:20 | 124 | [125] | |
| 8 | | 10:21:30 | 124 | [125] | |
| 9 | | 10:23:10 | 100 | [100] | |
| 10 | | 10:23:20 | 100 | [100] | |
| 11 | | 10:24:50 | 74 | 75 | |
| 12 | | 10:26:20 | 43 | 45 | |
| 13 | | 10:27:40 | 24 | [25] | |
| 14 | | 10:27:50 | 24 | [25] | |
| 15 | | 10:29:40 | 7 | [5] | |
| 16 | | 10:29:50 | 8 | [5] | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |

| Hawaii Ocean Time Series | | Station #: 2 | Cast #: 7 | Box #: 9/10 |
|---------------------------|-------|-------------------|----------------|-------------|
| Salinity Sample Log Sheet | | Cruise #: HOT-285 | Sampler: DM/KR | |
| Niskin # | Depth | Serial # | Comments | |
| ① | 1020 | 197 | | |
| ② | 5-min | 198 | | |
| ③ | 175 | 199 | | |
| 4 | | | | |
| ⑤ | 150 | 200 | | |
| 6 | | | | |
| ⑦ | 125 | 201 | | |
| 8 | | | | |
| ⑨ | 100 | 202 | | |
| 10 | | | | |
| ⑪ | 75 | 203 | | |
| ⑫ | 45 | 204 | | |
| ⑬ | 25 | 205 | | |
| 14 | | | | |
| ⑮ | 5 | 206 | | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000 GPs | 12 L | 25.92 | KR |

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

MLD: 60 dbar

Salmin: 490 dbar

| | |
|------------------------------------------------------|--------------------------------------------------------|
| Station: 2 | Cast: 8 |
| Latitude start: 22° 43.343'N end: 22° 43.424'N | Longitude start: 158° 03.693'W end: 158° 4.028'W |
| Depth of water: 4760 meters | Date (GMT): 7 11 2016 |
| Pressure on Deck | Time: |
| Begin: -0.21 | Start Log: 1159 |
| End: -0.13 | In Water: 1205 |
| Max cast pressure: 1020 dbar | Out of Water: 1259 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| | | | | | |
| 1 | 12:28:18 | 12:28:40 | 1017 | 1020 | |
| 2 | | 12:40:10 | 490 | 490 | S-Min |
| 3 | 47:40 | 48:00 | 123 | 125 | |
| 4 | | :10 | 125 | 125 | |
| 5 | | :20 | 124 | 125 | |
| 6 | 50:00 | 50:20 | 99 | 100 | |
| 7 | | :30 | 99 | 100 | |
| 8 | | :40 | 99 | 100 | |
| 9 | 51:40 | 52:00 | 75 | 75 | |
| 10 | | :10 | 75 | 75 | |
| 11 | | :20 | 76 | 75 | |
| 12 | 53:50 | 54:10 | 44 | 45 | |
| 13 | | :20 | 44 | 45 | |
| 14 | | :30 | 44 | 45 | |
| 15 | 55:40 | 56:00 | 25 | 25 | |
| 16 | | :10 | 26 | 25 | |
| 17 | | :20 | 26 | 25 | |
| 18 | | :30 | 26 | 25 | |
| 19 | 58:00 | 58:20 | 5 | 5 | |
| 20 | | :30 | 5 | 5 | |
| 21 | | :40 | 4 | 5 | |
| 22 | | :50 | 5 | 5 | |
| 23 | | | | | |
| 24 | | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000GPS | 12L | 25.91 | WD |

- Pinger
 Altimeter
 Transmissometer
 BEACH Sea Tech Fluorometer
 OTG Seapoint Fluorometer
 ISUS
 PO Fluorometer
 mixed: 55 dbar
 salmin: 520 dbar

| | |
|-------------------------------------------------|--------------------------------------------------|
| Station: 2 | Cast: 9 |
| Latitude start: 22°42.906'N end: 22°42.996'N | Longitude start: 158°2.274'W end: 158°2.391'W |
| Depth of water: 4754 meters | Date (GMT): 7 12 116 |
| Pressure on Deck | Time: |
| Begin: -0.20 End: -0.10 | Start Log: 1455 In Water: 1501 |
| Max cast pressure: 1021 dbar | Out of Water: 1603 |

| Trip/ Niskin | Time | Confirm | Pressure | Target Depth | Comments |
|-----------------|----------|----------|----------|-----------------|--------------------|
| | stopped | tripped | | | |
| 1 | 15:25:15 | 15:25:35 | 1020 | 1020 | |
| 2 | 36:45 | 37:05 | 519 | 520 | Sal Min |
| 3 | 43:00 | 43:20 | 275 | 275 | |
| 4 | 44:30 | 44:50 | 249 | 250 | |
| 5 | 46:15 | 46:35 | 222 | 225 | |
| 6 | 48:15 | 48:35 | 199 | 200 | |
| 7 | 51:30 | 52:30 | 150 | 150 | Sal max ≈ 145 dbar |
| 8 | | :40 | 151 | 150 | |
| 9 | | :50 | 151 | 150 | |
| 10 | | 53:00 | 152 | 150 | |
| 11 | | :10 | 151 | 150 | |
| 12 | | :20 | 151 | 150 | |
| 13 | | :30 | 151 | 150 | |
| 14 | | :40 | 150 | 150 | |
| 15 | | :50 | 149 | 150 | |
| 16 | | 54:00 | 150 | 150 | |
| 17 | | :10 | 149 | 150 | |
| 18 | | :20 | 149 | 150 | |
| 19 | | :30 | 149 | 150 | |
| 20 | | :40 | 150 | 150 | |
| 21 | | :50 | 151 | 150 | |
| 22 | | 55:00 | 150 | 150 | |
| 23 | 16:00:20 | 16:00:40 | 25 | 25 | |
| 24 | 02:35 | 02:55 | 5 | 5 | |

| Hawaii Ocean Time Series | | | Station #: 2 | Cast #: 9 | Box #: 10 |
|---------------------------|-------|----------|-------------------|----------------|-----------|
| Salinity Sample Log Sheet | | | Cruise #: HOT-285 | Sampler: WD/JS | |
| Niskin # | Depth | Serial # | Comments | | |
| ① | 1020 | 227 | | | |
| ② | 520 | 228 | sal min | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| ②② | 150 | 229 | SA MAX = 145 | | |
| 23 | — | — | | | |
| ②④ | 5 | 230 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000GPS | 12L | 25.92 | WD |

- Pinger
 Altimeter
 Transmissometer
 BEACH Sea Tech Fluorometer
 OTG Seapoint Fluorometer
 ISUS
 PO Fluorometer
 mixed: 60 dbar
 sal min: 512 dbar

| | |
|----------------------------------------------------|-----------------------------------------------------|
| Station: 2 | Cast: 10 |
| Latitude start: 22°43.778'N end: 22°43.718'N | Longitude start: 158°4.784'W end: 158°4.218'W |
| Depth of water: 4760 meters | Date (GMT): 7 112 116 |
| Pressure on Deck | Time: |
| Begin: -0.18 | Start Log: 1825 |
| End: -0.12 | In Water: 1830 |
| Max cast pressure: 1024 dbar | Out of Water: 1931 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| 1 | 18:58:55 | 18:59:15 | 1023 | 1020 | |
| 2 | 19:09:50 | 19:10:10 | 512 | 512 | Sal Min |
| 3 | 17:52 | 18:12 | 176 | 175 | |
| 4 | 19:30 | 19:50 | 149 | 150 | |
| 5 | 21:00 | 21:20 | 125 | 125 | |
| 6 | 22:50 | 23:10 | 100 | 100 | |
| 7 | 24:30 | 24:50 | 74 | 75 | |
| 8 | 26:25 | 26:45 | 44 | [45] | |
| 9 | | :35 | 44 | [45] | |
| 10 | 28:00 | 28:20 | 25 | [25] | |
| 11 | | :30 | 25 | [25] | |
| 12 | | :40 | 25 | [25] | |
| 13 | 29:45 | 30:05 | 5 | [5] | |
| 14 | | :15 | 5 | [5] | |
| 15 | | :25 | 5 | [5] | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |

| Hawaii Ocean Time Series | | Station #: 2 | Cast #: 10 | Box #: 10 |
|---------------------------|-------|--------------------|-------------------|-----------|
| Salinity Sample Log Sheet | | Cruise #: HOT- 285 | Sampler: WD/JS/AA | |
| Niskin # | Depth | Serial # | Comments | |
| 1 | 1020 | 231 | | |
| 2 | 512 | 232 | Sal min | |
| 3 | 175 | 233 | | |
| 4 | 150 | 234 | | |
| 5 | 125 | 235 | | |
| 6 | 100 | 236 | | |
| 7 | 75 | 237 | | |
| 8 | 45 | 238 | | |
| 9 | — | — | | |
| 10 | 25 | 239 | | |
| 11 | — | — | | |
| 12 | — | — | | |
| 13 | 5 | 240 | | |
| 14 | — | — | | |
| 15 | — | — | | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1900GPS | 12L | 26.01 | WD |

- Pinger
 Altimeter
 Transmissometer
 BEACH Sea Tech Fluorometer
 OTG Seapoint Fluorometer
 ISUS
 PO Fluorometer
 mixed : 62 dbar
 sal min : 520 dbar

| | |
|----------------------------------------------------|-------------------------------------------------------|
| Station: 2 | Cast: 11 |
| Latitude start: 22°44.038'N end: 22°44.280'N | Longitude start: 158° 2.338'W end: 158° 1.873'W |
| Depth of water: 4751 meters | Date (GMT): 7 12 16 |
| Pressure on Deck | Time: |
| Begin: -0.19 | Start Log: 20 59 |
| End: -0.13 | In Water: 21:05 |
| Max cast pressure: 1021 dbar | Out of Water: 22:07 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------------------|
| 1 | 21:29:40 | 21:30:00 | 1021 | 1020 | |
| 2 | 35:00 | 35:20 | 802 | [800] | |
| 3 | | :30 | 802 | [800] | |
| 4 | 40:15 | 40:35 | 600 | [600] | |
| 5 | | :45 | 599 | [600] | |
| 6 | 43:25 | 43:45 | 520 | 520 | Sal Min |
| 7 | 47:22 | 47:45 | 401 | [400] | |
| 8 | | :55 | 401 | [400] | |
| 9 | 53:00 | 53:20 | 200 | [200] | |
| 10 | | :30 | 200 | [200] | |
| 11 | 55:10 | 55:30 | 149 | [150] | sal max @ ≈ 145 dbar |
| 12 | | :40 | 149 | [150] | |
| 13 | 57:55 | 58:15 | 99 | [100] | |
| 14 | | :25 | 100 | [100] | |
| 15 | 59:30 | 59:50 | 75 | [75] | |
| 16 | | 22: 00:00 | 74 | [75] | |
| 17 | 22: 01:30 | 01:50 | 44 | [45] | |
| 18 | | 02:00 | 44 | [45] | |
| 19 | 03:25 | 03:50 | 25 | [25] | |
| 20 | | 04:00 | 24 | [25] | |
| 21 | | :10 | 25 | [25] | |
| 22 | 05:15 | 05:35 | 4 | [5] | |
| 23 | | :45 | 4 | [5] | |
| 24 | | :55 | 4 | [5] | |

| Hawaii Ocean Time Series | | Station #: 2 | Cast #: 11 | Box #: 11 |
|---------------------------|-------|--------------------|---------------------|-------------------|
| Salinity Sample Log Sheet | | Cruise #: HOT- 295 | | Sampler: WP/JS/AA |
| Niskin # | Depth | Serial # | Comments | |
| ① | 1920 | 241 | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| ⑥ | | 242 | Sal Min | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| ⑪ | 150 | 243 | Sal max @ ~145 dbal | |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| ⑫ | 5 | 244 | | |
| 23 | | | | |
| 24 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000GTS | 12L | 26.27 | WD/KR |

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

mixed: 65 dbar
sal min: 520 dbar

| | |
|----------------------------------------------------|------------------------------------------------------|
| Station: 2 | Cast: 12 |
| Latitude start: 22°44.719'N end: 22°44.360'N | Longitude start: 157°59.914'W end: 157°0.078'W |
| Depth of water: 4739 meters | Date (GMT): 7 113 116 |
| Pressure on Deck | Time: |
| Begin: -0.22 | Start Log: 0000 |
| End: -0.11 | In Water: 0004 |
| Max cast pressure: 1021 dbar | Out of Water: 0102 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| 1 | 00:27:40 | 00:28:00 | 1020 | 1020 | |
| 2 | 32:55 | 33:15 | 770 | [770] | |
| 3 | | :25 | 770 | [770] | |
| 4 | 38:45 | 39:05 | 519 | 520 | Sal Min |
| 5 | 40:15 | 40:35 | 500 | [500] | |
| 6 | | :45 | 500 | [500] | |
| 7 | 43:30 | 43:50 | 399 | [400] | |
| 8 | | 44:00 | 399 | [400] | |
| 9 | | 45:50 | 349 | 350 | |
| 10 | | 47:50 | 300 | [300] | |
| 11 | | 48:00 | 300 | [300] | |
| 12 | | 49:50 | 249 | 250 | |
| 13 | | 52:50 | 149 | 150 | |
| 14 | | 54:20 | 125 | [125] | |
| 15 | | 54:30 | 125 | [125] | |
| 16 | | 56:00 | 101 | 100 | |
| 17 | | 57:20 | 75 | 75 | |
| 18 | | 58:50 | 45 | 45 | |
| 19 | | 01:00:00 | 25 | [25] | |
| 20 | | 01:00:10 | 25 | [25] | |
| 21 | | 01:00:20 | 24 | [25] | |
| 22 | | 01:01:40 | 5 | [5] | |
| 23 | | 01:01:50 | 5 | [5] | |
| 24 | | | | | |

| Hawaii Ocean Time Series | | Station #: 2 | Cast #: 12 | Box #: 11 |
|---------------------------|-------|--------------------|-------------------|-----------|
| Salinity Sample Log Sheet | | Cruise #: HOT- 285 | Sampler: KR1DM/AA | |
| Niskin # | Depth | Serial # | Comments | |
| 1 | 1020 | 245 | | |
| 2 | | | | |
| 3 | | | | |
| 4 | 520 | 246 | Sal min | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | 350 | 247 | | |
| 10 | | | | |
| 11 | | | | |
| 12 | 250 | 248 | | |
| 13 | 150 | 249 | | |
| 14 | 125 | 250 | | |
| 15 | | | | |
| 16 | 100 | 251 | | |
| 17 | 75 | 252 | | |
| 18 | 45 | 253 | | |
| 19 | | | | |
| 20 | 25 | 254 | | |
| 21 | | | | |
| 22 | 5 | 255 | | |
| 23 | 5 | | | |
| 24 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G1000 GPS | 12L | 26.02 | KR |

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

MLD: 52 dbar

Salmin: 510 dbar

| | |
|------------------------------------------------------|-----------------------------------------------------|
| Station: 2 | Cast: 13 |
| Latitude start: 22° 44.491'N end: 22° 44.605'N | Longitude start: 158° 0.012'W end: 158° 0.361 |
| Depth of water: 4739 meters | Date (GMT): 7113 116 |
| Pressure on Deck | Time: |
| Begin: -0.72 | Start Log: 0254 |
| End: -0.16 | In Water: 0302 |
| Max cast pressure: 1021 dbar | Out of Water: 0356 (0405) |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| | | | | | |
| 2 | | 03:31:30 | 698 | 700 | |
| 3 | | 03:36:30 | 512 | 510 | S-min |
| 4 | | 43:40 | 175 | 175 | |
| 5 | | 45:00 | 148 | 150 | |
| 6 | | 46:30 | 124 | 125 | |
| 7 | | 48:00 | 99 | 100 | |
| 8 | | 49:40 | 76 | 75 | |
| 9 | | 51:40 | 45 | 45 | |
| 10 | | 53:10 | 24 | [25] | |
| 11 | | 53:20 | 24 | [25] | |
| 12 | | 54:50 | 5 | [5] | |
| 13 | | 55:00 | 5 | [5] | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |

| Hawaii Ocean Time Series | | Station #: | 2 | Cast #: | 13 | Box #: | 11 | |
|---------------------------|-------|------------|----------|---------|----|----------|----|-------|
| Salinity Sample Log Sheet | | Cruise #: | | HOT-285 | | Sampler: | | DM/KR |
| Niskin # | Depth | Serial # | Comments | | | | | |
| ① | 1020 | 256 | | | | | | |
| 2 | | | | | | | | |
| ③ | 510 | 257 | S-min | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| ⑫ | 5 | 258 | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | | | | | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| GLASS GPS | 12 L | 26.08 | KR |

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

MLD: 76 dbar

0657

Sal min: 500 dbar

| | |
|-----------------------------------------------------|------------------------------------------------------|
| Station: 2 | Cast: 14 |
| Latitude start: 22° 44.850' N end: 22° 44.711' N | Longitude start: 158° 1.207' W end: 158° 0.995' W |
| Depth of water: 4742 meters | Date (GMT): 7/13/16 |
| Pressure on Deck | Time: |
| Begin: -0.17 | Start Log: 0557 |
| End: -0.12 | In Water: 0605 |
| Max cast pressure: 1020 dbar | Out of Water: 0655 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| 1 | 06:25:20 | 06:25:40 | 1019 | 1020 | |
| 2 | | 06:35:20 | 500 | 500 | 5-min |
| 3 | | 06:41:40 | 175 | 175 | |
| 4 | | 06:41:50 | 175 | 175 | |
| 5 | | 06:42:00 | 150 | 150 | |
| 6 | | 06:42:10 | 150 | 150 | |
| 7 | | 06:44:10 | 134 | 135 | |
| 8 | | 06:45:00 | 125 | 125 | |
| 9 | | 06:45:10 | 124 | 125 | |
| 10 | | 06:46:00 | 114 | 115 | |
| 11 | | 06:47:00 | 99 | 100 | |
| 12 | | 06:47:10 | 99 | 100 | |
| 13 | | 06:48:00 | 85 | 85 | |
| 14 | | 06:48:50 | 74 | 75 | |
| 15 | | 06:49:00 | 74 | 75 | |
| 16 | | 06:50:00 | 59 | 60 | |
| 17 | | 06:51:00 | 44 | 45 | |
| 18 | | 06:51:10 | 45 | 45 | |
| 19 | | 06:52:30 | 24 | 25 | |
| 20 | | 06:52:40 | 24 | 25 | |
| 21 | | 06:53:50 | 5 | 5 | |
| 22 | | 06:54:00 | 5 | 5 | |
| 23 | | | | | |
| 24 | | | | | |

| Hawaii Ocean Time Series | | | Station #: 2 | Cast #: 141 | Box #: 11, 12 |
|---------------------------|-------|----------|-------------------|-----------------|---------------|
| Salinity Sample Log Sheet | | | Cruise #: HOT-285 | Sampler: DM/KR/ | |
| Niskin # | Depth | Serial # | Comments | | |
| 1 | 1020 | 259 | | | |
| 2 | | 260 | 5-min | | |
| 3 | 175 | 261 | | | |
| 4 | 175 | 262 | | | |
| 5 | 150 | 263 | | | |
| 6 | 150 | 264 | | | |
| 7 | 135 | 265 | | | |
| 8 | 125 | 266 | | | |
| 9 | 125 | 267 | | | |
| 10 | 115 | 268 | | | |
| 11 | 100 | 269 | | | |
| 12 | 100 | 270 | | | |
| 13 | 85 | 271 | | | |
| 14 | 75 | 272 | | | |
| 15 | 75 | 273 | | | |
| 16 | 60 | 274 | | | |
| 17 | 45 | 275 | | | |
| 18 | 45 | 276 | | | |
| 19 | 25 | 277 | | | |
| 20 | 25 | 278 | | | |
| 21 | 5 | 279 | | | |
| 22 | 5 | 280 | | | |
| 23 | | | | | |
| 24 | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G5000GPS | 12L | 25.91 | KR |

| | |
|-------------------------------|---------------------------------|
| Station: 2 | Cast: 15 |
| Latitude start: 22° 44.915' N | Longitude start: 157° 59.893' W |
| end: 22° 45.143' N | end: 157° 59.892' W |
| Depth of water: 4741 meters | Date (GMT): 7 113 116 |
| Pressure on Deck | Time: |
| Begin: 0.22 | Start Log: 0859 |
| End: -0.28 | In Water: 0906 |
| Max cast pressure: 4805 dbar | Out of Water: 1218 |

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

MLD: 60 dbar
Sal min: 490 dbar

| | |
|------|------|
| dbar | alti |
| 4750 | 59 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|---------------------------------------|
| 1 | | 10:40:17 | 4804 | 4800 | 8 m off @ 22° 44.78' N 157° 59.726' W |
| 2 | | 10:55:30 | 3999 | 4000 | |
| 3 | | 10:55:40 | 4001 | 4000 | |
| 4 | | 11:14:10 | 3200 | 3000 | |
| 5 | | 11:14:20 | 3000 | 3000 | |
| 6 | | 11:32:50 | 1999 | 2000 | |
| 7 | | 11:33:00 | 2000 | 2000 | |
| 8 | | 11:52:10 | 998 | 1000 | |
| 9 | | 11:55:30 | 860 | 860 | O ₂ min |
| 10 | | 12:04:20 | 491 | 490 | S ₂ min |
| 11 | | 12:11:40 | 78 | 78 | O ₂ max |
| 12 | | 12:14:20 | 4 | 5 | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |

| Hawaii Ocean Time Series | | Station #: 2 | Cast #: 15 | Box #: 12 |
|---------------------------|-------|-------------------|--------------------|----------------|
| Salinity Sample Log Sheet | | Cruise #: HOT-285 | | Sampler: WD/JS |
| Niskin # | Depth | Serial # | Comments | |
| 1 | 41800 | 281 | | |
| 2 | 4000 | 282 | | |
| 3 | 4000 | | | |
| 4 | 3000 | 283 | | |
| 5 | 3000 | | | |
| 6 | 2000 | 284 | | |
| 7 | 2000 | | | |
| 8 | 1000 | | | |
| 9 | 860 | 285 | O ₂ min | |
| 10 | 490 | 286 | S-min | |
| 11 | 78 | 287 | O ₂ max | |
| 12 | 5 | 288 | | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Hawaii Ocean Time-Series CONSOLE LOG

| | | | |
|----------------------|--------------------|--------------|----------------|
| Cast type G200GPS | Bottle type 12L | SST 25.59 | Operator WD |
|----------------------|--------------------|--------------|----------------|

- Pinger
 Altimeter
 Transmissometer
 BEACH Sea Tech Fluorometer
 OTG Seapoint Fluorometer
 ISUS
 PO Fluorometer
 Mixed: 60 dbar
 Sal min: N/A

cycles: ###

(5)

*significant hysteresis in transmissometer

| | |
|----------------------------------------------------|-------------------------------------------------------|
| Station: 50 | Cast: 1 |
| Latitude start: 22°46.323'N end: 22°46.395'N | Longitude start: 157°56.234'W end: 157°56.426'W |
| Depth of water: 4707 meters | Date (GMT): 7 113 116 |
| Pressure on Deck | Time: |
| Begin: -0.15 End: -0.21 | Start Log: 2206 In Water: 2209 |
| Max cast pressure: 201 dbar | Out of Water: 2307 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| 1 | 22:57:10 | 22:57:30 | 25 | [25] | |
| 2 | | :50 | 25 | [25] | |
| 3 | 23:00:00 | 23:00:20 | 45 | 45 | |
| 4 | 01:10 | 02:00 | 24 | [25] | |
| 5 | | :10 | 24 | 25 | |
| 6 | | :30 | 25 | 25 | |
| 7 | | :40 | 24 | 25 | |
| 8 | | :50 | 24 | 25 | |
| 9 | | 3:00 | 24 | 25 | |
| 10 | | 3:10 | 24 | 25 | |
| 11 | | :20 | 24 | 25 | |
| 12 | | :30 | 24 | 25 | |
| 13 | | :40 | 24 | 25 | |
| 14 | | :50 | 24 | 25 | |
| 15 | | 4:00 | 24 | 25 | |
| 16 | | 4:10 | 24 | 25 | |
| 17 | | :20 | 24 | 25 | |
| 18 | | :30 | 24 | 25 | |
| 19 | | :40 | 24 | 25 | |
| 20 | | :50 | 24 | 25 | |
| 21 | | 5:00 | 24 | 25 | |
| 22 | | 5:10 | 24 | [25] | |
| 23 | 06:15 | 06:35 | 5 | [5] | |
| 24 | | :45 | 5 | [5] | |

Hawaii Ocean Time-Series CONSOLE LOG

| Cast type | Bottle type | SST | Operator |
|-----------|-------------|-------|----------|
| G5000 GPS | 12L | 26.34 | KR/DM |

- Pinger
 Altimeter
 Transmissometer
 BEACH Sea Tech Fluorometer 0853
 OTG Seapoint Fluorometer
 ISUS
 PO Fluorometer

MLD: 47 dbar
 5-min: 405 dbar

| prs | alti |
|------|------|
| 2354 | 24 |
| 2400 | 38 |
| 2420 | 18 |

| | |
|------------------------------------------------------|---------------------------------------------------------|
| Station: 6 | Cast: 1 |
| Latitude start: 21° 50.603'N end: 21° 50.637'N | Longitude start: 158° 21.608'W end: 158° 21.937'W |
| Depth of water: 2442 meters | Date (GMT): 7/14/16 |
| Pressure on Deck | Time: |
| Begin: 0.18 | Start Log: 0704 |
| End: -0.16 | In Water: 0709 |
| Max cast pressure: 2428 dbar | Out of Water: 0851 |

| Trip/ Niskin | Time stopped | Confirm tripped | Pressure | Target Depth | Comments |
|-----------------|-----------------|--------------------|----------|-----------------|----------|
| | | | | | |
| 2 | 08:07:30 | 2000 | 2000 | | |
| 3 | 08:16:50 | 1498 | 1500 | | |
| 4 | 08:26:10 | 999 | 1000 | | |
| 5 | 08:35:20 | 499 | 500 | | |
| 6 | 08:41:40 | 177 | 175 | | |
| 7 | 08:43:00 | 150 | 150 | | |
| 8 | 08:44:10 | 124 | 125 | | |
| 9 | 08:45:20 | 99 | 100 | | |
| 10 | 08:46:30 | 74 | 75 | | |
| 11 | 08:47:40 | 45 | 45 | | |
| 12 | 08:48:40 | 25 | 25 | | |
| 13 | 08:49:50 | 4 | 5 | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |

HOT 285

CTD Configurations

CTD: 850^J

Deck Unit: 111361

Pressure: 1430

Carousel: 518

T₁: 1416T₂: 5519C₁: 3162C₂: 3984O₁: 43918O₂: 43262Pump₁: 968Pump₂: 494

Fluorometer: 3602

Altimeter: 7769

Bucket Thermometer: 201002

Transmissometer: 1366

Cruise Participants:

Susan Curless

Jeff Koch

Brie Maillot

Steve Tottoni

> OTG

Alexa Nelson

Dan Sadler

Brenner Wai

Blake Watkins

Greyson Adams

Jim Burkitt

Tara Clemente - Chief-Scientist

Eric Shimabukuro

Walt Deppe

Daniel McCoy

Kellen Rosburg

Jeffrey Snyder

Alyssa Agustin - Grad volunteer UH

Eint Kyi - Grad student UH

Gerarda Terlouw - Grad student UH

Sara Ferron

HOT-28510 July 2016

1830 Depart SNUG Harbor

1920 Fire and safety drills

1945 Meeting w/ Ship Captain

2150 Arrive at Station Kahe

2200 Weight Cast to 500m

2207 Winch stopped at 89.5 m payout due to problem with winch, engineers called to assess situation

2211 Winch sending down at 15 m/min, winch working properly

2214 Winch increasing speed to 60 m/min and resuming as normal

2234 End of weight cast - max tension 680 lbs

2248 Deploy Hyperpro @ $21^{\circ} 20.336' N$ $158^{\circ} 15.451' W$ 2338 Hyperpro recovered @ $21^{\circ} 19.842' N$ $158^{\circ} 14.709' W$

2342 Transit back to Station Kahe

11 July 2016

0000 Arrive at Station Kahe

0001 Start Station 1 Cast 1 - G1000 GPS

- spikes in secondary temp & salinity @ about 37 dbar and 77 dbar

0014 End Station 1 cast 1. 24 Marks ok

KOK WIRE 50 M SPOOLED
OFF. 2370L RED CONDUCTOR.
7997 M WIRE.

7/8/16 - Loading day

- Saved WHOTS versions of .psa files on
ACQ in D:/ctd_dos/CONFIG/SEASAVE/
WHOTS-2016

and copied files from HOT-2016 folder
back into main SEASAVE folder to
make sure bottle firing order correct

Weight Cast

- in air: 430 lbs
- in water: 400 lbs
- no tension: 12 lbs

CTD

- in air (empty):
- in water (empty):
- in air (full):

* replace VGA cable for Dell Monitor

HOT-28511 July 2016

- 1210 Arrive at Station ALOHA
- 1220 Begin Sediment Trap deployment
- 1300 Sediment Traps Deployed at $22^{\circ}45.810'N$ $158^{\circ}0.551'W$
- 1320 Start Station 2 Cast 1 - G1000 GPS (to 200 dbar)
*videotape recording never started
- 1350 End Station 2 Cast 1 - 20 marks OK
- 1418 Begin Net Trap deployment
- 1431 Net Trap deployed @ $22^{\circ}45.175'N$ $158^{\circ}1.158'W$
- 1500 START P.P. ARRAY DEPLOYMENT
 $22^{\circ}43.89$ $158^{\circ}00.02$
- ISUS Removed -
- 1520 PP array deployed @ $22^{\circ}44.093'N$ $158^{\circ}0.059'W$
- 1522 Transit to center of St. ALOHA
- 1538 Arrive at center of St. ALOHA
- 1542 Start Station 2 Cast 2 - G5000 GPS
- had to UPDCON Kaena. can file on Proc.
- had to restart procedure to com port error twice
- *spikes in secondary O₂ sensor observed starting at about 4475 dbar on downcast
- 1729 9 m off bottom @ $22^{\circ}45.442'N$ $157^{\circ}59.822'W$
*on upcast, secondary O₂ sensor had intermittent, smaller spikes under ~3000 dbar

This image shows a page from a ledger or account book. The page is numbered '108' in the top left corner. It features a grid of 10 columns and 25 rows. The columns are of varying widths, with the first column being the narrowest and the last column being the widest. The rows are of uniform height. The page is mostly blank, with some faint markings and a dark vertical band on the left edge, possibly indicating the binding or a scanning artifact. There is no text or data entered in the grid.

HOT-28511 July 2016

1925 CTD out of water but no squirt boom action, engineers called to assess the situation, sending package back down to 10 bar until solved

1934 End Station 2 Cast 2 - 24 marks OK
 - CTD still in water @ 10 m but was able to acquire pressure reading when CTD was out of water so ordered cast and turned off deck box, engineering still troubleshooting squirt boom non-responsiveness

1939 Squirt boom functioning, recovering CTD

1942 CTD on deck, squirt boom had to be oiled and then functioned properly

2105 Start Station 2 Cast 3 - G1000GPS

2227 End Station 2 Cast 3 - 24 marks OK

2244 Net tow @ $22^{\circ}45.216'N$ $157^{\circ}59.902'W$

2314 End Net Tow @ $22^{\circ}45.490'N$ $157^{\circ}59.763'W$

2335 Hyperpro @ $22^{\circ}45.569'N$ $157^{\circ}59.535'W$

12 July 2016

0013 End Hyperpro

0023 Start Station 2 Cast 4 - G1000GPS

128 End Station 2 Cast 4, 24 marks ok!

CBIRD_W had issue on start-up. Seasave
dat and config files were corrupted. Copied
backups from d:/ctd-dos/PROG/BACKUP
into d:/ctd-dos/PROG to solve issue

HOT-285

12 July 2016

- 0254 Start station 2 cast 5 - G1000 GPS
- Rosette overshoot 510 dbar & had to return for bottle fire.
- 0408 End station 2 cast 5. 16 marks ok!
- 0415 Transit to PP array
- 0540 Recovering PP array
- $22^{\circ}42.367'N$ $158^{\circ}3.590'W$
- 0556 PP weight on deck. Recovery complete.
- 0600 Start station 2 cast 6. G1000-GPS.
- Problems with squirt boom. wouldn't extend. 15 min delay.
- Winch op. overshoot O_2 min. came up to 745 dbar and returned to 755 dbar for bottle fire. He was using payout (m) instead of remote depth read out.
- 0731 End Station 2 cast 6 - 24 marks ok!
- Bottle 21 misfire @ 25m instead of 15m.
- 0817 Net tow @ $22^{\circ}43.223'N$ $158^{\circ}5.253'W$
Raining on station
- 0843 End net tow @ $22^{\circ}43.590'N$ $158^{\circ}5.627'W$
- 0846 Net Tow @ $22^{\circ}43.649'N$ $158^{\circ}5.577'W$
- 0915 End Net Tow @ $22^{\circ}44.032'N$ $158^{\circ}5.217'W$
- 0925 Start station 2 Cast 7 - G1000-GPS
- Cast late due to winch operator illness -

This image shows a page from a ledger or account book. The page is numbered '112' in the top left corner. It features a grid of 10 columns and 25 rows. The columns are defined by vertical lines, and the rows are defined by horizontal lines. The page is mostly blank, with some faint markings and a dark vertical band on the left edge. There are some very faint, illegible markings in the right margin, possibly from the reverse side of the page or an adjacent page.

HOT-28512 July 2016

1033 End Station 2 cast 7. 16 marks okay!

1040 Pump run.

1159 Start station 2 cast 8. - G1000. GPS

1302 End Station 2 Cast 8 - 22 marks OK

1325 Raining during transit to Gas Array deployment site

1406 Begin Gas Array Deployment

1426 Gas Array Deployed @ $22^{\circ}45.171'N$ $158^{\circ}1.203'W$

1455 Start Station 2 Cast 9 - G1000GPS

1606 End Station 2 Cast 9 - 24 marks OK

1609 Transit to Net Trap

1720 Begin Net Trap recovery @ $22^{\circ}41.439'N$ $158^{\circ}8.400'W$

1740 Net Trap recovered

1745 Transit to Station ALOHA

1825 Start Station 2 Cast 10 - G1000 GPS

1934 End Station 2 Cast 10 - 15 marks OK

2000 Net Tow @ $22^{\circ}43.708'N$ $158^{\circ}3.567'W$

2032 End Net Tow

20

20

22

2:

22

00

01

02

04

05

06

HOT-28512 July 2016

2050 ATE cancelled - won't communicate

2059 Start Station 2 Cast 11 - G1000GPS

2209 End Station 2 Cast 11 - 24 marks ok

2225 Start Net Tow @ $22^{\circ}44.372'N$ $158^{\circ}1.611'W$

2258 End Net Tow

13 July 20160000 Start Station 2 Cast 12 - G1000GPS
- raining on station

0105 End station 2 cast 12. 23 marks okay.

0254 Start station 2 cast 13 - G1000GPS
- Squirt boom wouldn't retract. Rosette sent back to 5m while waiting for chief eng. to diagnose. Boom low on oil, engineers fixed issue.
- Back to recovery at 0405
- Squirt boom still inoperable. CTD sent back to 5m at 0408
- Back to recovery, at 0410

0413 End station 2 cast 13. 13 marks okay!

0557 Start station 2 cast 14. - G1000GPS

0657 End Station 2 Cast 14. 22 marks okay!

0755 Net tow @ $22^{\circ}44.975'N$ $157^{\circ}59.716'W$

HOT-28513 July 20160831 End Net Tow @ $22^{\circ} 45.001' N$ $157^{\circ} 58.946' W$

Isus removed from rasette.

0859 Start Station 2 Cast 15. - G5000 GPS.

- Flurometer spike at $\sim 1300m$ - Transmissometer spike at $\sim 550m$

- Raining on station.

- Spikes in secondary O_2 below 3000 dbar

- Xmissometer spike @ 4271 dbar

1040

040 8m off @ $22^{\circ} 44.78' N$ $157^{\circ} 59.926' W$

- Upcast X-missometer data questionable.

- X-mis spike $\sim 600m$

1222

222 End Station 2 Cast 15. 12 marks ok!

- Raining on station

1259

259 Staff Optics @ $22^{\circ} 45.511' N$ $157^{\circ} 58.480' W$

1359 Optics package recovered

1403 Start Optics @ $22^{\circ} 45.326' N$ $157^{\circ} 58.330' W$

1500 END OPTICS

 $22^{\circ} 46.27$ $157^{\circ} 58.20$

1510 Transit to Gas Array

1641 Begin Gas Array recovery @ $22^{\circ} 39.992' N$ $158^{\circ} 7.520' W$

1655 Gas array recovered

Transmissometer Calibrations

SN 1366

- Dark: 0.04640 V
- Light: 4.81685 V

HOT-28513 July 2016

1657 Transit to Sediment Traps

1738 Begin Sediment Trap recovery @ $22^{\circ}39.505'N$ $158^{\circ}10.897'W$

1750 Sediment Trap recovered, transit to WHOTS Buoy

2000 ARRIVE AT WHOTS-13 Buoy

START AC-9 OPTICS

 $22^{\circ}46.10$ $157^{\circ}56.36$

2102 Optics package recovered

2105 Start Optics @ $22^{\circ}46.178'N$ $157^{\circ}56.384'W$

2157 Optics package recovered

2200 Transit to WHOTS-13 Buoy

2206 Start Station 50 Cast 1 - G200GPS

2211 Start Cycle #1

2221 Start Cycle #2

2231 Start Cycle #3

2240 Start Cycle #4

2250 Start Cycle #5 - firing bottles

*significant hysteresis observed int

2310 End Station 50 Cast 1 - 24 marks ok

2329 Hyperpro @ $22^{\circ}46.328'N$ $157^{\circ}56.521'W$ 14 July 20160002 End hyperpro @ $22^{\circ}45.876'N$ $157^{\circ}56.590'W$

0041 Transit to Station Kaena

6-

0

0

0

HOT-28514 July 2016

0704 Start station 6 cast 1 - G5000 GPS
- Scan^{length} error message near startup, but
message started "data acquisition continues".

0759 10m off @ $21^{\circ}50.516'_{N}$ $158^{\circ}21.784'_{W}$

0853 End Station 6 cast 1. 13 marks okay!

0900 Transit to SNUG Harbor

TSAL CLOCK DRIFT

GPS - 15:23:30

TSAL - 15:23:40

TSAL - +10