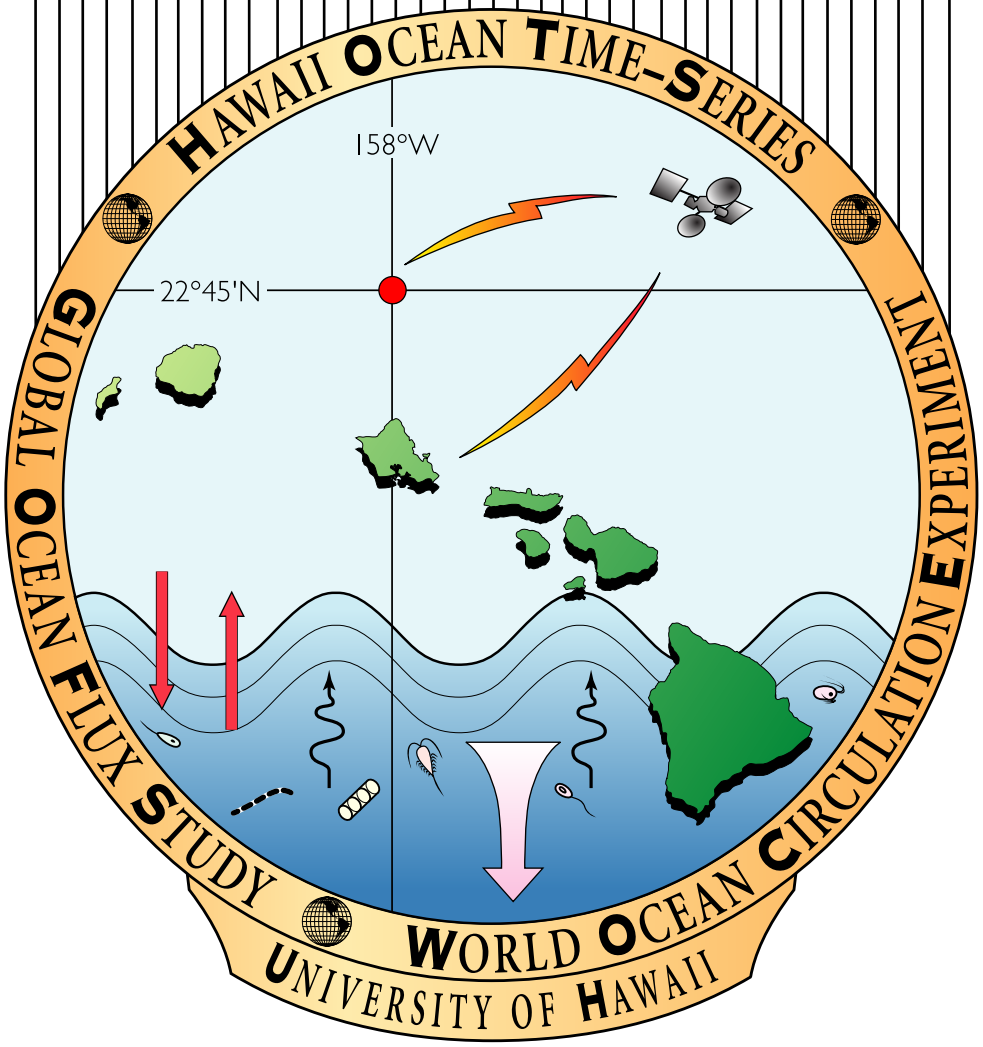
Hawaii Ocean Time-series Program

HOT 294



Hawaii Ocean Time-Series

HOT-**294**

KAHE Station Data Sheet

Station # 1 Date: 19June2017 (HST)

Cast # 1 Time: 1440 (HST)

Operator(s): BW,DS,KA

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/ Alk	pH	Nuts	LLN/ LLP	Chl *a*	
1	**1000**	1	12.8						
2	**750**	2,3,4	15.9						
3	**500**	5	13.3						
4	**350**	6	15.0			4			
5	**250**	7	17.7			5			
6	**200**								
7	**175**							7	
8	**150**	8	21.5			8	8	8	
9	**125**							9	
10	**100**	9,10,11	23.6			10	10	10A-B	
11	**75**							11	
12	**45**	12	25.4	12	1	12	12	12	
13	**25**	13	26.0	13	2			13A-B	
14	**5**	14	26.2	14	3,4,5	14	14	14	
15	**5**	QC	26.3						
16									
17									
18									
19									
20									
21									
22									
23									
24									

Notes: Remaining niskins to be tripped at 5m to test remaining bottles.

Hawaii Ocean Time-Series
HOT-**294**
KAHE Station Data Sheet

Station # 1 Date: 19June2017 (HST)
Cast # 1 Time: 1440 (HST)
Operator(s): BW,DS,KA

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/ Alk	pH	Nuts	LLN/ LLP	Chl *a*	
1	**1000**	1	12.8						
2	**750**	2,3,4	15.9						
3	**500**	5	13.3						
4	**350**	6	15.0			4			
5	**250**	7	17.7			5			
6	**200**								
7	**175**							7	
8	**150**	8	21.5			8	8	8	
9	**125**							9	
10	**100**	9,10,11	23.6			10	10	10A-B	
11	**75**							11	
12	**45**	12	25.4	12	1	12	12	12	
13	**25**	13	26.0	13	2			13A-B	
14	**5**	14	26.2	14	3,4,5	14	14	14	
15	**5**	QC	26.3						
16									
17									
18									
19									
20									
21									
22									
23									
24									

Notes: Remaining niskins to be tripped at 5m to test remaining bottles.

Hawaii Ocean Time-series
HOT-**294** Primary Production Data Sheet

Station # 2 Date: 6/20/17 (HST)
Cast # 1 Time: 0200 (HST)
Operator(s): AN MG ML

Rosette Position	Desired Depth	Light Bottle	Chl *a*	FCM	SFS/GT	KWB	
1	**1000**						
2	**Sal min**						
3	**175**		3A-B	3A-B	X		
4	**150**		4A-B	4A-B	X		
5	**125**	3-1	5	5	X		
6	**125**	3-2	6	6	X		
7	**125**	3-3	7	7	X		
8	**100**	4-1	8	8	X		
9	**100**	4-2	9	9	X		
10	**100**	4-3	10	10	X		
11	**75**	5-1	11	11	X		
12	**75**	5-2	12	12	X		
13	**75**	5-3	13	13	X		
14	**45**	6-1	14	14	X		
15	**45**	6-2	15	15	X		
16	**45**	6-3	16	16	X		
17	**25**	7-1	17	17	X		
18	**25**	7-2	18	18	X		
19	**25**	7-3	19	19	X		
20	**15**					X	
21	**15**					X	
22	**5**	8-1	22	22	X		
23	**5**	8-2	23	23	X		
24	**5**	8-3	24	24	X		

Notes:

Hawaii Ocean Time-series
HOT-**294**
WOCE Deep Data Sheet

Station # 2 Date: 20June2017 (HST)
Cast # 2 Time: 537a (HST)
Operator(s): DS KA BW

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/ Alk	pH	DOC	Nutrient	Refrig. Si	
1	**4800**	15	4.5				1	1	
2	**4600**	16	4.8				2	2	
3	**4500**	17,18,19	4.8	3A-B	1,2,3	3ABC	3A-B	3A-B	
4	**4400**	20	4.6				4	4	
5	**4200**	21	4.7				5	5	
6	**4000**	22,23,24	5.2			6ABC	6A-B	6A-B	
7	**3800**	25	4.7				7	7	
8	**3600**	26	4.7				8	8	
9	**3400**	27	4.8				9	9	
10	**3200**	28	4.9				10	10	
11	**3000**	29,30,31	5.1	11	4	11ABC	11A-B	11A-B	
12	**2800**	32	4.8				12	12	
13	**2600**	33	4.9				13	13	
14	**2400**	34	5.2				14	14	
15	**2200**	35	5.5				15	15	
16	**2000**	36,37,38	5.8	16	5	16ABC	16A-B	16A-B	
17	**1800**	39	5.5				17	17	
18	**1600**	40	5.8				18	18	
19	**1400**	41	6.3				19	19	
20	**1200**	42	6.4				20	20	
21	**1000**	43	7.1				21	21	
22	**750**	44	7.5				22	22	
23	**500**	45	9.5				23	23	
24	**5**	46	25.9				24		

Notes:

Hawaii Ocean Time-series
HOT-**294**
WOCE Deep Data Sheet

Station # 2 Date: 20June2017 (HST)
Cast # 2 Time: 5:37a (HST)
Operator(s): DS,BW,KA

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/ Alk	pH	DOC	Nutrient	Refrig. Si	
1	**4800**	15	4.5				1	1	
2	**4600**	16	4.8				2	2	
3	**4500**	17,18,19	4.8	3A-B	1,2,3	3ABC	3A-B	3A-B	
4	**4400**	20	4.6				4	4	
5	**4200**	21	4.7				5	5	
6	**4000**	22,23,24	5.2			6ABC	6A-B	6A-B	
7	**3800**	25	4.7				7	7	
8	**3600**	26	4.7				8	8	
9	**3400**	27	4.8				9	9	
10	**3200**	28	4.9				10	10	
11	**3000**	29,30,~~31~~ 147	5.1	11	4	11ABC	11A-B	11A-B	
12	**2800**	32	4.8				12	12	
13	**2600**	~~33~~ 150	4.9				13	13	
14	**2400**	34	5.2				14	14	
15	**2200**	35	5.5				15	15	
16	**2000**	36,37,38	5.8	16	5	16ABC	16A-B	16A-B	
17	**1800**	39	5.5				17	17	
18	**1600**	40	5.8				18	18	
19	**1400**	41	6.3				19	19	
20	**1200**	42	6.4				20	20	
21	**1000**	43	7.1				21	21	
22	**750**	44	7.5				22	22	
23	**500**	45	9.5				23	23	
24	**5**	46	25.9				24		

Notes:

Hawaii Ocean Time-series
HOT-**294**
PO Shallow Data Sheet

Station # 2 Date: 20June2017 (HST)
Cast # 3 Time: 1155a (HST)
Operator(s): DS, BW, KA

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/ Alk	pH	DOC	Nutrient	Refrig. Si	
1	**1020**	47,48,49	7.8	1	1	1	1A-B	1A-B	
2	**975**	50	7.9				2	2	
3	**925**	51	7.8				3	3	
4	**897**	52	8.1				4	4	
5	**807**	53	8.2				5	5	
6	**726**	54,55,56	8.8	6	2	6	6	6	
7	**650**	57	8.9				7	7	
8	**594**	58	9.3	8	3	8	8	8	
9	**533**	59	9.8				9A-B	9A-B	
10	**506**	60	10.5	10	4	10	10	10	
11	**480**	61	10.7				11	11	
12	**444**	62,63,64	12.0				12	12	
13	**395**	65	12.6				13	13	
14	**350**	66	14.2	14A-B	5,6	14	14	14	
15	**284**	67	16.5				15	15	
16	**266**	68	17.5	16	7	16	16	16	
17	**219**	69,70,71	19.8				17	17	
18	**210**	72	20.1				18	18	
19	**178**	73	22.0				19	19	
20	**170**	74	22.2				20A-B	20	
21	**126**	75	23.4				21		
22	**99**	76	23.9				22		
23	**82**	77	24.5				23		
24	**44**	78	25.8				24		

Notes:

Hawaii Ocean Time-series
HOT-**294**
PO Shallow Data Sheet

Station # 2 Date: 20June2017 (HST)
Cast # 3 Time: 1155a (HST)
Operator(s): DS, BW, KA

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/ Alk	pH	DOC	Nutrient	Refrig. Si	
1	**1020**	47,48,49	7.8	1	1	1	1A-B	1A-B	
2	**975**	50	7.9				2	2	
3	**925**	51	7.8				3	3	
4	**897**	52	8.1				4	4	
5	**807**	53	8.2				5	5	
6	**726**	54,55,56	8.8	6	2	6	6	6	
7	**650**	57	8.9				7	7	
8	**594**	58	9.3	8	3	8	8	8	
9	**533**	59	9.8				9A-B	9A-B	
10	**506**	60	10.5	10	4	10	10	10	
11	**480**	61	10.7				11	11	
12	**444**	62,63,64	12.0				12	12	
13	**395**	65	12.6				13	13	
14	**350**	66	14.2	14A-B	5,6	14	14	14	
15	**284**	67	16.5				15	15	
16	**266**	68	17.5	16	7	16	16	16	
17	**219**	69,70,71	19.8				17	17	
18	**210**	72	20.1				18	18	
19	**178**	73	22.0				19	19	
20	**170**	74	22.2				20A-B	20	
21	**126**	75	23.4				21		
22	**99**	76	23.9				22		
23	**82**	77	24.5				23		
24	**44**	78	25.8				24		

Notes:

Hawaii Ocean Time-series

HOT- **294**

PC/PN Data Sheet

Station # 2 Date: 6/20/17 (HST)

Cast # 4 Time: 1315 (HST)

Operator(s): AN ML MG Pre-screen mesh size: 202 um

Blank #'s **___B1___ ___B2___ ___B3___**

Rosette Position	Desired Depth	Carboy #	Total Volume	Sample #	DNA	MH	
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: 294-2-4-6 only filtered 4.5L due to massive leaking

Hawaii Ocean Time-series
HOT- **294**
PC/PN Data Sheet

Station # 2 Date: 6/20/17 (HST)
Cast # 4 Time: 1515 (HST)
Operator(s): AN ML MG Pre-screen mesh size: 202 um
Blank #'s **B1** **B2** **B3**

Rosette Position	Desired Depth	Carboy #	Total Volume	Sample #	DNA	MH	
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: 294-2-4-6
Only filtered 4 SL due to massive bowing

Hawaii Ocean Time-series

HOT- **294**

Particulate Phosphorus Data Sheet

Station # 2 Date: 6/20/17 (HST)

Cast # 5 Time: 1700 (HST)

Operator(s): AN ML MG 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**	10	4	11				
12	**45**	11	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:

Hawaii Ocean Time-series

HOT-**294**

BEACH Shallow Data Sheet (1/2)

Station # 2 Date: 6/20/17 (HST)

Cast # 6 Time: 2025 (HST)

Operator(s): AN ML MG

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/ ALK	Quay DIC	Keeling DIC	SF-S	pH	DOC
1	**1000**	79	8.6						
2	**O_2 min**	80	9.0						
3	**Sal min**	81	11.1						
4	**200**	82	19.9	4				1	4
5	**175**	83	21.4						5
6	**165**	84	22.0						
7	**150**	85	22.5	7				2	7
8	**130**								
9	**125**	86	23.1						9
10	**115**	87	23.3						
11	**110**								
12	**100**	88,89,90	23.6	12				3	12
13	**90**								
14	**85**	91	24.0						
15	**75**	92	24.2	15				4	15
16	**60**								16
17	**45**	93	25.4	17				5	17
18	**35**								18
19	**25**	94	25.9	19				6	19
20	**25**				20		20A-B		
21	**15**								21
22	**5**	95	26.0	22A-B				7,8	22
23	**5**				23	23A-B			
24	**5**						24A-B		

Notes: Keeling R10943 23A: 2224
Keeling R 10944 23B: 2226

Hawaii Ocean Time-series
HOT-**294**
BEACH Shallow Data Sheet (1/2)

Station # 2
Cast # 6
Operator(s): AN ML MG

Date: 6/20/17 (HST)
Time: 2025 (HST)

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/ ALK	Quay DIC	Keeling DIC	SF-S	pH	DOC
1	**1000**	79	8.6						
2	**O_2 min**	80	9.0						
3	**Sal min**	81	11.1						
4	**200**	82	19.9	4				1	4
5	**175**	83	21.4						5
6	**165**	84	22.0						
7	**150**	85	22.5	7				2	7
8	**130**								
9	**125**	86	23.1						9
10	**115**	87	23.3						
11	**110**								
12	**100**	88,89,90	23.6	12				3	12
13	**90**								
14	**85**	91	24.0						
15	**75**	92	24.2	15				4	15
16	**60**								16
17	**45**	93	25.4	17				5	17
18	**35**								18
19	**25**	94	25.9	19				6	19
20	**25**				20		20A-B		
21	**15**								21
22	**5**	95	26.0	22A-B				7,8	22
23	**5**				23	23A-B			
24	**5**						24A-B		

Notes: Keeling R10943: 1024
Keeling R10944: 1026
23A
23B

Hawaii Ocean Time-series
HOT-**294**
BEACH Shallow Data Sheet (2/2)

Station # 2 Date: 6/20/17 (HST)
Cast # 6 Time: 2025 (HST)
Operator(s): AN ML MG

Rosette Position	Desired Depth	Nutrient	Refrig. Si	LLN	LLP			
1	**1000**							
2	**O_2 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-**294**
BEACH Shallow Data Sheet (2/2)

Station # 2
Cast # 6
Operator(s): AN ML MG

Date: 6/20/17 (HST)
Time: 2025 (HST)

Rosette Position	Desired Depth	Nutrient	Refrig. Si	LLN	LLP			
1	**1000**							
2	**O_2 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-**294**
PUR Data Sheet

Station # 2 Date: 6/20/17 (HST)
Cast # 7 Time: 2330 (HST)
Operator(s): AN ML MG

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**				14A,B			
15	**5**	4	10	15				
16	**5**				16A,B			
17								
18								
19								
20								
21								
22								
23								
24								

Notes:

Hawaii Ocean Time-series

HOT- **294**

Gas Array Experiment Data Sheet

Station #	2	Date:	6/21/17 (HST)
Cast #	8	Time:	0200 (HST)
Operator(s):	DS BW KA		

Rosette Position	Desired Depth	15N2	SF-S	Salts	KWB		
1	**1020**			X			
2	**Sal min**			X			
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	**15**				X		
20	**15**				X		
21	**5**	X					
22	**5**	X					
23	**5**	X					
24	**5**		X	X			

Notes: Only half the bottles fired due to rosette resetting

Hawaii Ocean Time-series
HOT- **294**
Gas Array Experiment Data Sheet

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

Date: 6/21/17 (HST)
Time: 0200 (HST)

Rosette Position	Desired Depth	15N2	SF-S	Salts	KWB		
1	**1020**			X			
2	**Sal min**			X			
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	**15**				X		
20	**15**				X		
21	**5**	X					
22	**5**	X					
23	**5**	X					
24	**5**		X	X			

200
225
250
275

Notes: only half the bottles fired because the rosette reset itself

Hawaii Ocean Time-series

HOT- **294**

Gas Array Experiment Data Sheet

Station #	2	Date:	21June2017 (HST)
Cast #	9	Time:	425 (HST)
Operator(s):	DS BW KA		

Rosette Position	Desired Depth	15N2	SF-S	SCOPE	Salts		
1	**275**			X			
2	**250**			X			
3	**225**			X			
4	**200**			X			
5	**125**	X					
6	**125**	X					
7	**125**	X					
8	**100**	X					
9	**100**	X					
10	**100**	X					
11	**75**	X					
12	**75**	X					
13	**75**	X					
14	**45**	X					
15	**45**	X					
16	**45**	X					
17	**25**	X					
18	**25**	X					
19	**25**	X					
20	**25**		X				
21	**5**	X					
22	**5**	X					
23	**5**	x					
24	**5**		x				

Notes:

Hawaii Ocean Time-series
HOT- **294**
Gas Array Experiment Data Sheet

Station # 2
Cast # 9
Operator(s): DS BW KA

Date: 21June2017 (HST)
Time: 425 (HST)

Rosette Position	Desired Depth	15N2	SF-S	SCOPE	Salts		
1	**275**			X			
2	**250**			X			
3	**225**			X			
4	**200**			X			
5	**125**	X					
6	**125**	X					
7	**125**	X					
8	**100**	X					
9	**100**	X					
10	**100**	X					
11	**75**	X					
12	**75**	X					
13	**75**	X					
14	**45**	X					
15	**45**	X					
16	**45**	X					
17	**25**	X					
18	**25**	X					
19	**25**	X					
20	**25**		X				
21	**5**	X					
22	**5**	X					
23	**5**	x					
24	**5**		x				

Notes:

Hawaii Ocean Time-series
HOT- **294**
OPEN Data Sheet

Station # 2 Date: 21June2017 (HST)
Cast # 10 Time: (HST)
Operator(s): DS KA BW

Rosette Position	Desired Depth		GT	SFS	Salts		
1	**1020**				X		
2	**Sal min**				X		
3	**125**		X				
4	**100**		X				
5	**75**		X				
6	**45**		X				
7	**25**		X				
8	**25**			X			
9	**5**		X				
10	**5**			X			
11	**5**				X		
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							

Notes:

Hawaii Ocean Time-series
HOT- **294**
OPEN Data Sheet

Station # 2
Cast # 10
Operator(s): DS KA BW

Date: 21June2017 (HST)
Time: 625 (HST)

Rosette Position	Desired Depth		GT	SFS	Salts		
1	**1020**				X		
2	**Sal min**				X		
3	**125**		X				
4	**100**		X				
5	**75**		X				
6	**45**		X				
7	**25**		X				
8	**25**			X			
9	**5**		X				
10	**5**			X			
11	**5**				X		
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							

Notes:

Hawaii Ocean Time-series

HOT- **294**

Particulate Silica Data Sheet

Station #	2	Date:	21June2017 (HST)
Cast #	11	Time:	830 (HST)
Operator(s):	DS KA BW	Pre-screen mesh size:	None
Blank #	**B1, B2, B3**		

Rosette Position	Desired Depth	Carboy #	Total Volume	Sample #	SF-S	Salts	KW-B	
1	**1000**					X		
2	**Sal min**					X		
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**							
12	**25**				X			
13	**25**						X	
14	**5**	16	4	14				
15	**5**							
16	**5**				X	X		
17	**5**						X	
18								
19								
20								
21								
22								
23								
24								

Notes:

Hawaii Ocean Time-series
HOT- **294**
Particulate Silica Data Sheet

Station # 2
Cast # 11
Operator(s):
Blank # **B1, B2, B3**

Date: 21June2017 (HST)
Time: 830 (HST)
Pre-screen mesh size: none

Rosette Position	Desired Depth	Carboy #	Total Volume	Sample #	SF-S	Salts	KW-B	
1	**1000**					X		
2	**Sal min**					X		
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**							
12	**25**				X			
13	**25**						X	
14	**5**	16	4	14				
15	**5**							
16	**5**				X	X		
17	**5**						X	
18	5							
19								
20								
21								
22								
23								
24								

Notes:

Hawaii Ocean Time-series

HOT- **294**

OPEN Data Sheet

Station # 2 Date: 21June2017 (HST)

Cast # 12 Time: 1043 (HST)

Operator(s): DS KA BW GT MH

Rosette Position	Desired Depth	Salts	SF-S	MH	GT		
1	**1000**	X					
2	**1000**			X			
3	**750**			X			
4	**500**			X			
5	**500**			X			
6	**Sal min**	X					
7	**400**			X			
8	**300**			X			
9	**200**			X			
10	**150**			X			
11	**125**				X		
12	**100**			X			
13	**100**				X		
14	**75**			X			
15	**75**				X		
16	**45**			X			
17	**45**				X		
18	**25**			X			
19	**25**				X		
20	**25**		X				
21	**5**			X			
22	**5**				X		
23	**5**	X	X				
24							

Notes:

Hawaii Ocean Time-series
HOT- **294**
OPEN Data Sheet

Station # 2 Date: 21June2017 (HST)
Cast # 12 Time: 1043 (HST)
Operator(s): DS KA BW GT MH

Rosette Position	Desired Depth	Salts	SF-S	MH	GT		
1	**1000**	X					
2	**1000**			X			
3	**750**			X			
4	**500**			X			
5	**500**			X			
6	**Sal min**	X					
7	**400**			X			
8	**300**			X			
9	**200**			X			
10	**150**			X			
11	**125**				X		
12	**100**			X			
13	**100**				X		
14	**75**			X			
15	**75**				X		
16	**45**			X			
17	**45**				X		
18	**25**			X			
19	**25**				X		
20	**25**		X				
21	**5**			X			
22	**5**				X		
23	**5**	X	X				
24							

Notes:

Hawaii Ocean Time-series

HOT- **294**

ATP Data Sheet

Station # 2 Date: 6/21/17 (HST)

Cast # 13 Time: 1400 (HST)

Operator(s): DS,BW,KA Pre-screen mesh size: 202um

Blank #'s 28, 29, 30

Rosette Position	Desired Depth	ATP Tube #'s	Volume Filtered	Carboy #	SF-S	DNA	
1	**1020**						
2	**770**					X	
3	**770**					X	
4	**500**					X	
5	**500**					X	
6	**Sal min**						
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	**100**	13 – 15	3x1	9			
16	**75**	16 – 18	3x1	10			
17	**45**	19 – 21	3x1	11			
18	**25**	22 – 24	3x1	12			
19	**25**				X		
20	**5**	25 - 27	3x1	13			
21	**5**				X		
22							
23							
24							

Notes:

Hawaii Ocean Time-series
HOT-**294**
OPEN CAST/MC Filtration Data Sheet

Station # 2 Date: 6/21/17 (HST)
Cast # 14 Time: 1715 (HST)
Operator(s): AN MG ML

Rosette Position	Desired Depth	SW	MC	SF-S			
1	**1000**						
2	**800**	X					
3	**600**	X					
4	**Sal Min**						
5	**400**	X					
6	**350**	X					
7	**300**	X					
8	**250**	X					
9	**200**	X					
10	**175**	X	X				
11	**150**	X	X				
12	**125**	X	X				
13	**100**	X	X				
14	**75**	X	X				
15	**45**	X	X				
16	**25**	X	X	X			
17	**5**	X	X	X			
18							
19							
20							
21							
22							
23							
24							

Notes: Temperatures were not taken because of broken thermometer

Hawaii Ocean Time-series
HOT-**294**
OPEN CAST/MC Filtration Data Sheet

Station # 2 Date: 6/21/17 (HST)
Cast # 14 Time: 1715 (HST)
Operator(s): AN MG ML

Rosette Position	Desired Depth	SW	MC	SF-S	Temp		
1	**1000**						
2	**800**	X					
3	**600**	X					
4	**Sal Min**						
5	**400**	X					
6	**350**	X					
7	**300**	X					
8	**250**	X					
9	**200**	X					
10	**175**	X	X				
11	**150**	X	X				
12	**125**	X	X				
13	**100**	X	X				
14	**75**	X	X				
15	**45**	X	X				
16	**25**	X	X	X			
17	**5**	X	X	X			
18							
19							
20							
21							
22							
23							
24							

Notes: Did not take temperatures due to broken thermometer

Hawaii Ocean Time-series
HOT-**294**
HPLC & Chl *a*. Bottle Data Sheet

Station # 2 Date: 6/21/17 (HST)
Cast # 15 Time: 2000 (HST)
Operator(s): AN MG ML

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

Notes: DO NOT PRE-SCREEN

Hawaii Ocean Time-series

HOT-**294**

WOCE Deep 2 Data Sheet

Station # 2 Date: 6/21/17 (HST)

Cast # 16 Time: 2300 (HST)

Operator(s): AN MG ML TC ES

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DNA				
1	**4800**	96	3.7					
2	**4000**							
3	**4000**	97	3.7					
4	**4000**			X				
5	**3000**	98	3.9					
6	**3000**			X				
7	**2000**	99	4.3					
8	**2000**			X				
9	**1000**			X				
10	**O2 min**	100	6.7					
11	**Sal min**	101	10.0					
12	**O2 max**	102	24.0					
13	**5**	103	25.7					
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								

Notes:

Hawaii Ocean Time-series
HOT-**294**
WOCE Deep 2 Data Sheet

Station # 2 Date: 6/21/17 (HST)
Cast # 16 Time: 2300 (HST)
Operator(s): AN MG ML TC ES

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DNA				
1	**4800**	96	3.7					
2	**4000**							
3	**4000**	97	3.7					
4	**4000**			X				
5	**3000**	98	3.9					
6	**3000**			X				
7	**2000**	99	4.3					
8	**2000**			X				
9	**1000**			X				
10	**O2 min**	100	10.7					
11	**Sal min**	101	10.0					
12	**O2 max**	102	24.0					
13	**5**	103	25.7					
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								

Notes:

Hawaii Ocean Time-series
HOT- **294**
STATION 50 Data Sheet

Station # 50 Date: 22June2017 (HST)
Cast # 1 Time: 1145 (HST)
Operator(s): DS BW KA

Rosette Position	Desired Depth	DIC/TA	pH	KW-B	MH	AW		
1	**DCM**					X		
2	**125**				X			
3	**100**				X			
4	**75**					X		
5	**75**				X			
6	**45**			X				
7	**45**				X			
8	**25**					X		
9	**25**				X			
10	**25**			X				
11	**5**					x		
12	**5**				X			
13	**5**			x				
14	**5**	X	x					
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								

Notes:

Hawaii Ocean Time-series

HOT- **294**

STATION Kaena Data Sheet

Station # 6 Date: 6/22/17 (HST)

Cast # 1 Time: 2300 (HST)

Operator(s): AN

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

Notes: Chl were not sampled due to late deployment and recovery of Kaena cast

Hawaii Ocean Time-series
HOT 294
Chlorophyll Grab Sample Sheet

Date	Time (HST)	Location	GS #	Fluorometer Reading
19 June 2017	12:00	Transit Kahe	1	
19 June 2017	2040	transit ALOHA	2	
20 June 2017	8:57	ALOHA	3	
20 June 2017	1501	ALOHA	4	
20 June 2017	2050	ALOHA	5	
21 June 2017	0138	ALOHA	6	
21 June 2017	0845	ALOHA	7	
21 June 2017	1645	ALOHA	8	
21 June 2017	2043	ALOHA	9	
22 June 2017	0153	ALOHA	10	
22 June 2017	1741	Transit	11	

Hawaii Ocean Time-series
HOT 294
Argos Fix Log Sheet

Array	Platform #	Platform #
Sediment Trap	**84857**	**IR 100**
PP/Gas Array	**60481**	**84859**

Date	Time	Platform	Position	Initials	Array Name
6/20	19:57	857	22.784 201.879 158.121	JS	ST1
6/20	19:59	859	22.772 201.924 158.076	JS	PP1
6/21	02:22	857	22.804 201.840 158.160	KR	ST2
6/21	02:21	859	22.803 201.885 158.115	KR	PP2
6/21	05:43	859	22.814 201.868 158.132	AK	PP3
6/21	07:09	859	22.822 201.809 158.191	AK	ST3
6/21	19:36	857	22.848 201.726 158.274	JS	ST4
6/21	19:35	859	22.777 201.914 158.086	JS	GA1
6/21	01:05	ST9	22.81736 158.13403	JS	ST9
6/22	06:48	857	22.875 201.661 158.339	KR	ST5
6/22	07:46	859	22.830 201.834 158.116	KR	GA2
6/22	08:27	857	22.874 201.651 158.249	KR	ST6
6/22	08:31	859	22.832 201.826 158.174	KR	GA

Hawaii Ocean Time-series
HOT-294
In Situ Primary Production Data Sheet

Operators: DS BW KA AN ML

Date in: 20June2017 | Time in: 445 (HST)

Date out: 20June17 | Time out: 1738 (HST)

Incubation Depth	✓	Insertion Depth	Owner
175	✓		
150	✓		
125	✓		
100	✓		
75	✓		
45	✓		
25	✓		
5	✓		

Position in: 22 45.006 N 158 2.088 W

Position out: 22 48.713 N 158 7.944 W

Average weather condition during incubation: Sunny, mostly clear

Average sea state during incubation: 4-5’

Notes: Array slightly ran over, but fine.

Begin Inoculation 400 | End Inoculation 415

Filtration time 1750

Hawaii Ocean Time-series
HOT-294
In Situ Gas Array Data Sheet

Operators: DS KA BW BWai	**Operators: DS KA BW**
Date Deployed: 21June2017	**Date Recovered: 22June2017**
Time (HST):606	**Time (HST): 700**
Position: 22 45.829 N 158 3.535 W	**Position: 22 51.46 N 158 14.28 W**

Nitrogen Fixation Sample Processing Sheet

Sample ID	Date Spiked	Time Spiked	Date filtered	Time Filtered	15N Batch	Comments
3-1	21June2017	525	22June2017	730	6/16/17	
3-2	21June2017	525	22June2017	730	6/16/17	
3-3	21June2017	525	22June2017	730	6/16/17	
4-1	21June2017	525	22June2017	730	6/16/17	
4-2	21June2017	525	22June2017	730	6/16/17	
4-3	21June2017	525	22June2017	730	6/16/17	
5-1	21June2017	525	22June2017	730	6/16/17	
5-2	21June2017	525	22June2017	730	6/16/17	
5-3	21June2017	525	22June2017	730	6/16/17	
6-1	21June2017	525	22June2017	730	6/16/17	
6-2	21June2017	525	22June2017	730	6/16/17	
6-3	21June2017	525	22June2017	730	6/16/17	
7-1	21June2017	525	22June2017	730	6/16/17	
7-2	21June2017	525	22June2017	730	6/16/17	
7-3	21June2017	525	22June2017	730	6/16/17	
8-1	21June2017	525	22June2017	730	6/16/17	
8-2	21June2017	525	22June2017	730	6/16/17	
8-3	21June2017	525	22June2017	730	6/16/17	

Hawaii Ocean Time-series
HOT-294
Sediment Trap Data Sheet

Type of traps:	PIT	Date:	6/20/17
Operator(s):	AN BW MG AK	Wind:	10-15 kts
Position in:	22°45.007'N 158°3.232'W	Sea State:	4-5'

Time in: 150 m HOT

(HST) 150m McCarthy

Notes: Traps in 1218
Array released 1229

Operator(s):	BW DS KA BW	Date:	6/22/17
Position out:	22°53.34'N 158°24.34'W	Wind:	10-15 kts
Overall sea state:			4'
		Sea state:	

Time Out: 150 m
(HST)

Notes:

Data Sheet for Sediment Trap Volumes

Cruise #: 294
Analyst: BW DS

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	40.3	1.5314
B	150	40.0	1.52
C	150	42.4	1.6112
D	150	42.1	1.5998
E	150	43.0	1.634
F	150	39.2	1.4896
G	150	40.3	1.5314
H	150	42.7	1.6226
I	150	41.2	1.5656
J	150	39.5	1.501
K	150	42.3	1.6074
L	150	39.7	1.3086

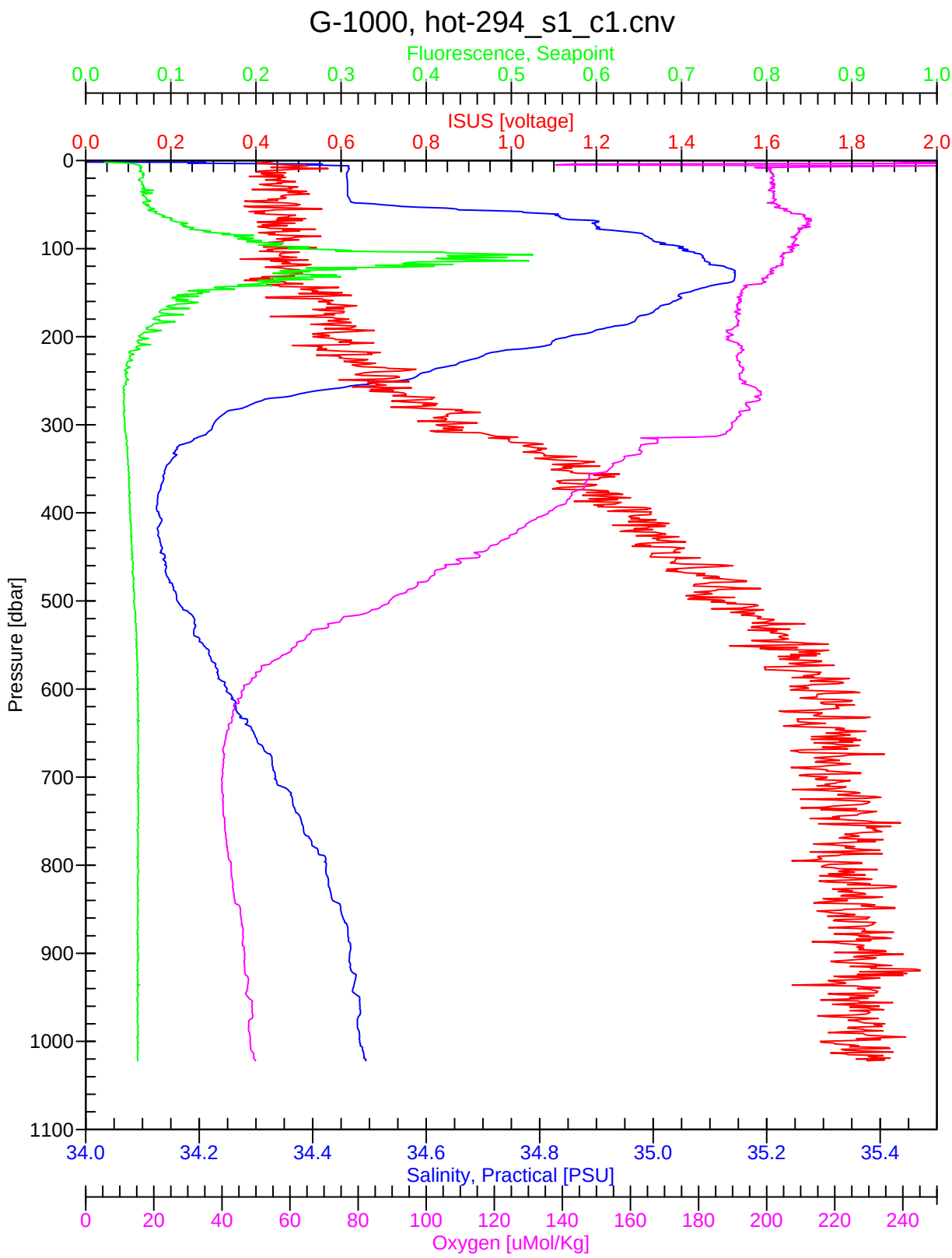
Data Sheet for Sediment Trap Volumes

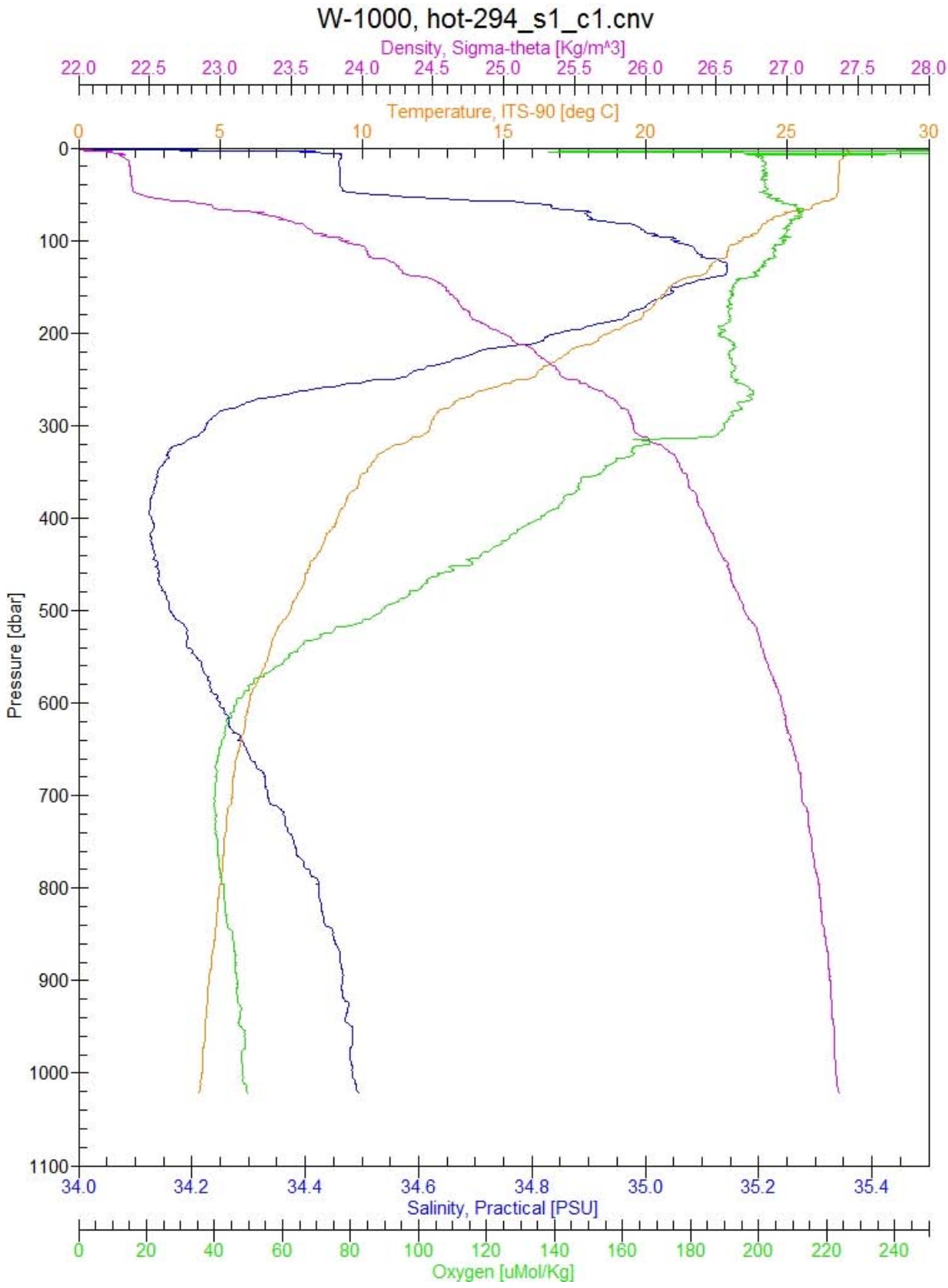
Cruise #: - McCarthy

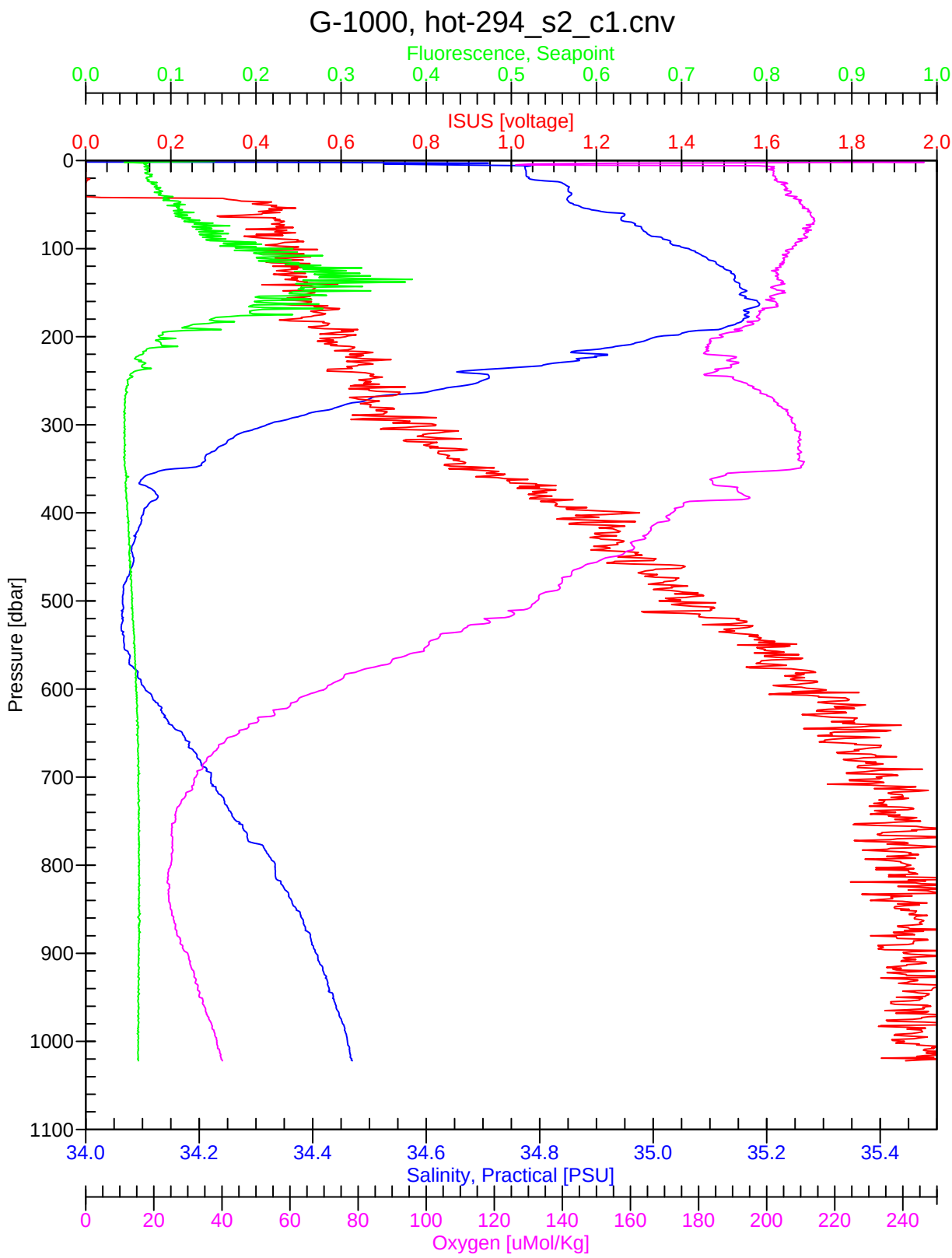
Analyst: BW KA DS MG

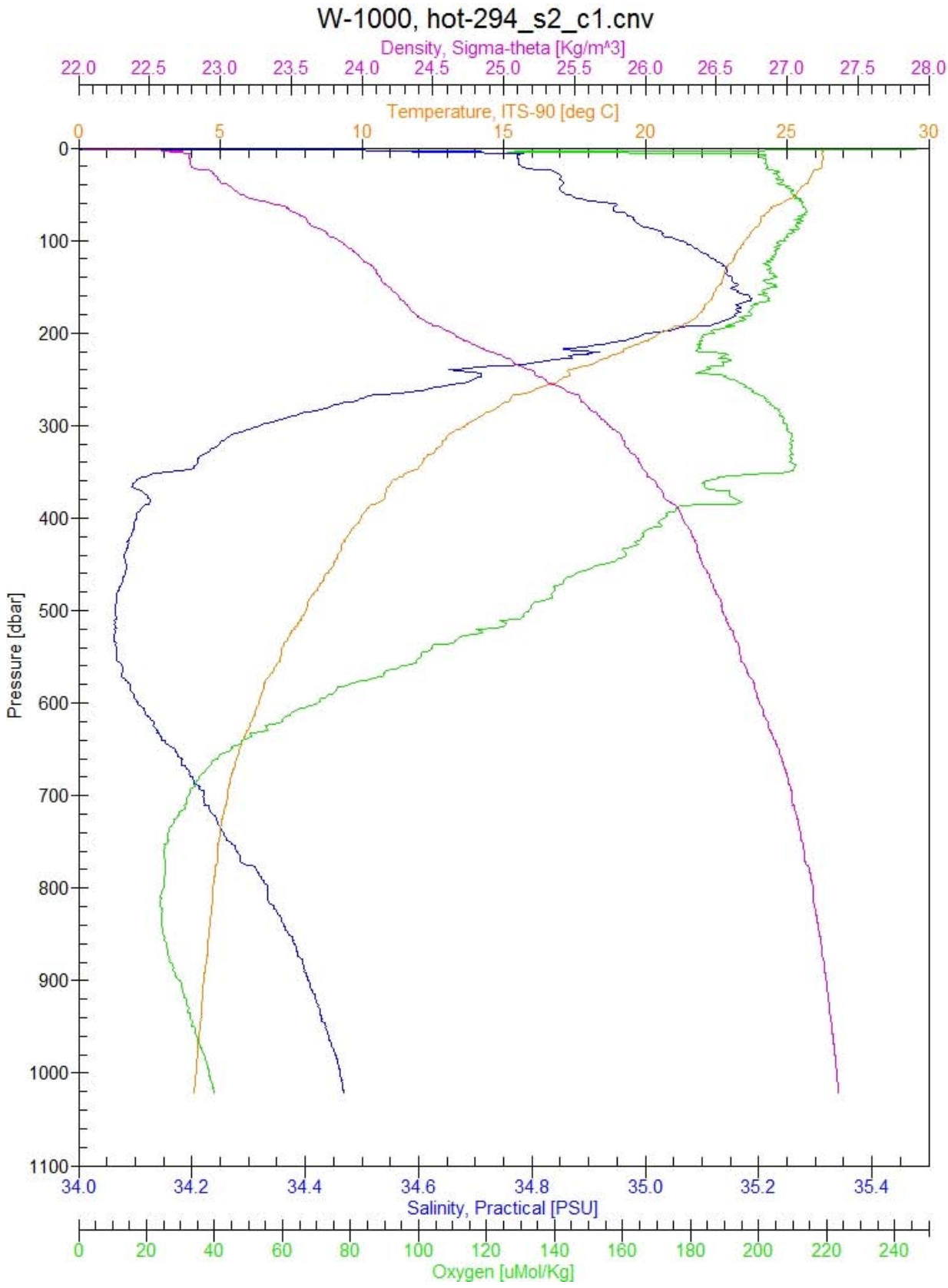
Directions: 1) Mark the traps with 2 lines
   a) Line #1 is at the interface
   b) Line #2 is 2" (5 cm) above the interface
2) Siphon off the top of the trap to Line #2 - 2" above the interface
3) Measure the distance from the bottom of the trap to Line #2 2" above the interface and record the result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

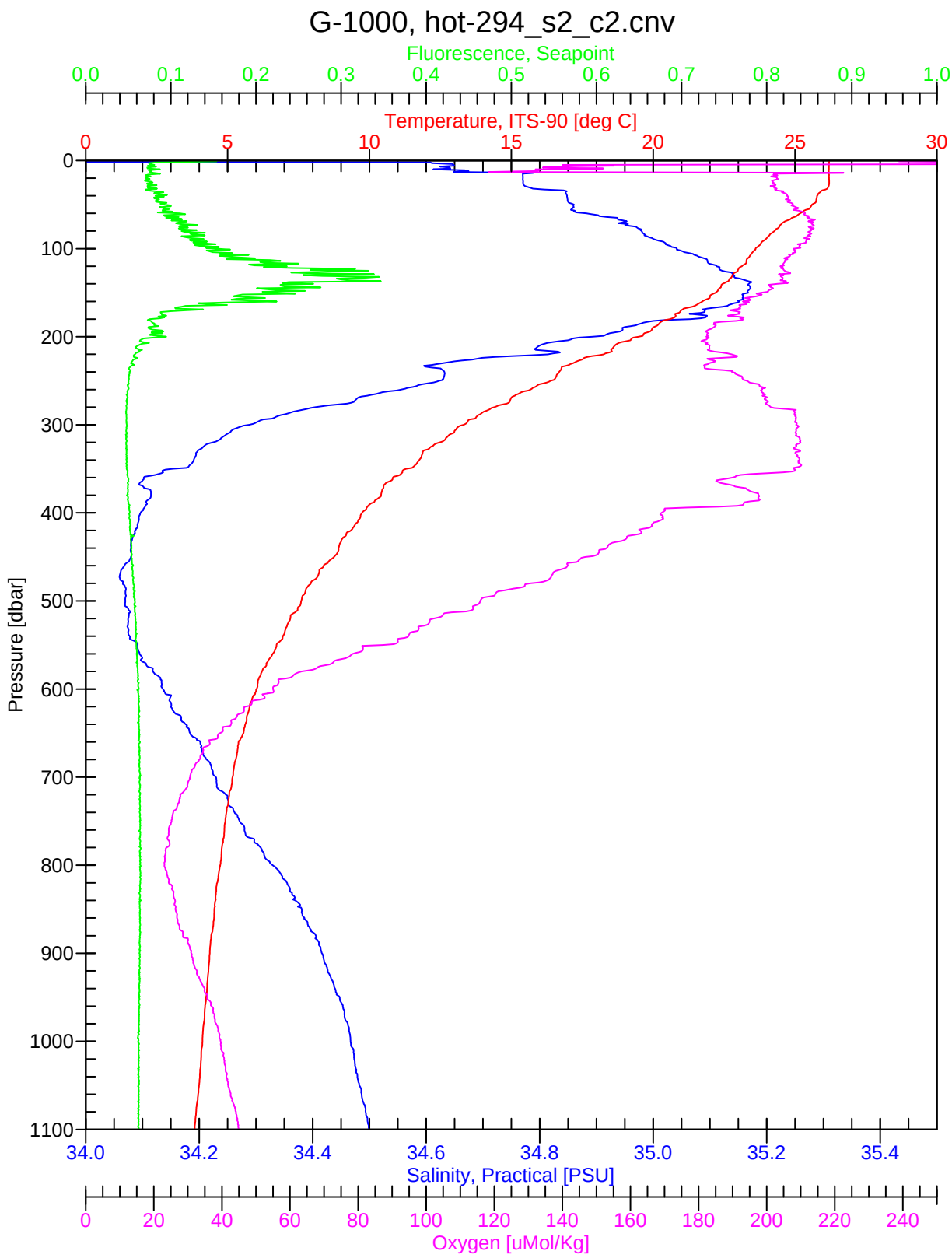
Trap Name	Depth (m)	Height (cm) at Line #2 (Top Line)	Volume (L) at top line = (Height in cm x 0.038)
A	150	39.4	1.4972
B	150	42.9	1.6302
C	150	38	1.444
D	150	40	1.52
E	150	41.6	1.5808
F	150	42.1	1.5998
G	150	37.8	1.4364
H	150	39.2	1.4896
I	150	41.3	1.5694
J	150	44.0	1.672
K	150	44.1	1.6758
L	150	43.4	1.6454

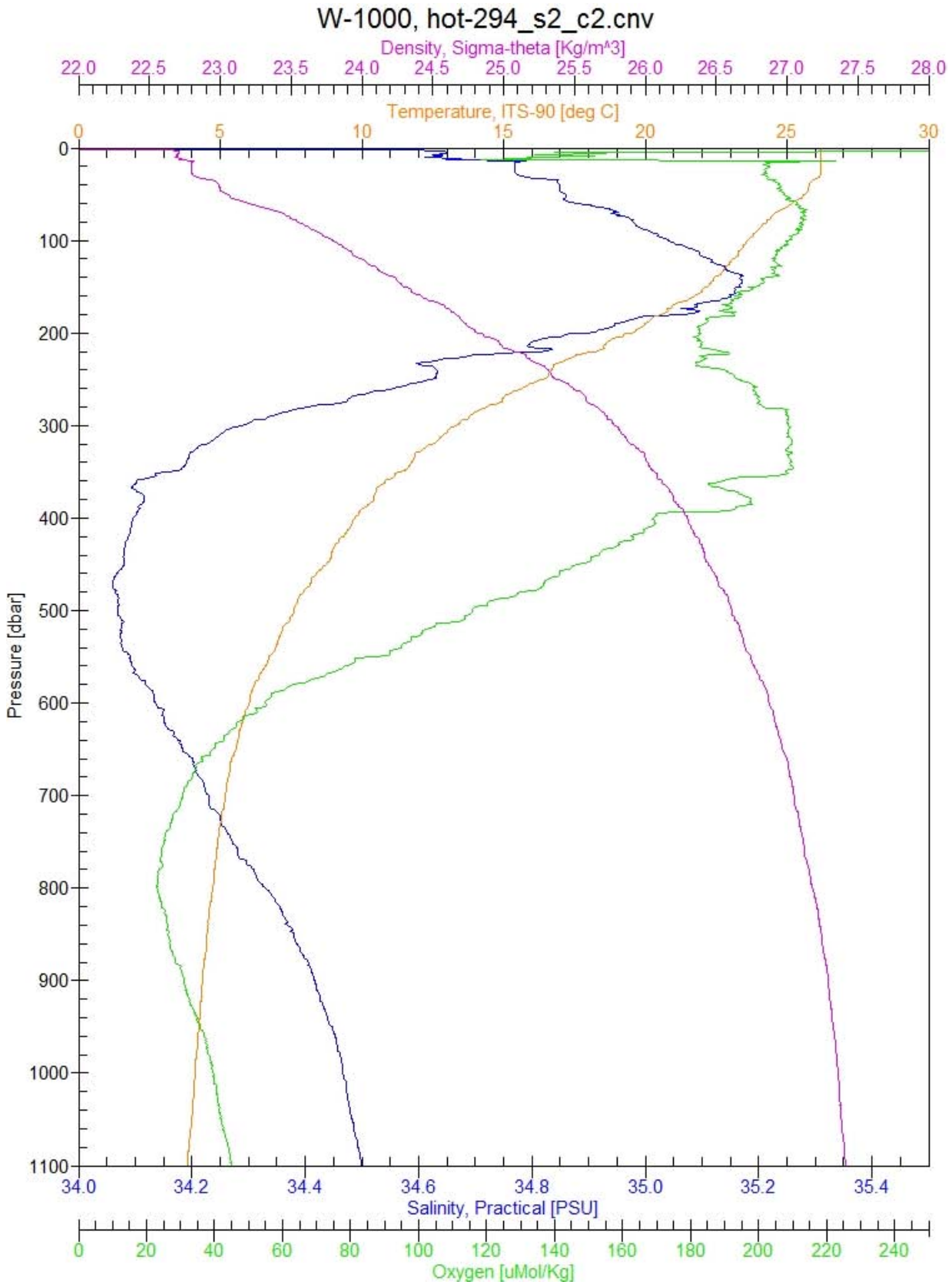

G-1000, hot-294_s1_c1.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
ISUS [voltage]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]

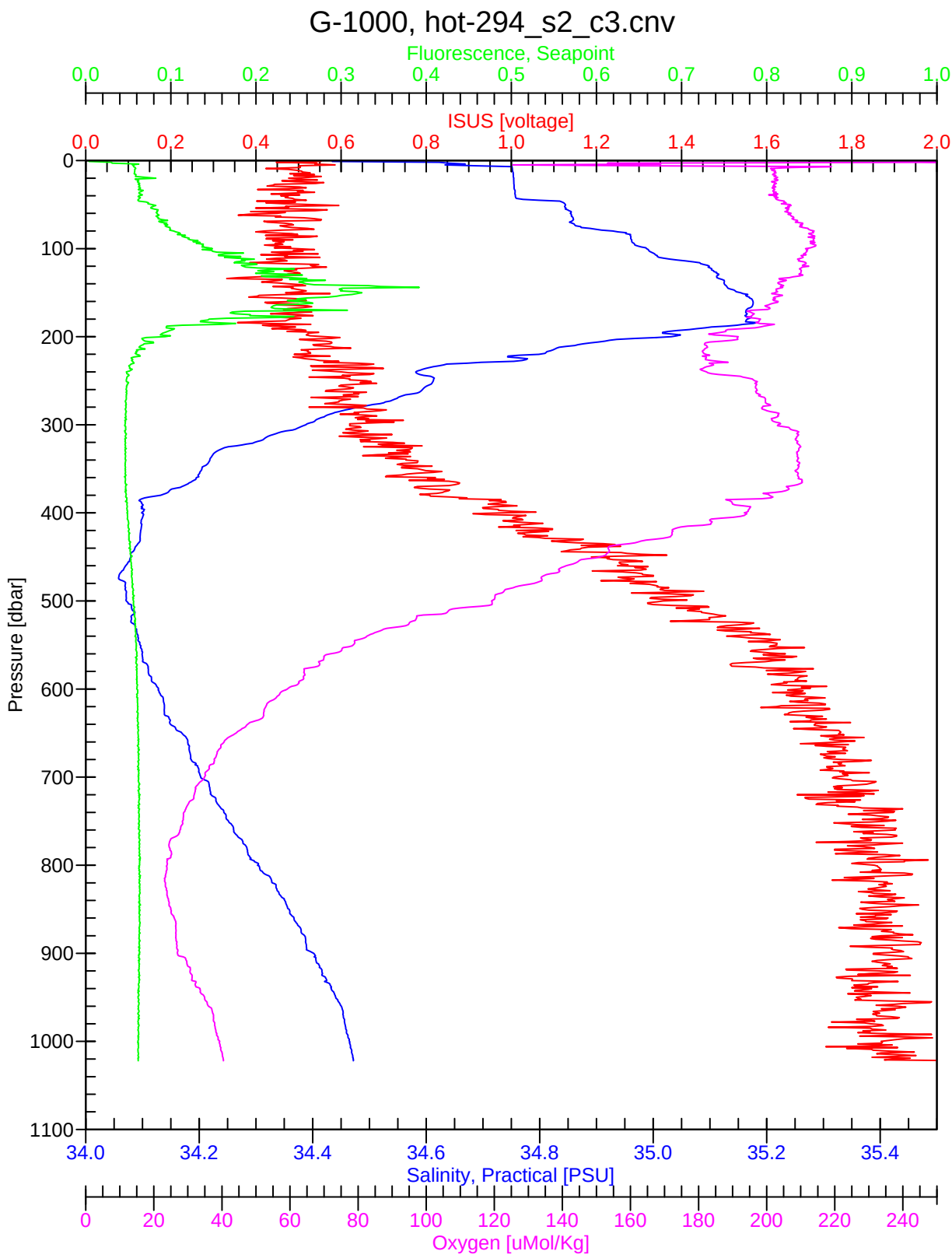

W-1000, hot-294_s1_c1.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

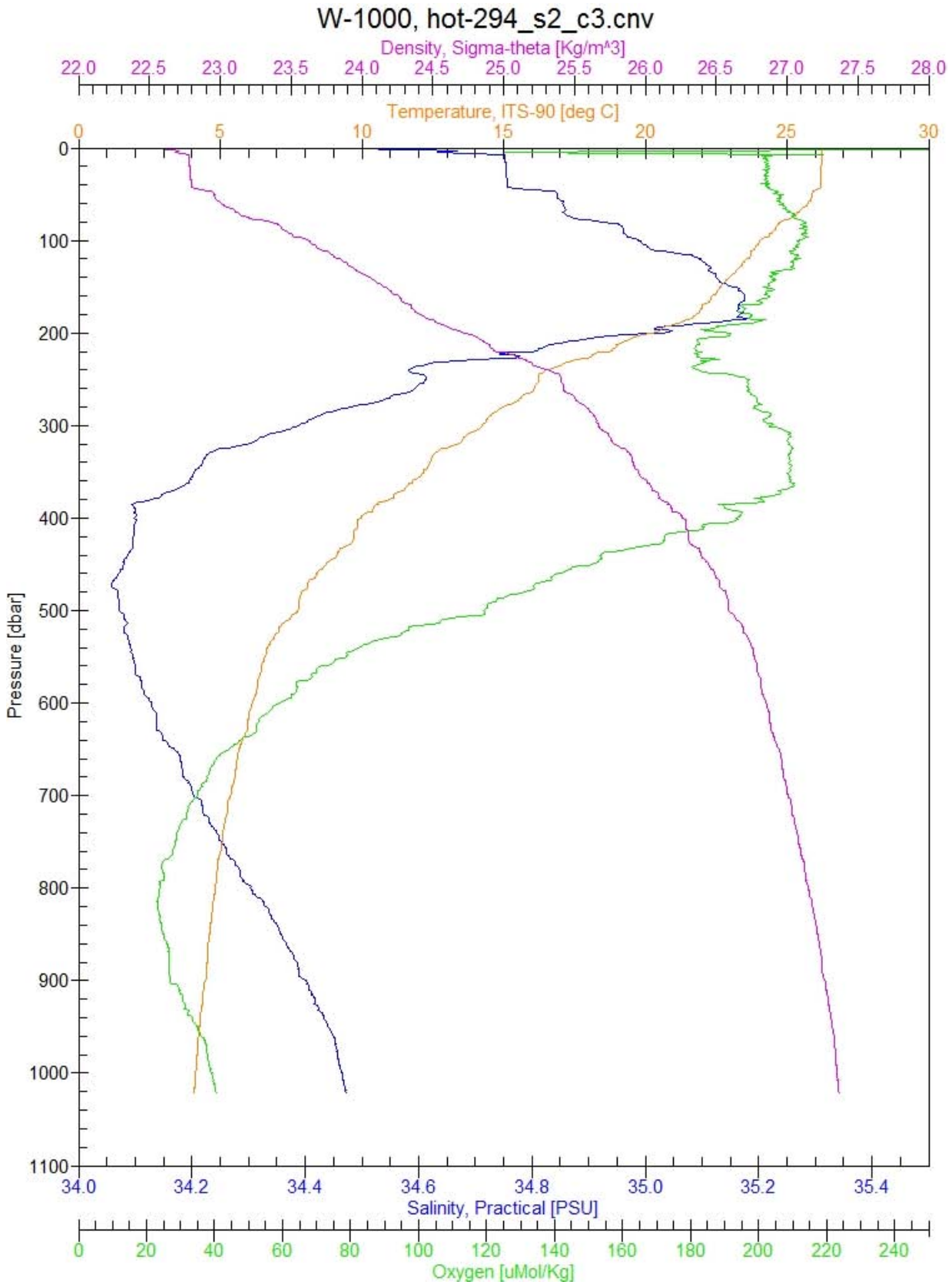

G-1000, hot-294_s2_c1.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
ISUS [voltage]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]

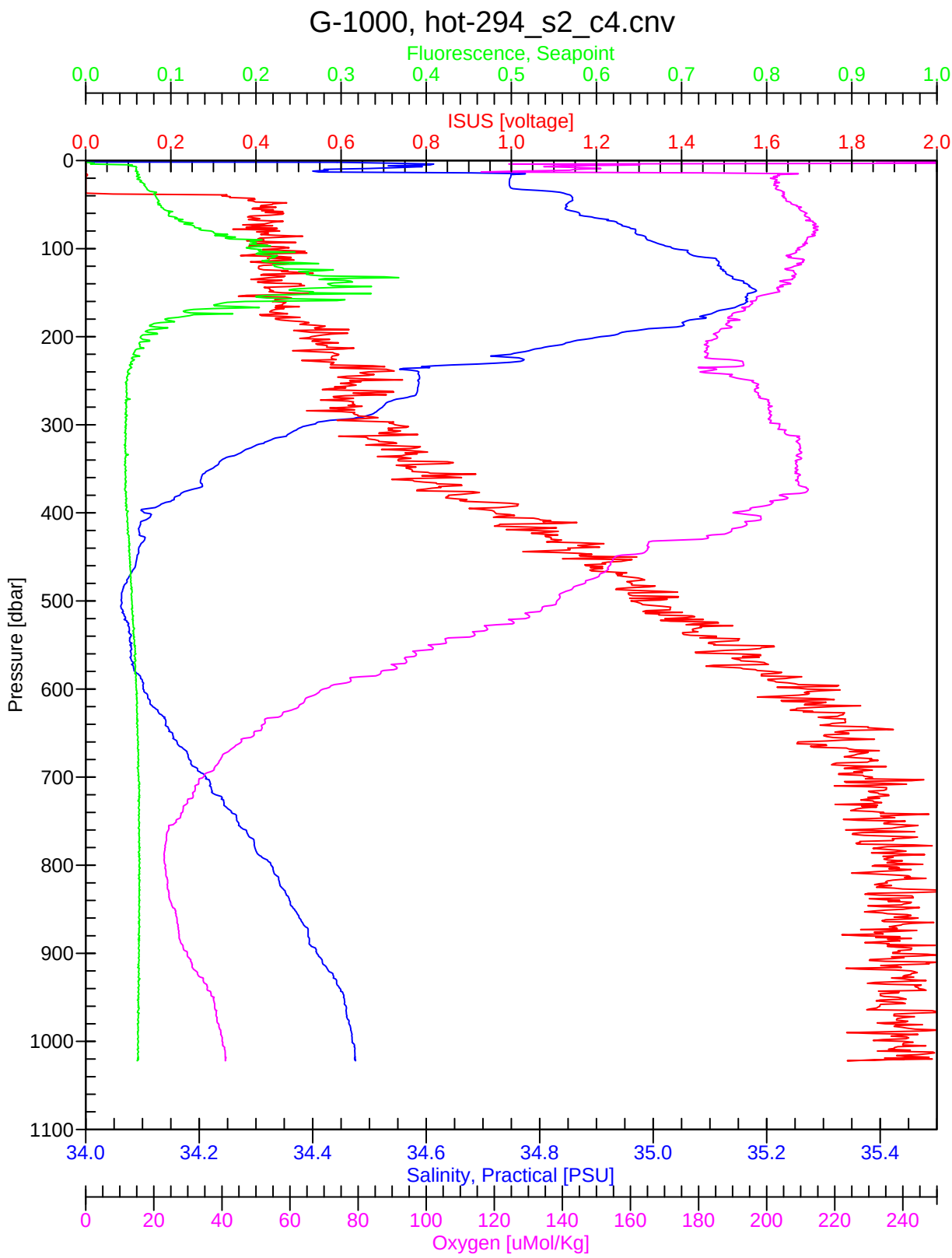

W-1000, hot-294_s2_c1.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

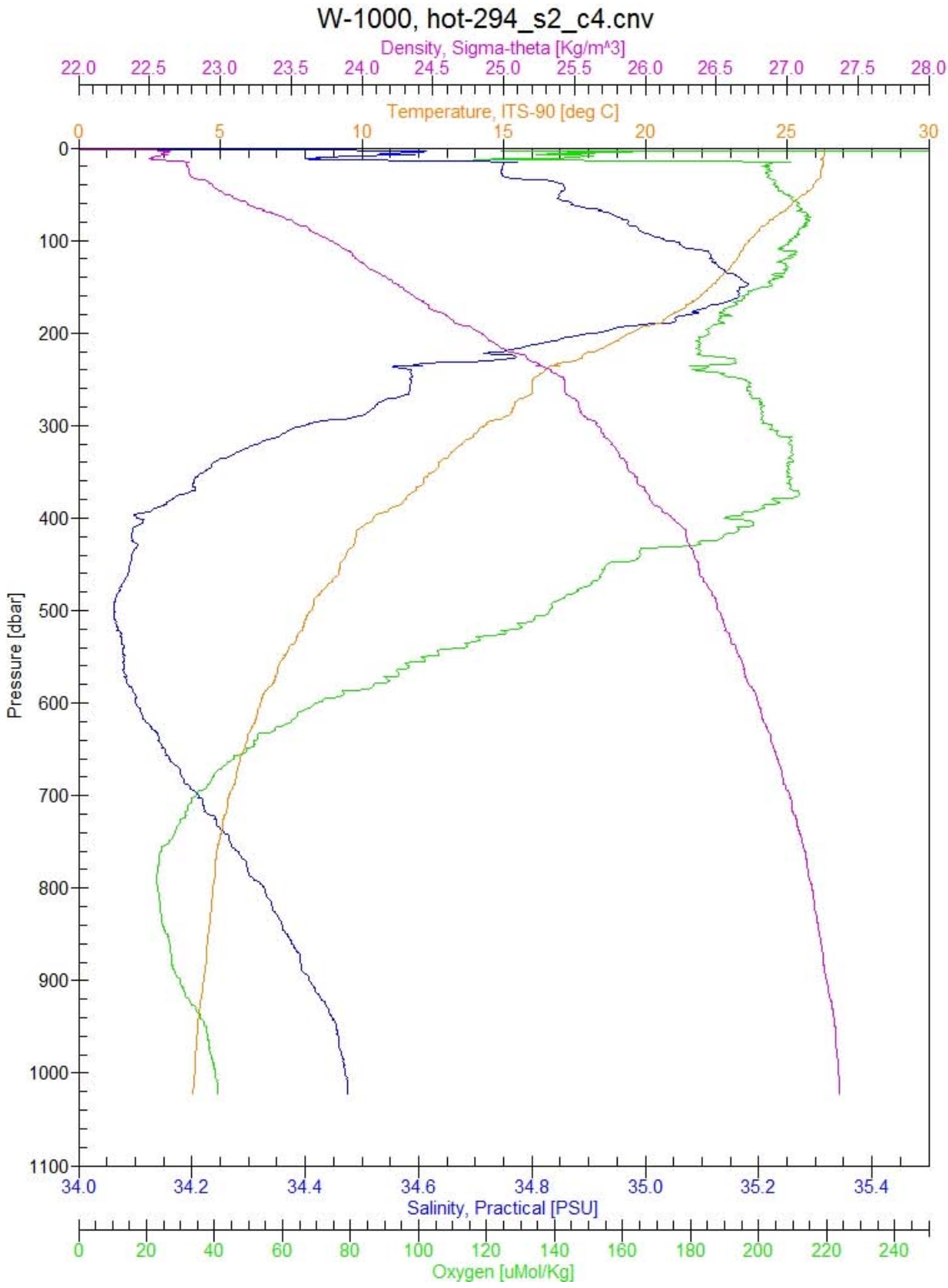

G-1000, hot-294_s2_c2.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Temperature, ITS-90 [deg C]
0
5
10
15
20
25
30
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]

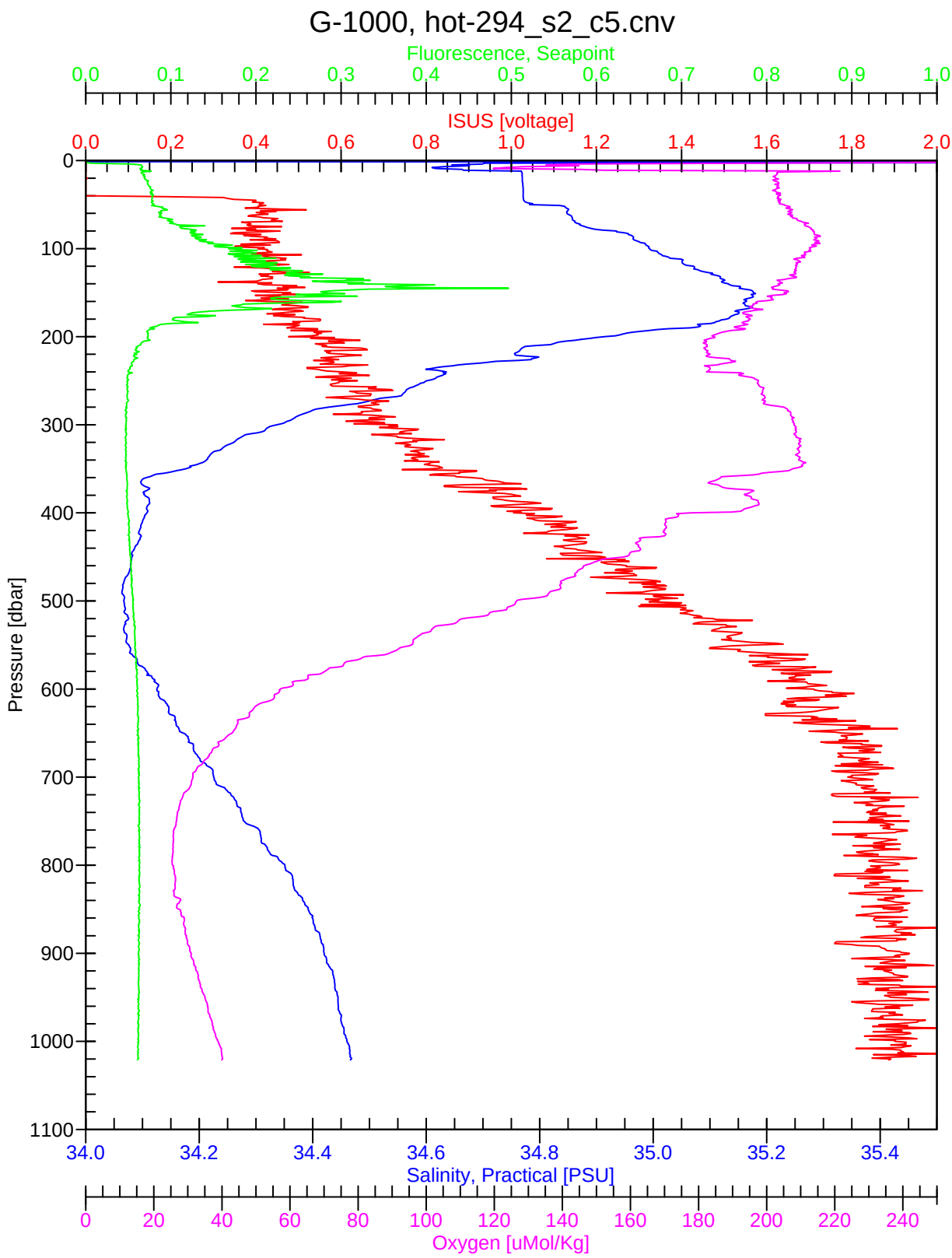

W-1000, hot-294_s2_c2.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

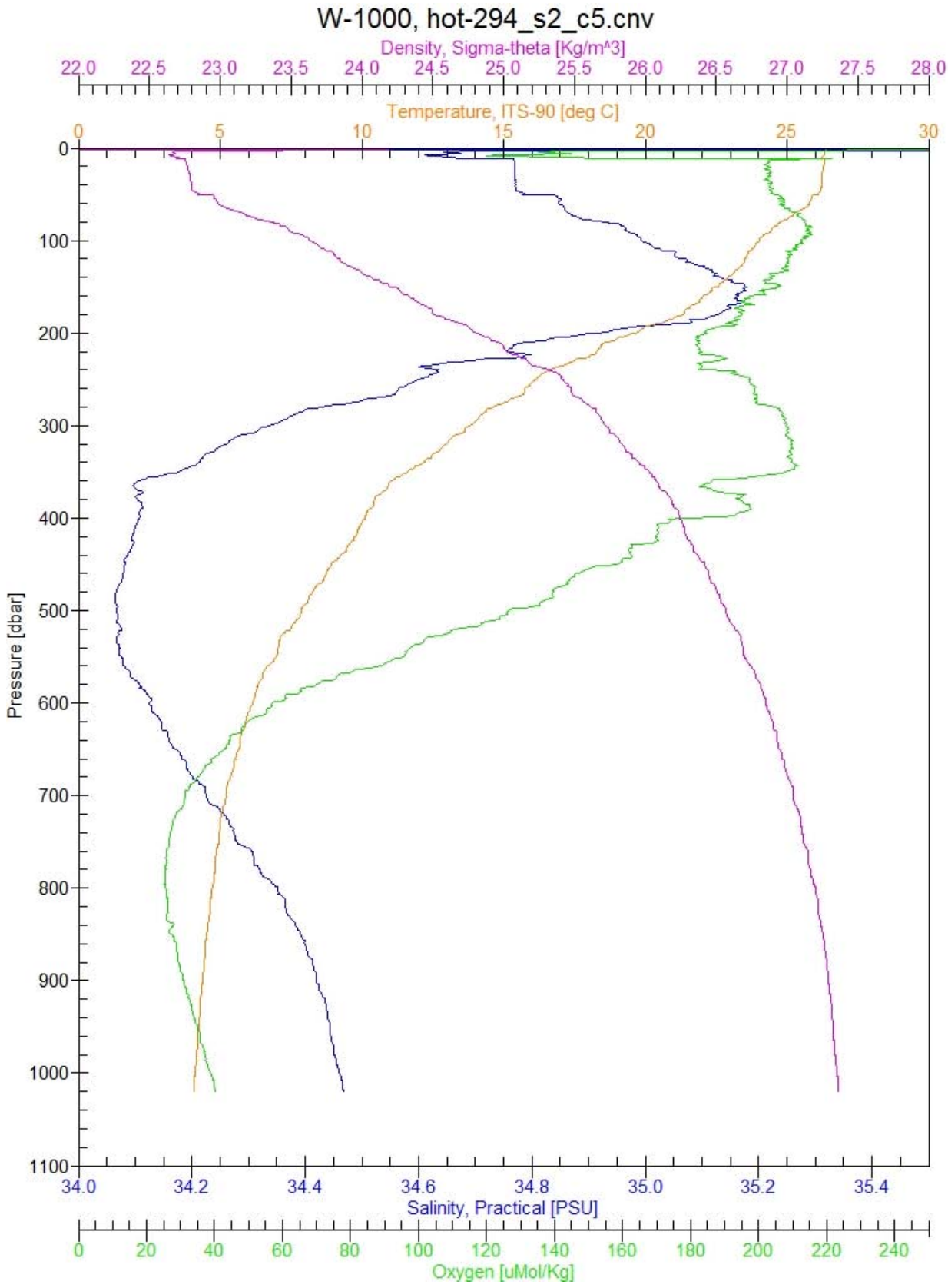

G-1000, hot-294_s2_c3.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
ISUS [voltage]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]

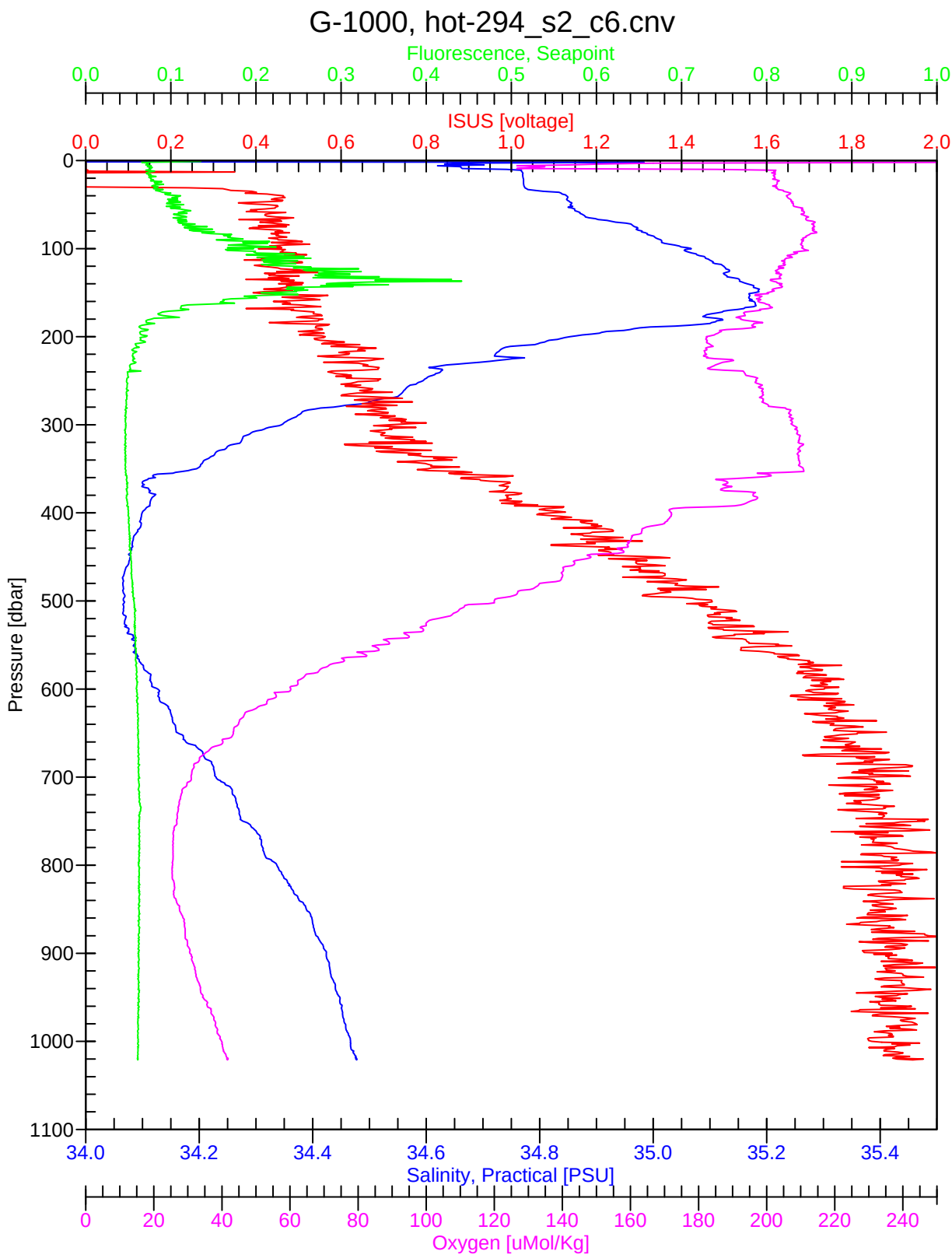

W-1000, hot-294_s2_c3.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
Salinity, Practical [PSU]
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Oxygen [uMol/Kg]
0 20 40 60 80 100 120 140 160 180 200 220 240

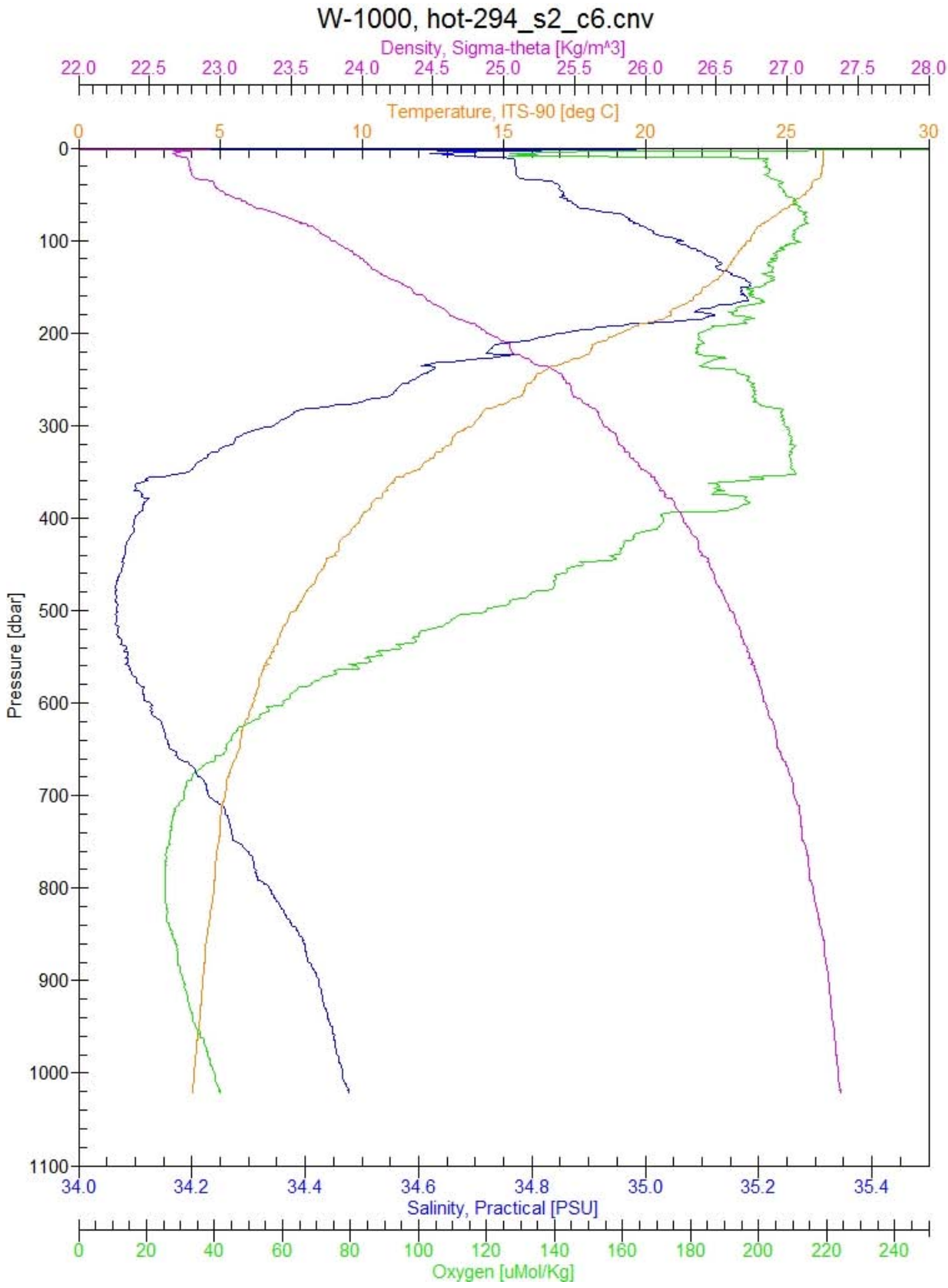

G-1000, hot-294_s2_c4.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
ISUS [voltage]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]

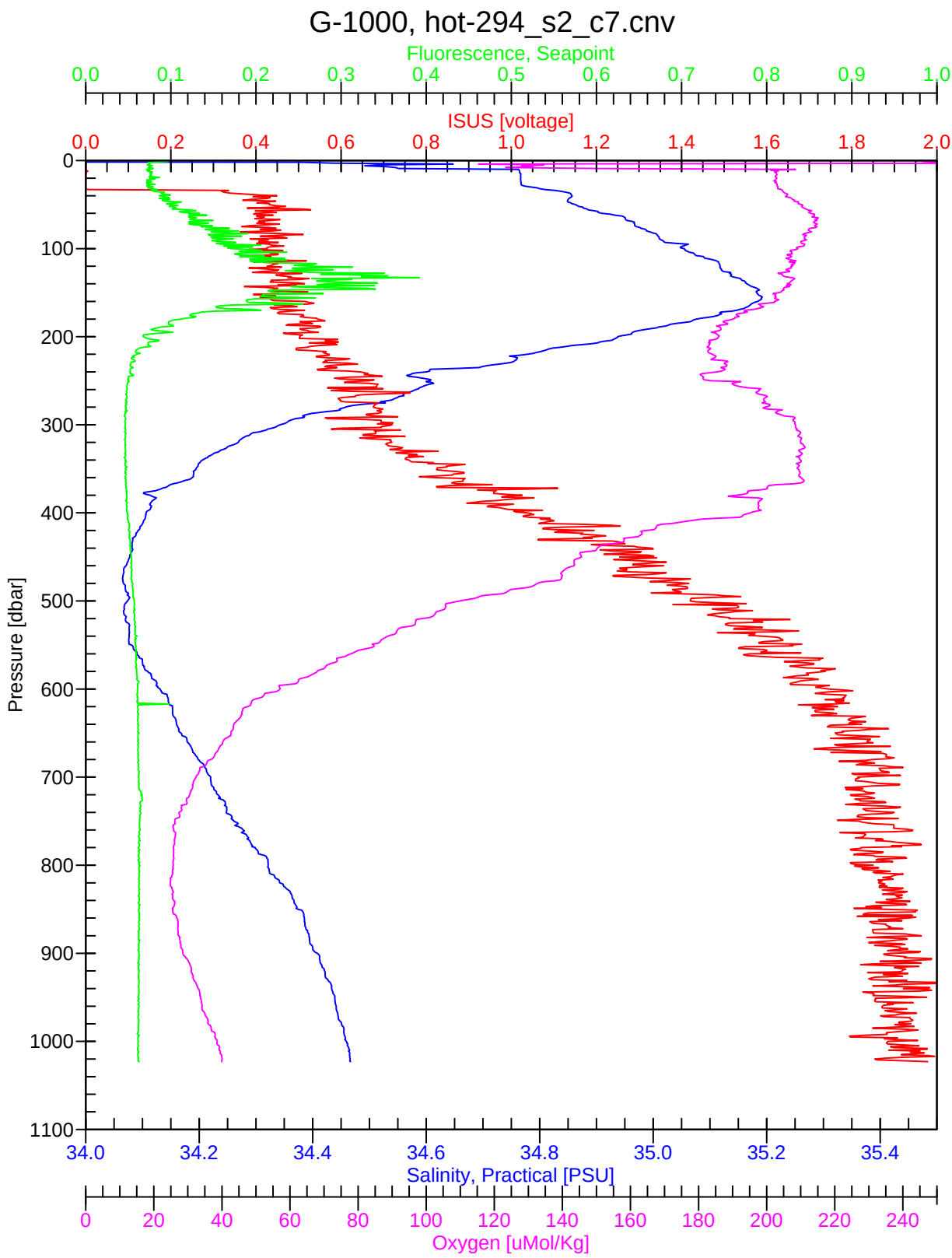

W-1000, hot-294_s2_c4.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
Salinity, Practical [PSU]
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Oxygen [uMol/Kg]
0 20 40 60 80 100 120 140 160 180 200 220 240

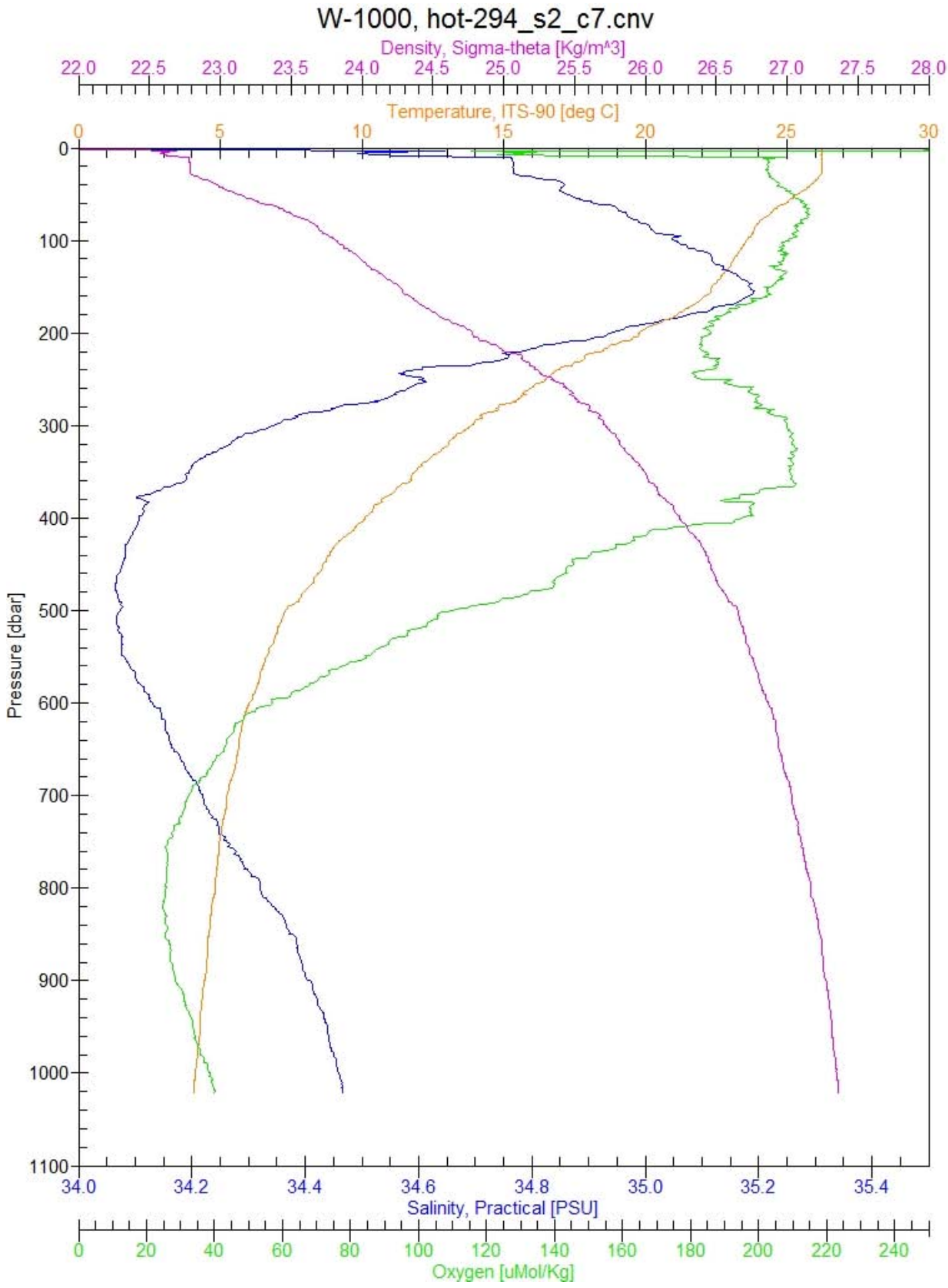

G-1000, hot-294_s2_c5.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
ISUS [voltage]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]

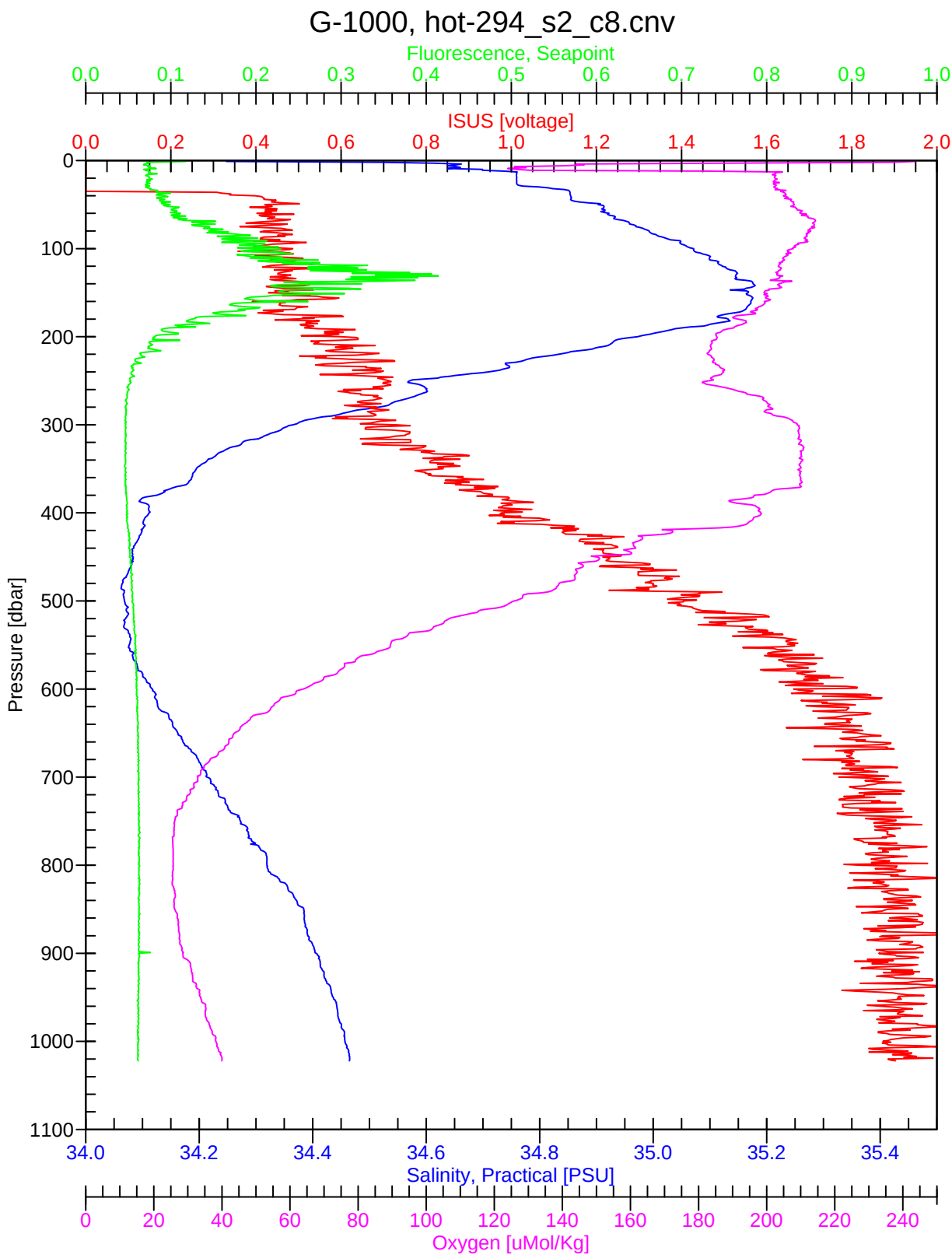

W-1000, hot-294_s2_c5.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
Salinity, Practical [PSU]
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Oxygen [uMol/Kg]
0 20 40 60 80 100 120 140 160 180 200 220 240

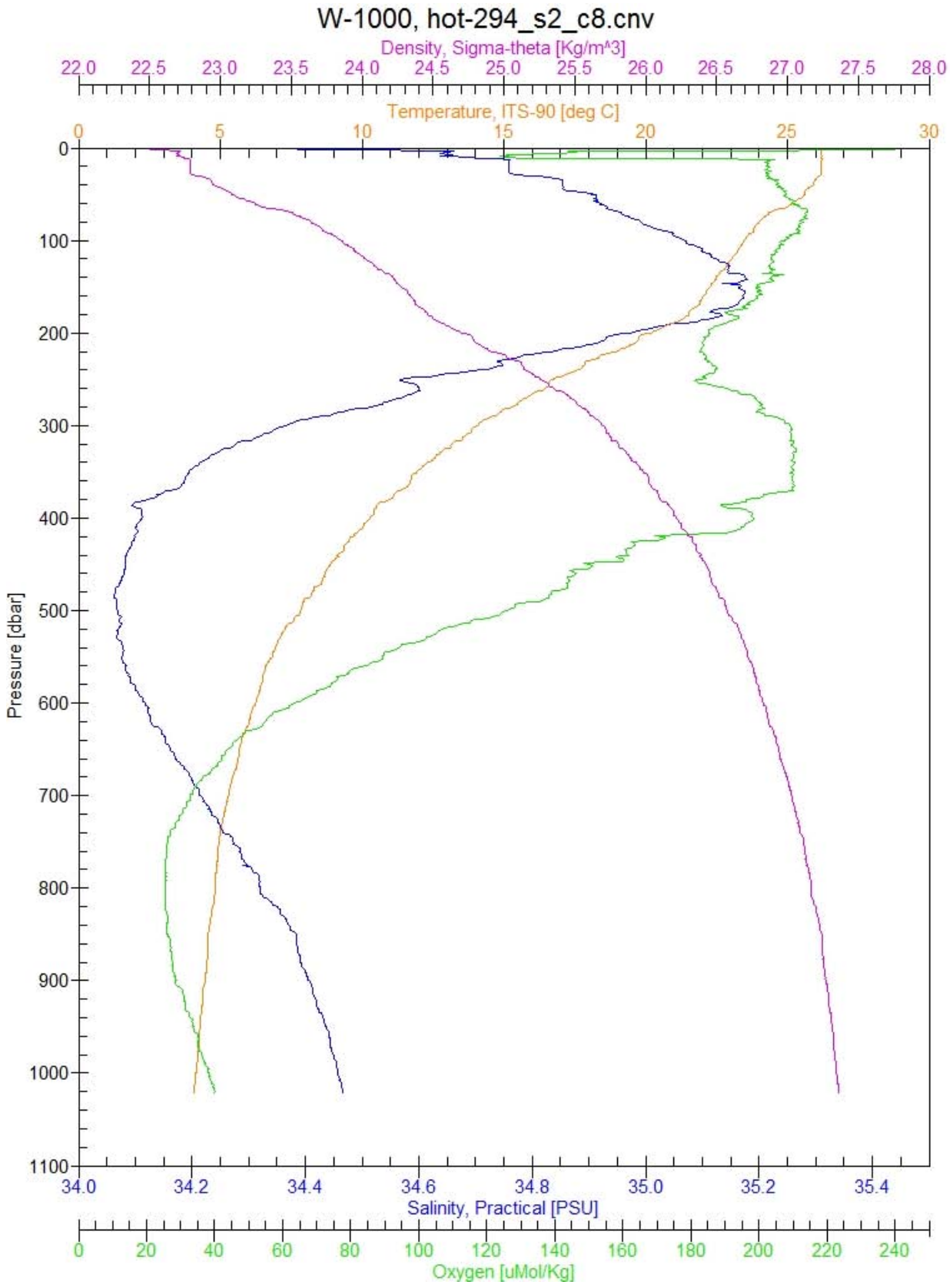

G-1000, hot-294_s2_c6.cnv
Fluorescence, Seapoint
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0
ISUS [voltage]
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

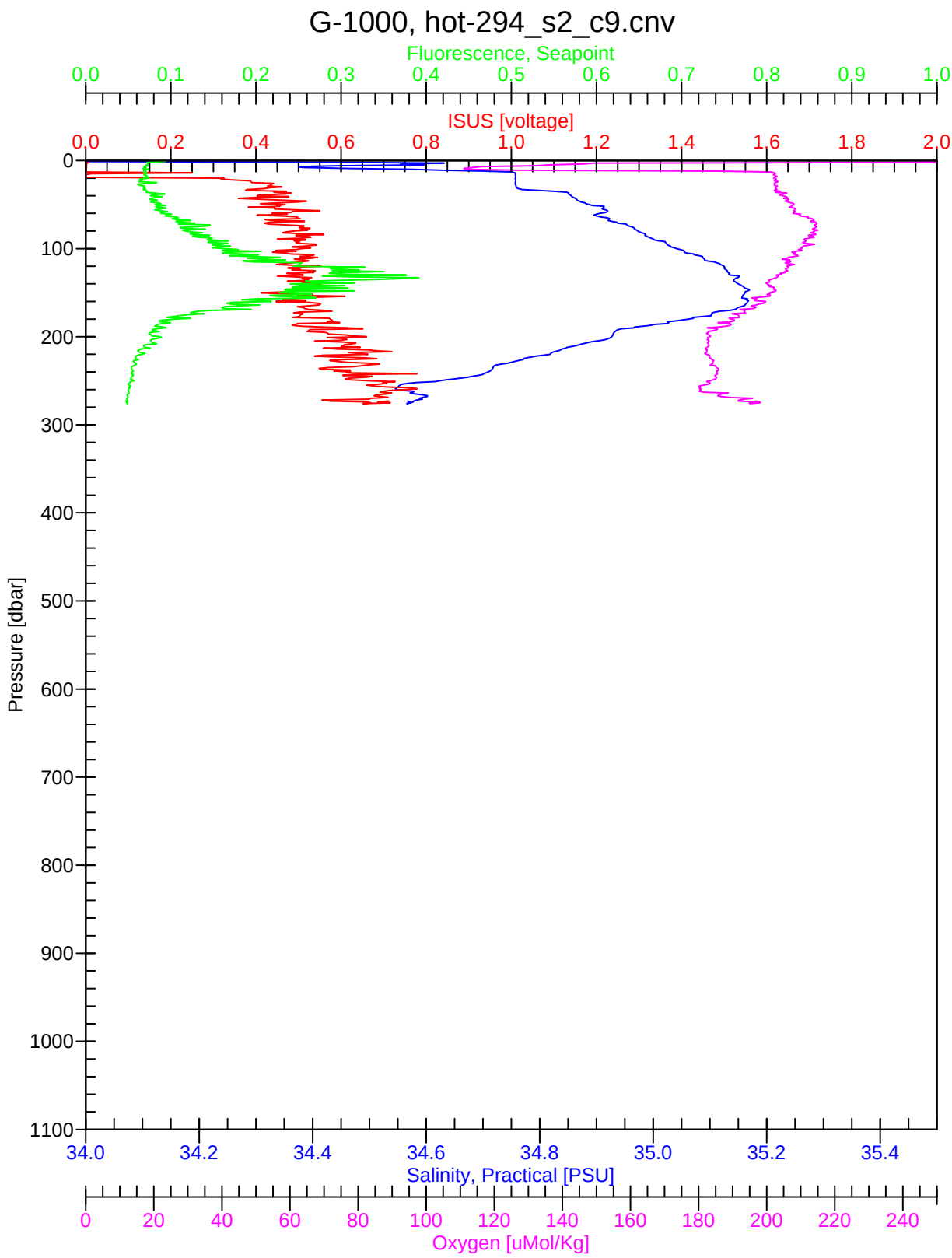

W-1000, hot-294_s2_c6.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
Salinity, Practical [PSU]
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Oxygen [uMol/Kg]
0 20 40 60 80 100 120 140 160 180 200 220 240

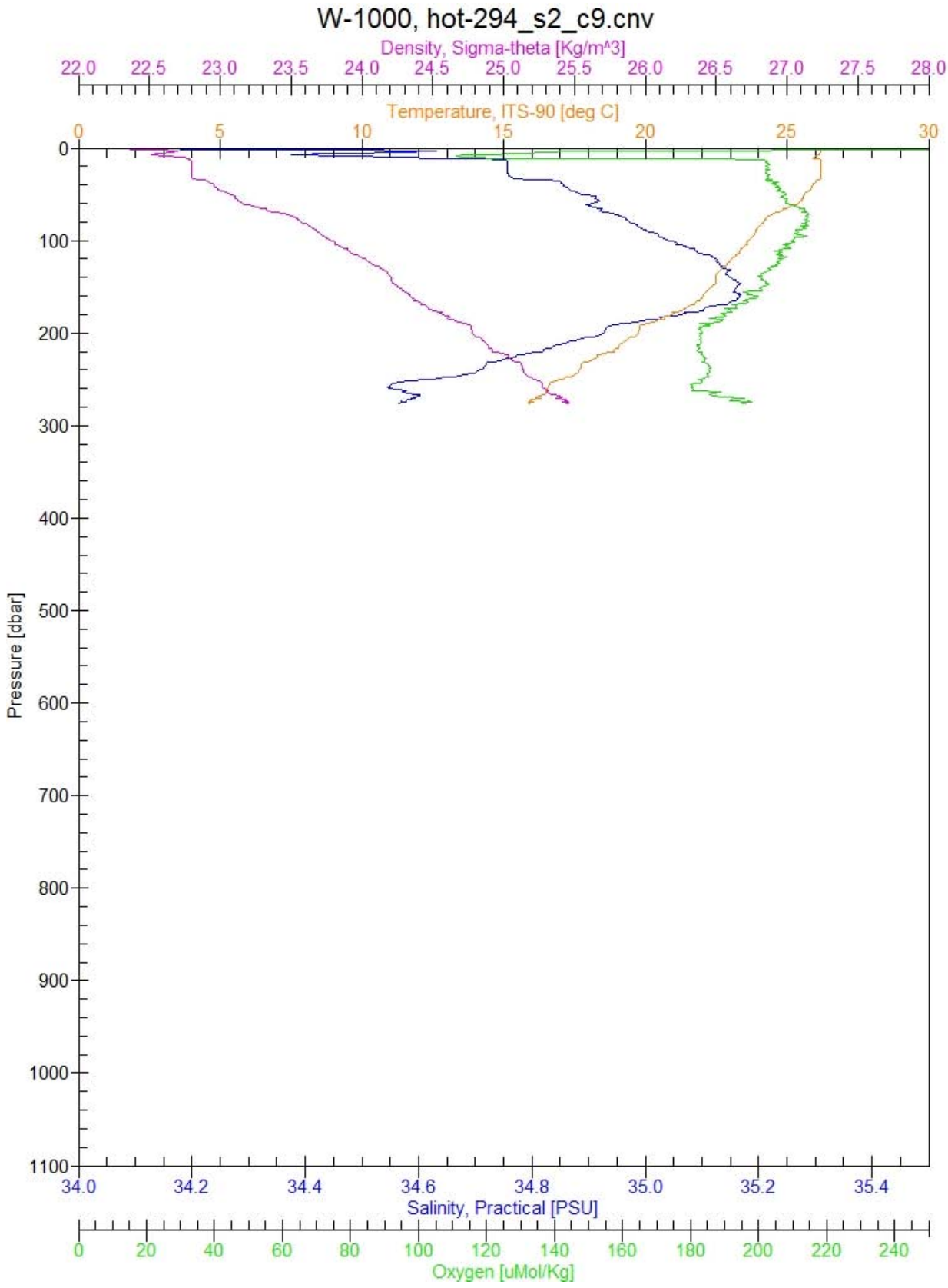

G-1000, hot-294_s2_c7.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
ISUS [voltage]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]

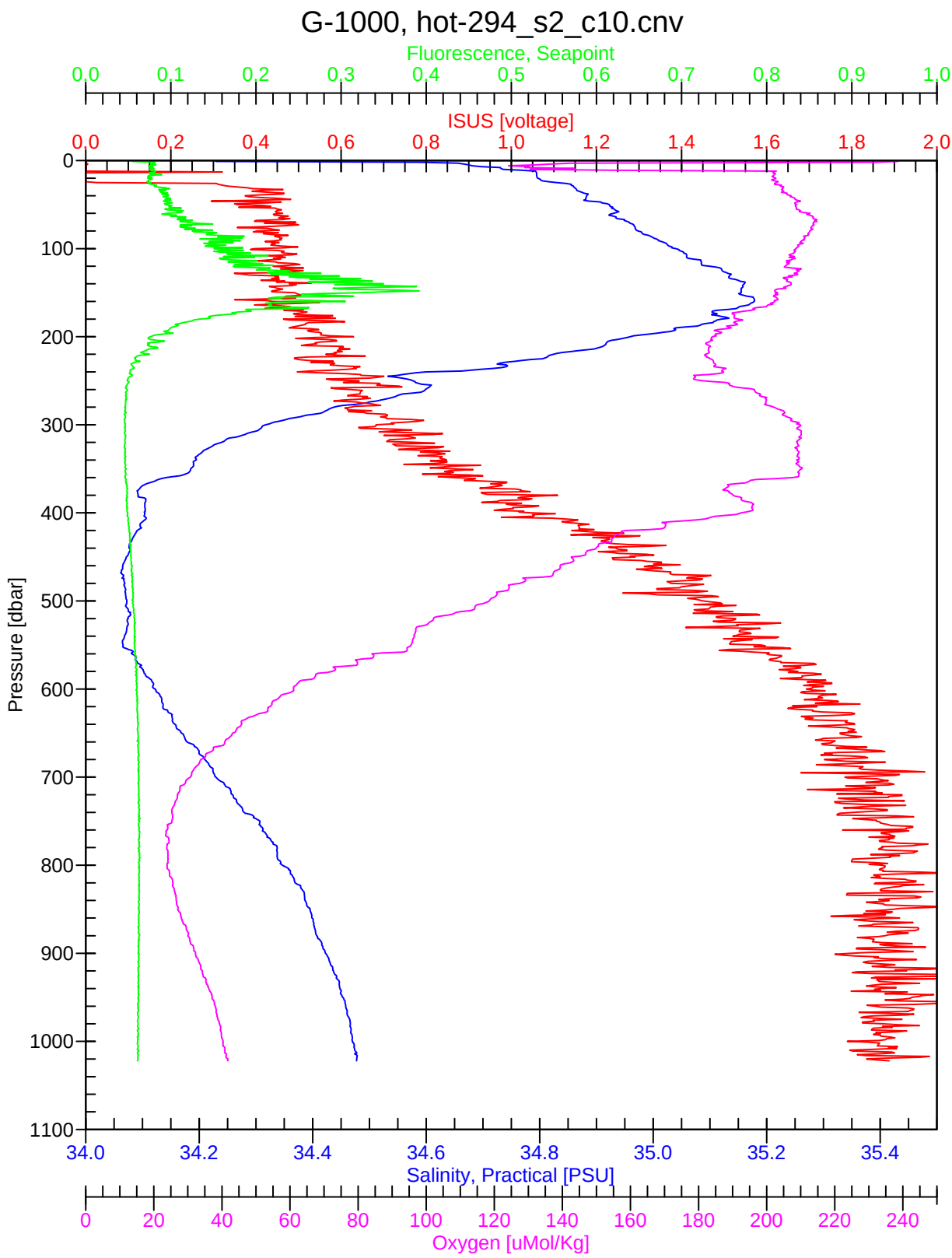

W-1000, hot-294_s2_c7.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
Salinity, Practical [PSU]
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Oxygen [uMol/Kg]
0 20 40 60 80 100 120 140 160 180 200 220 240

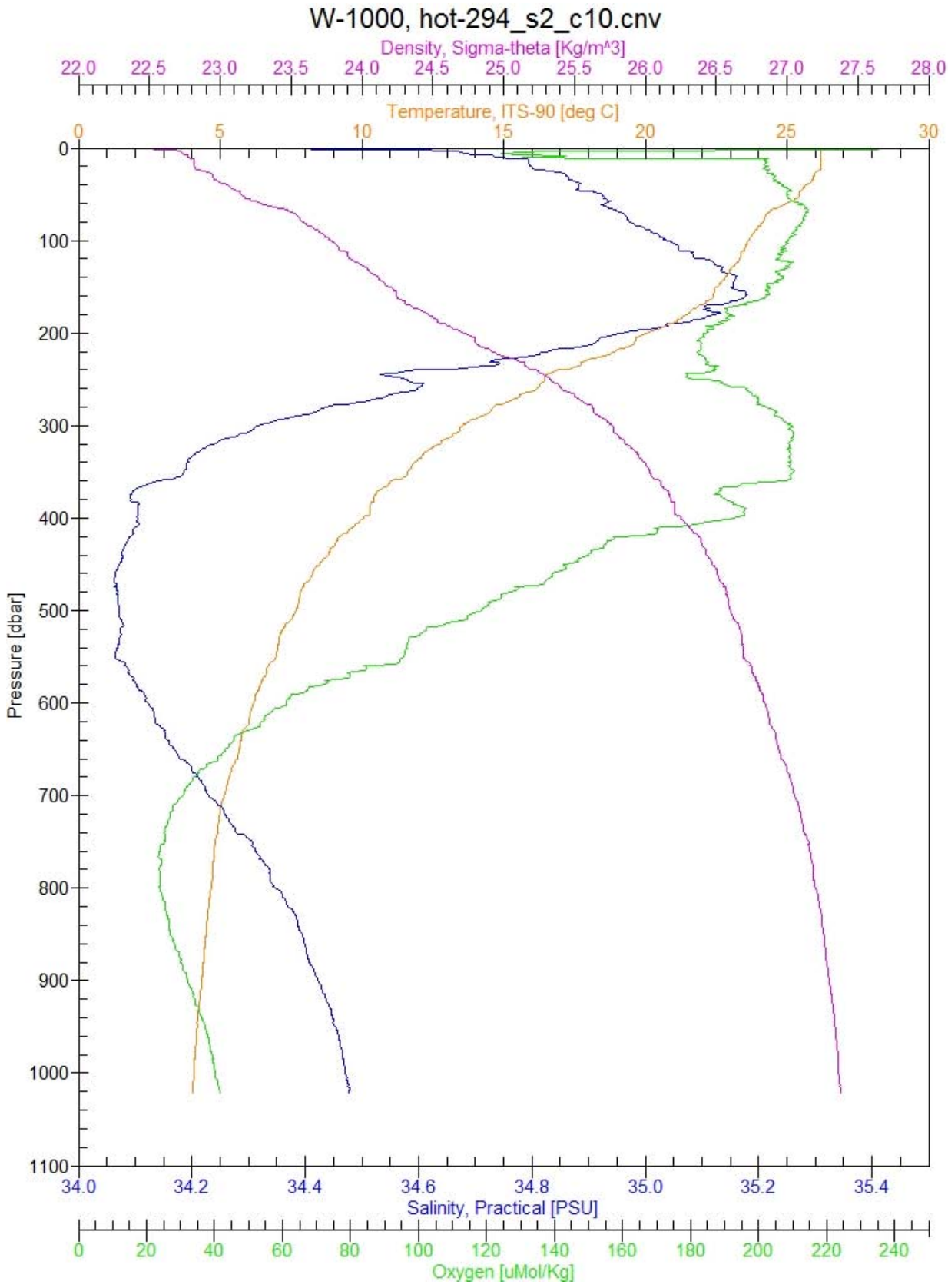

G-1000, hot-294_s2_c8.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
ISUS [voltage]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]

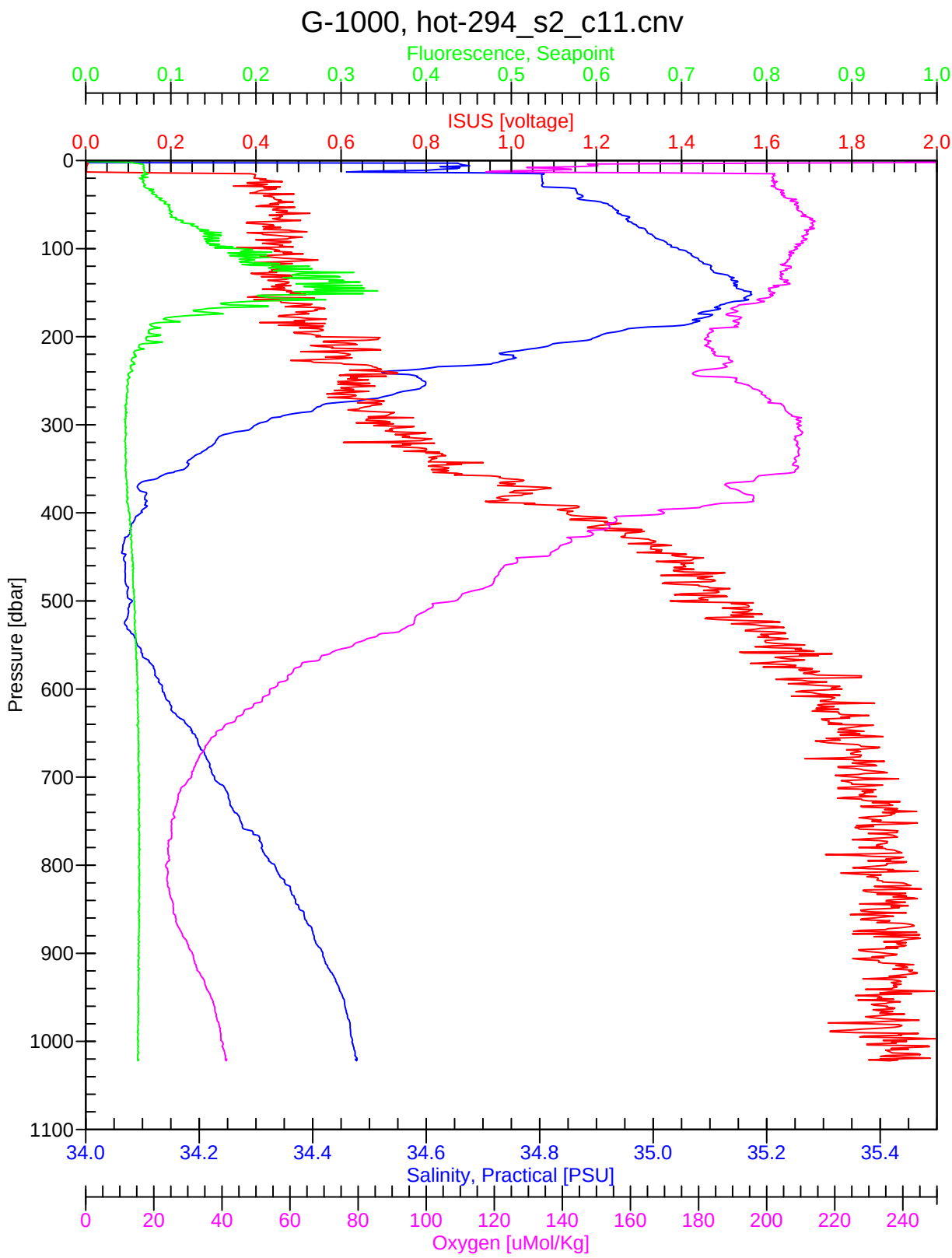

W-1000, hot-294_s2_c8.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
Salinity, Practical [PSU]
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Oxygen [uMol/Kg]
0 20 40 60 80 100 120 140 160 180 200 220 240

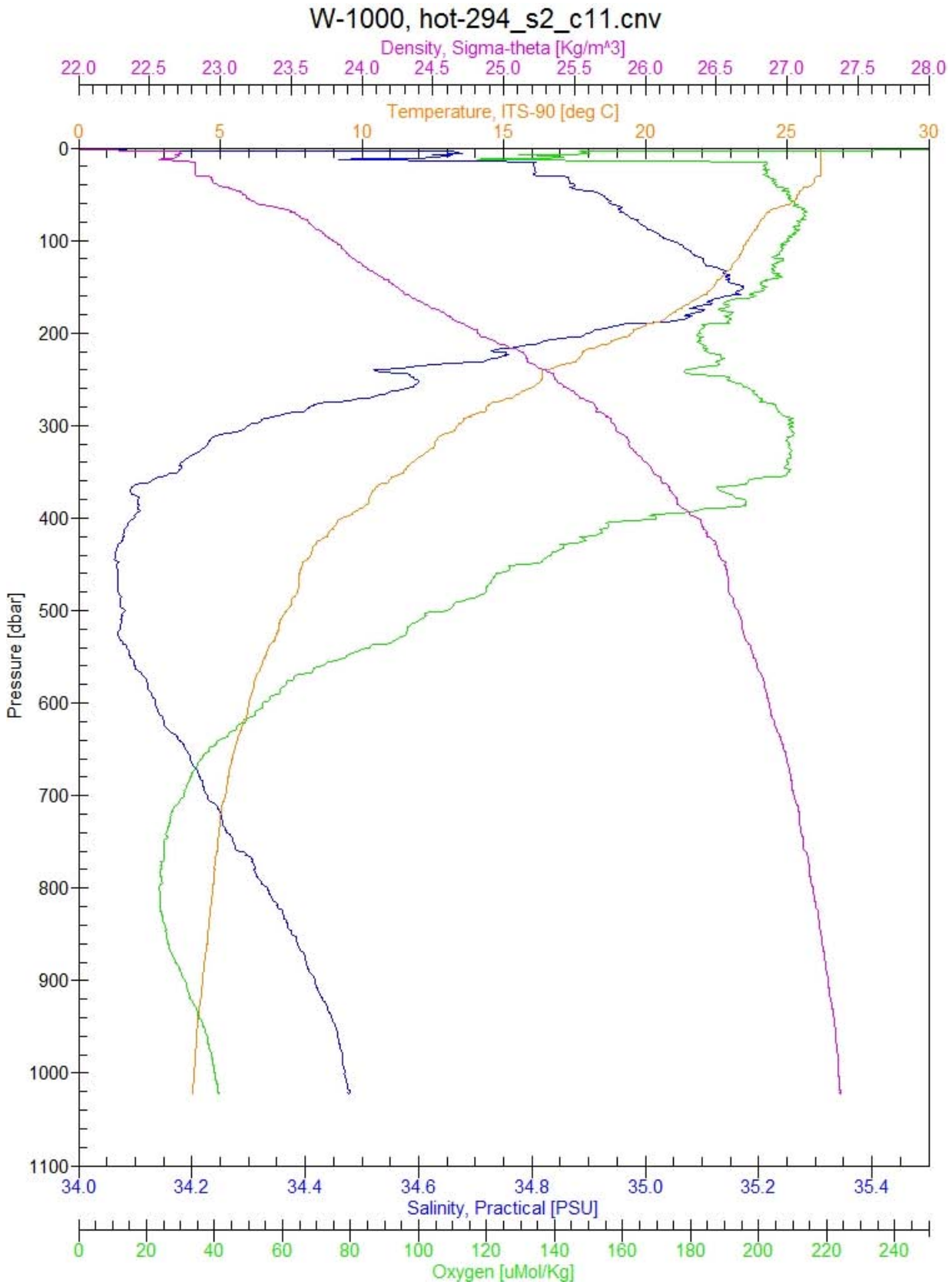

G-1000, hot-294_s2_c9.cnv
Fluorescence, Seapoint
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0
ISUS [voltage]
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

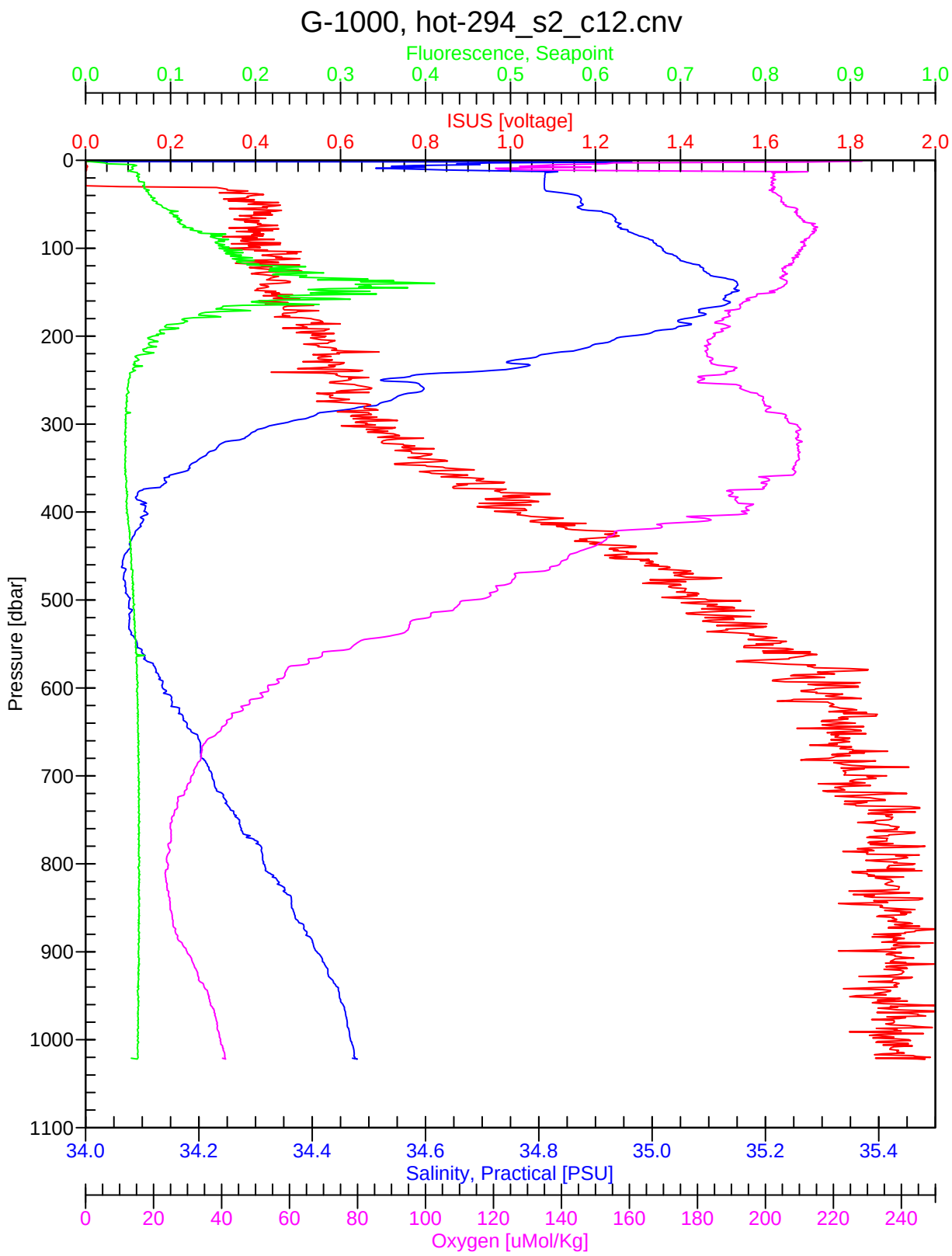

W-1000, hot-294_s2_c9.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
Salinity, Practical [PSU]
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Oxygen [uMol/Kg]
0 20 40 60 80 100 120 140 160 180 200 220 240

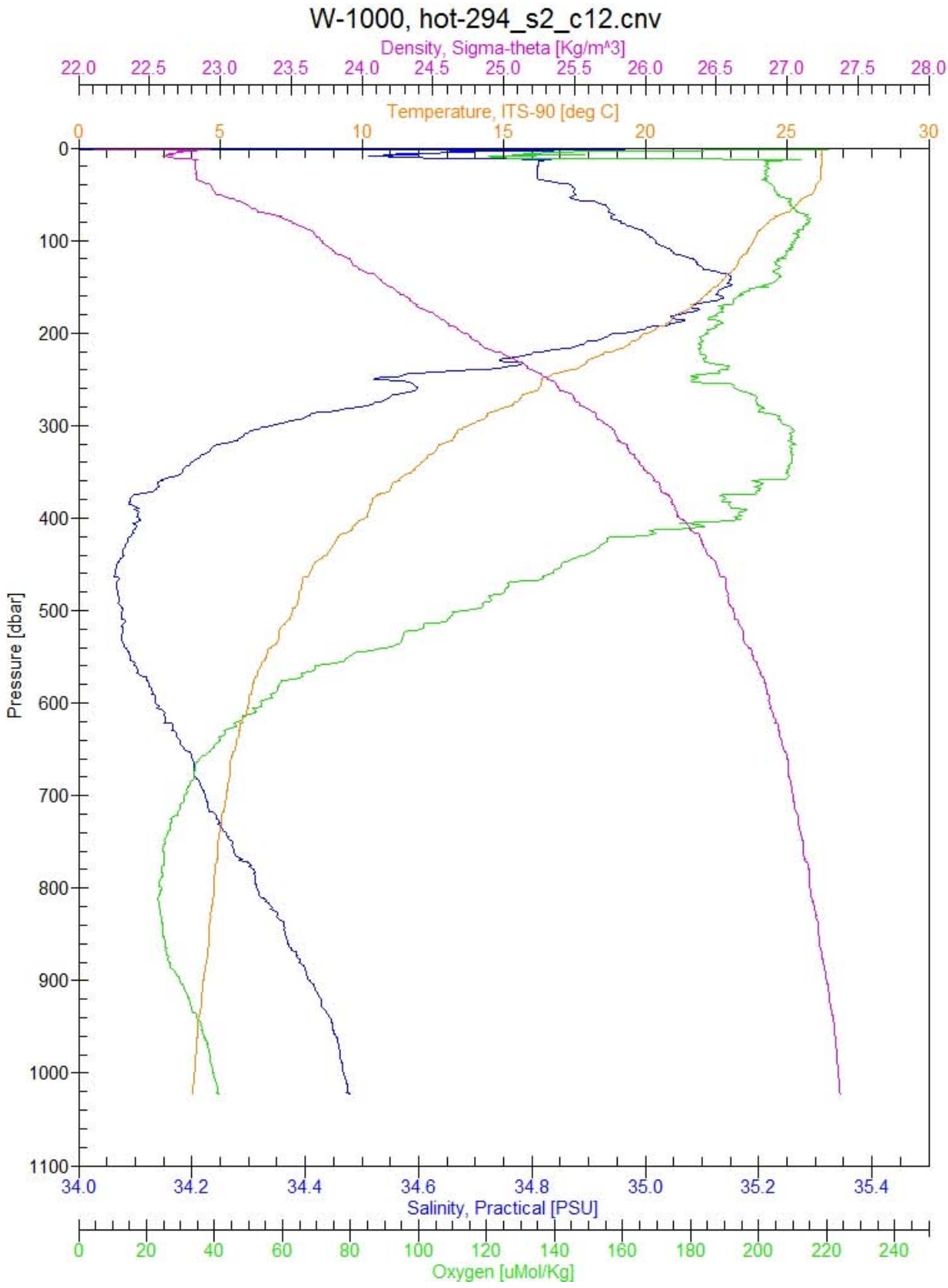

G-1000, hot-294_s2_c10.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
ISUS [voltage]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]

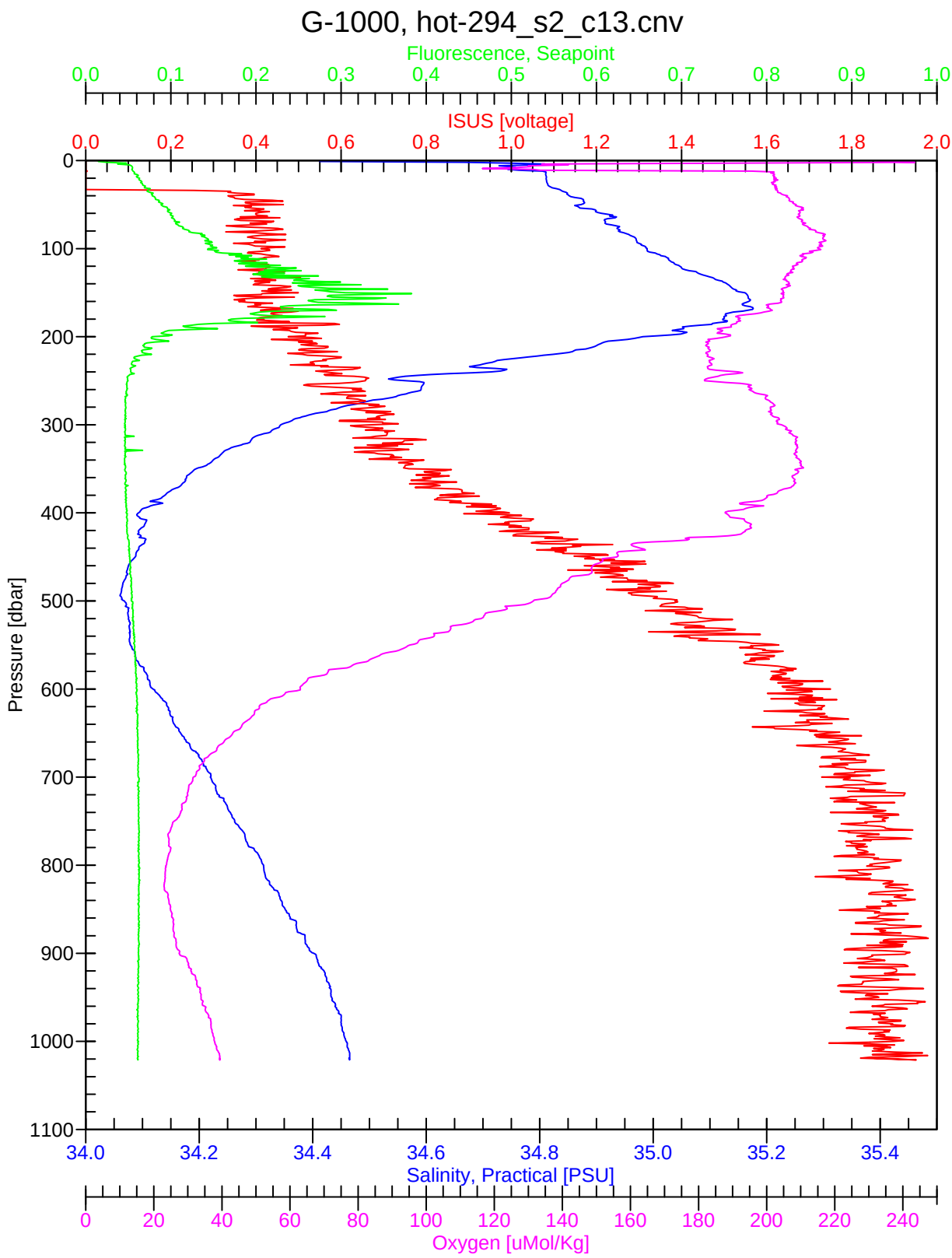

W-1000, hot-294_s2_c10.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

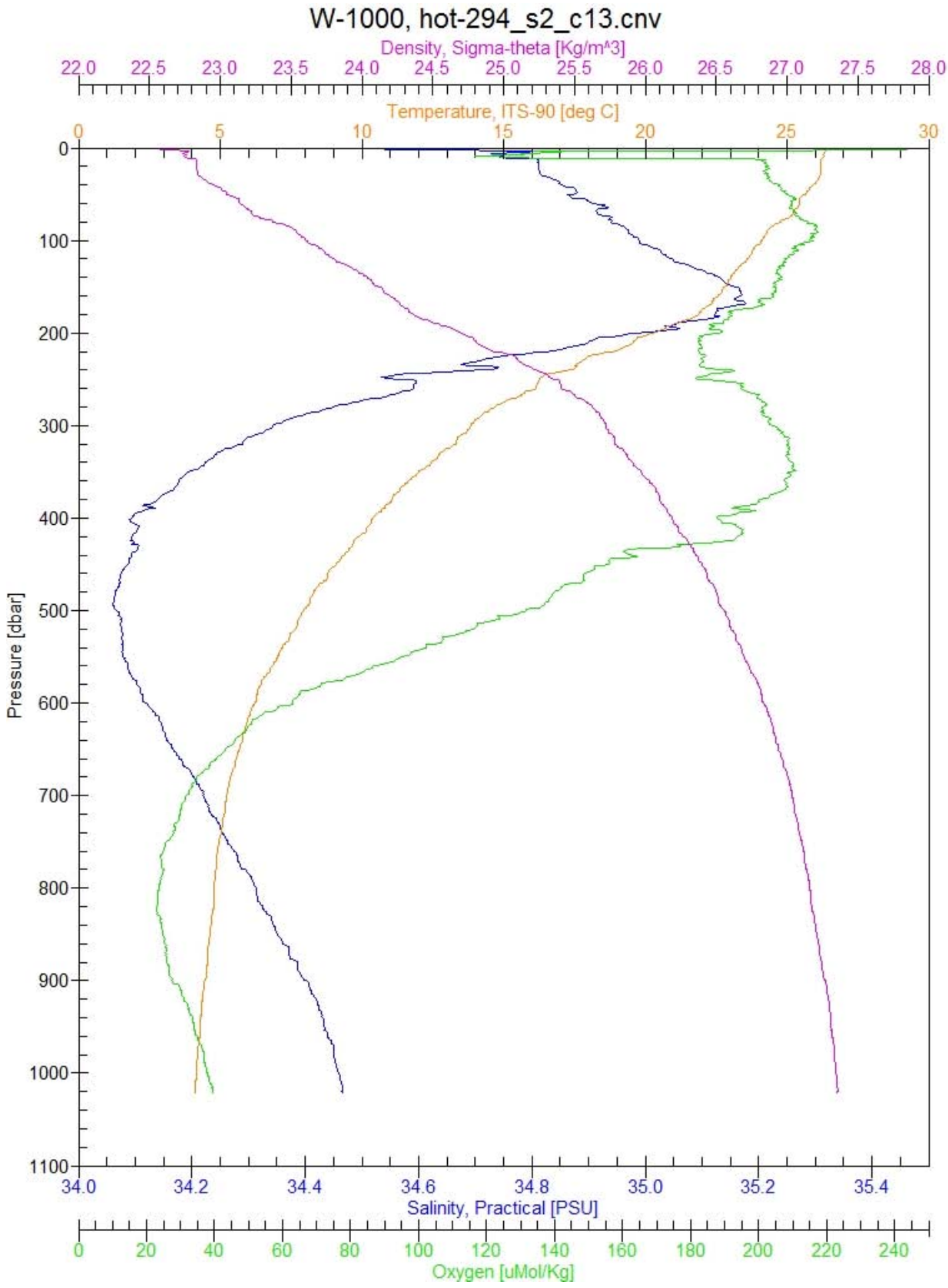

G-1000, hot-294_s2_c11.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
ISUS [voltage]
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]

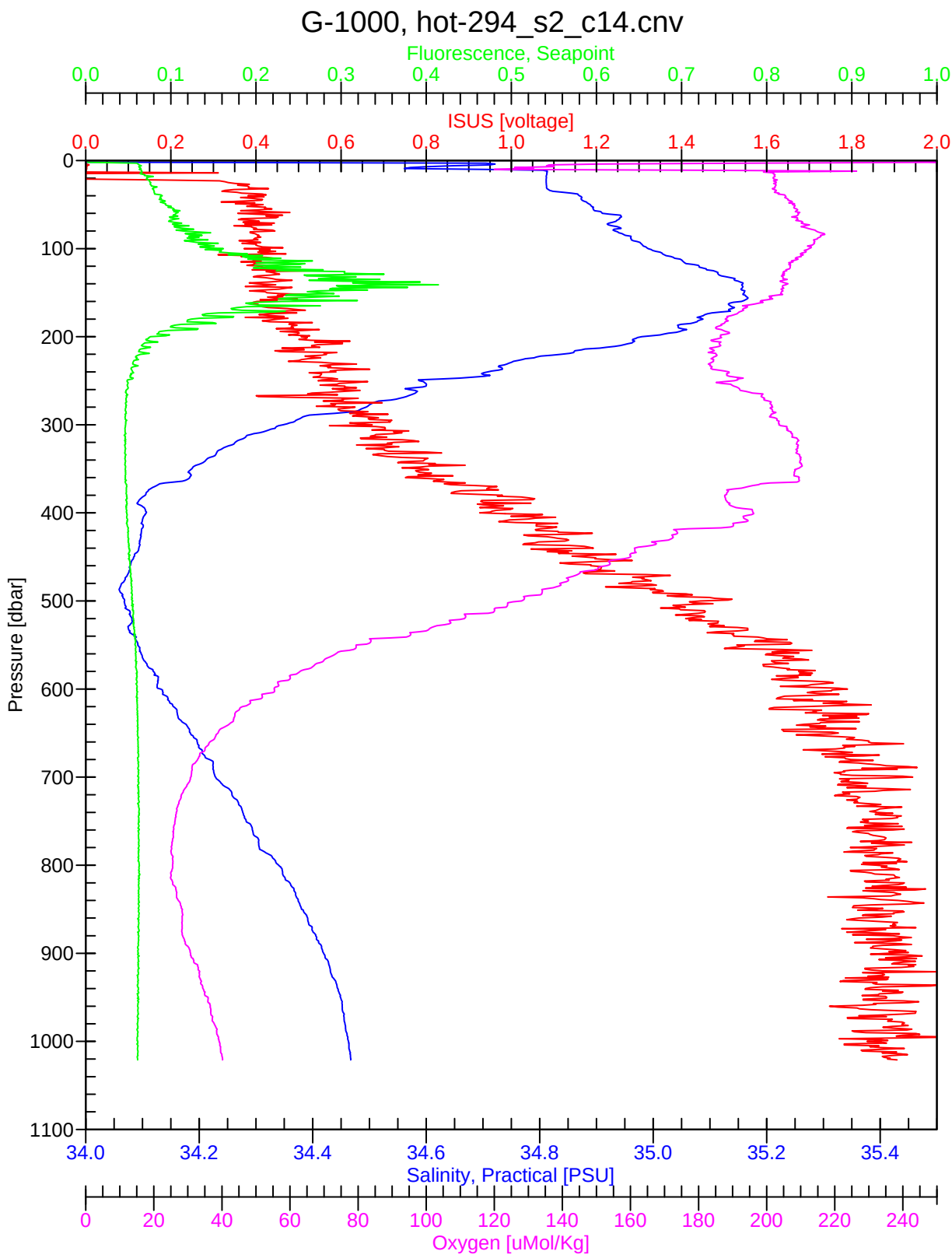

W-1000, hot-294_s2_c11.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

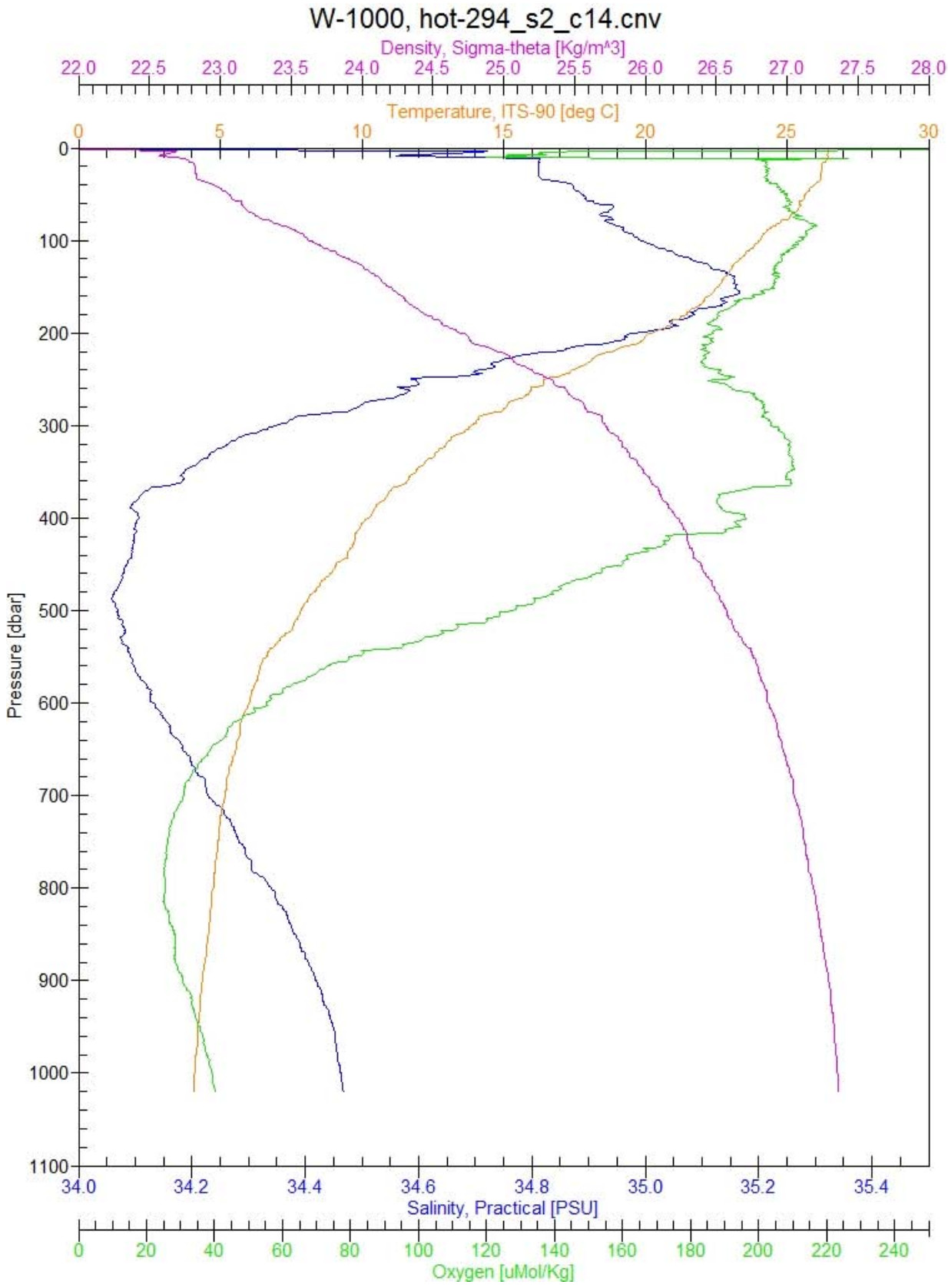

G-1000, hot-294_s2_c12.cnv
Fluorescence, Seapoint
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0
ISUS [voltage]
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

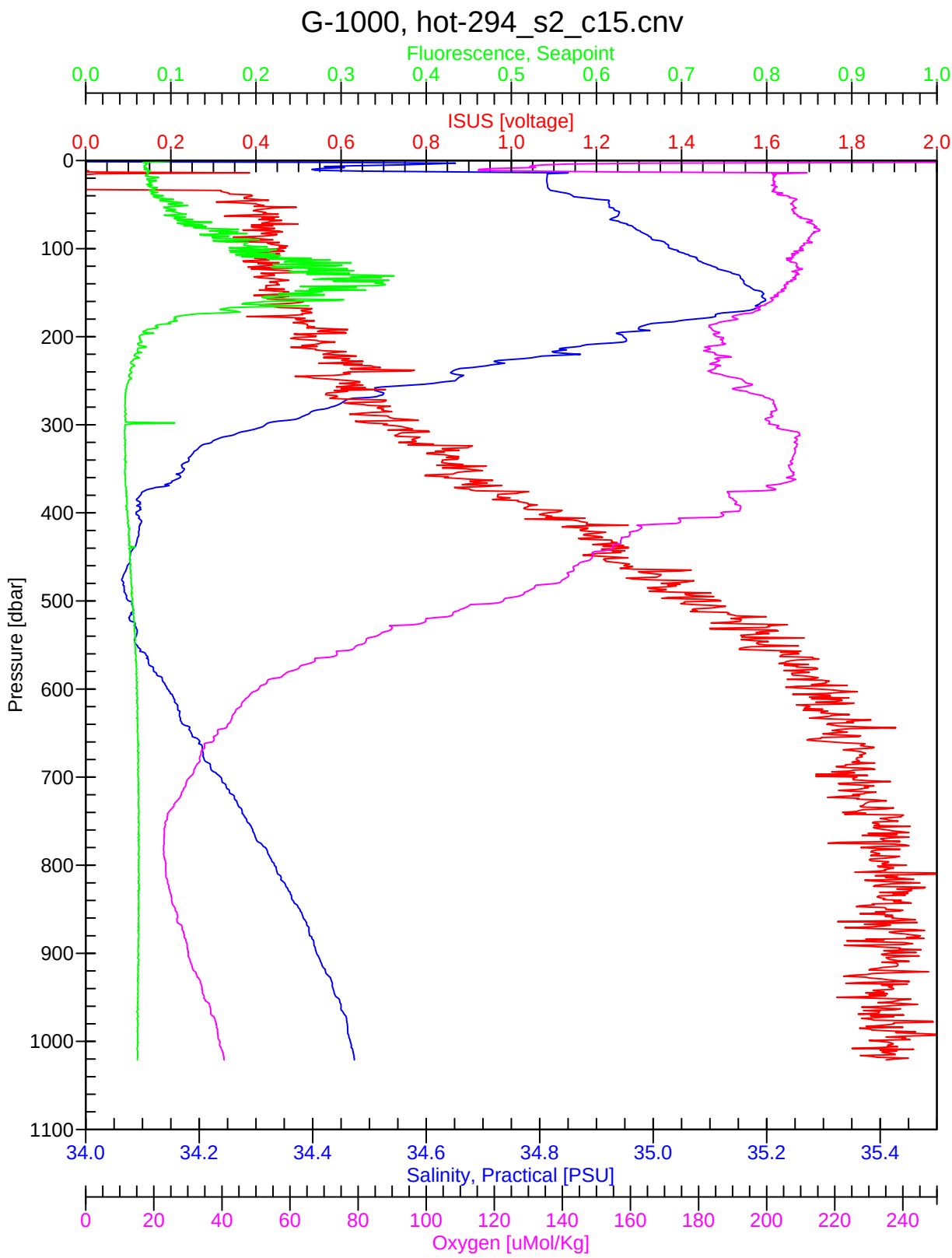

W-1000, hot-294_s2_c12.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

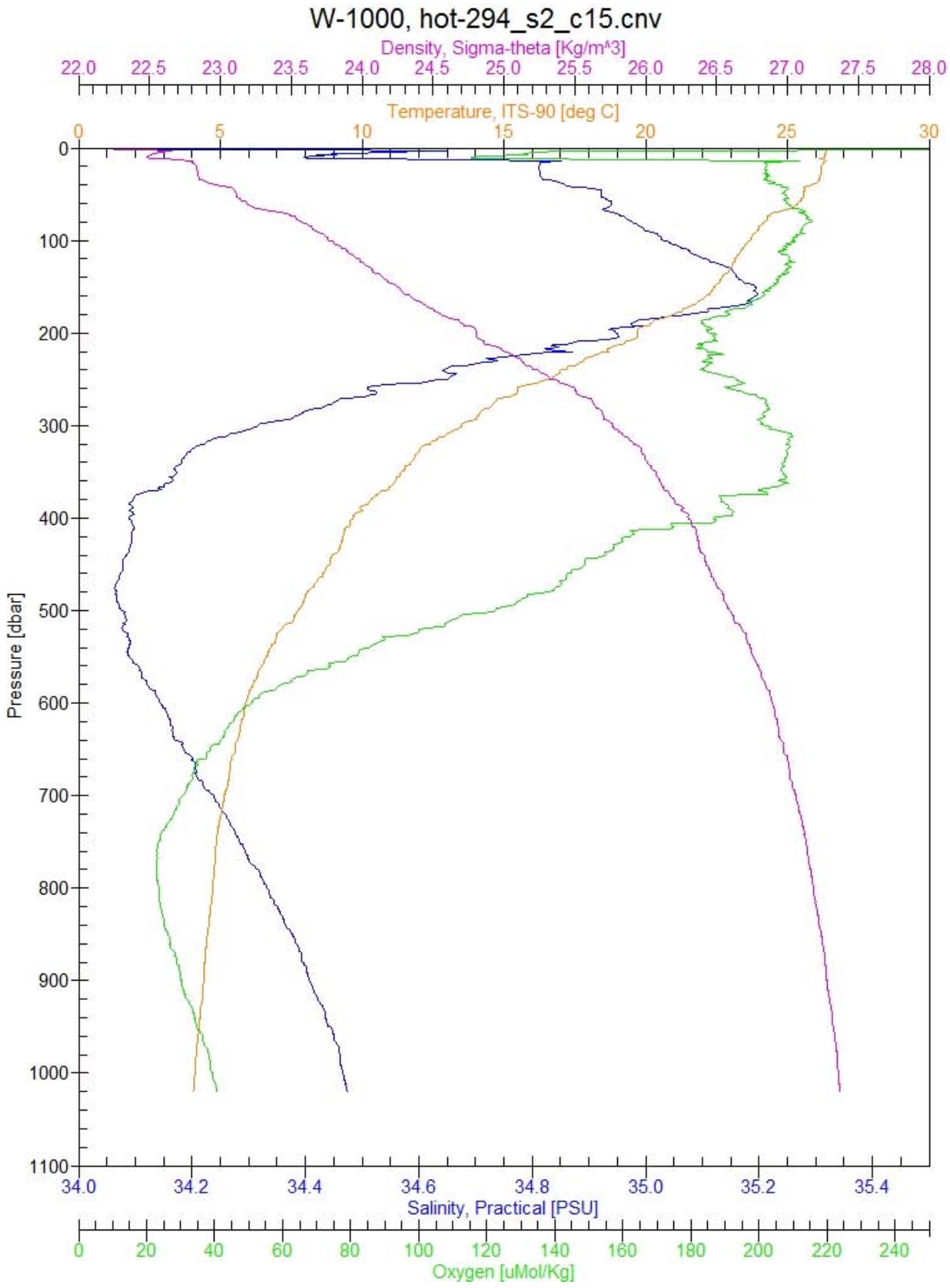

G-1000, hot-294_s2_c13.cnv
Fluorescence, Seapoint
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0
ISUS [voltage]
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

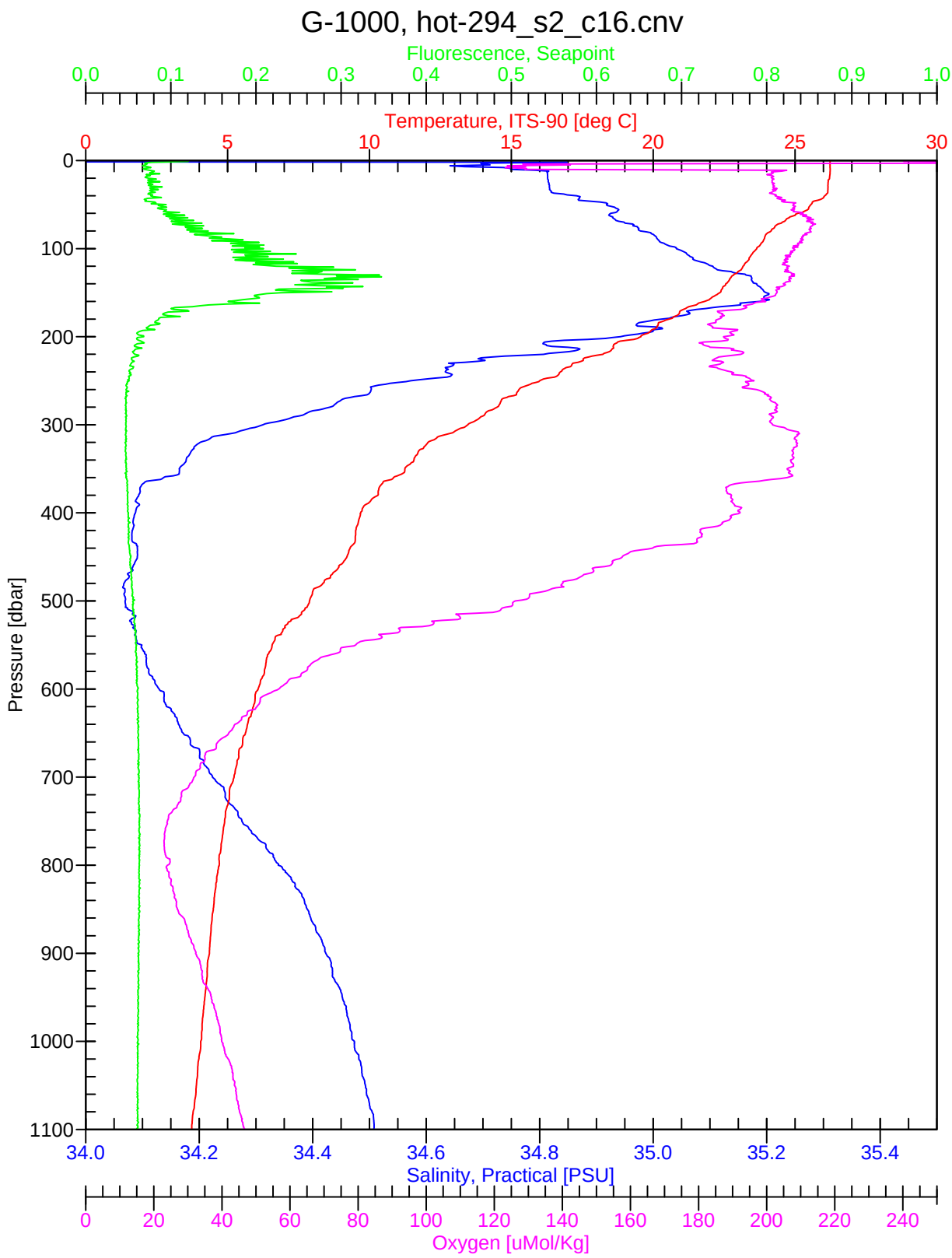

W-1000, hot-294_s2_c13.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
Salinity, Practical [PSU]
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Oxygen [uMol/Kg]
0 20 40 60 80 100 120 140 160 180 200 220 240

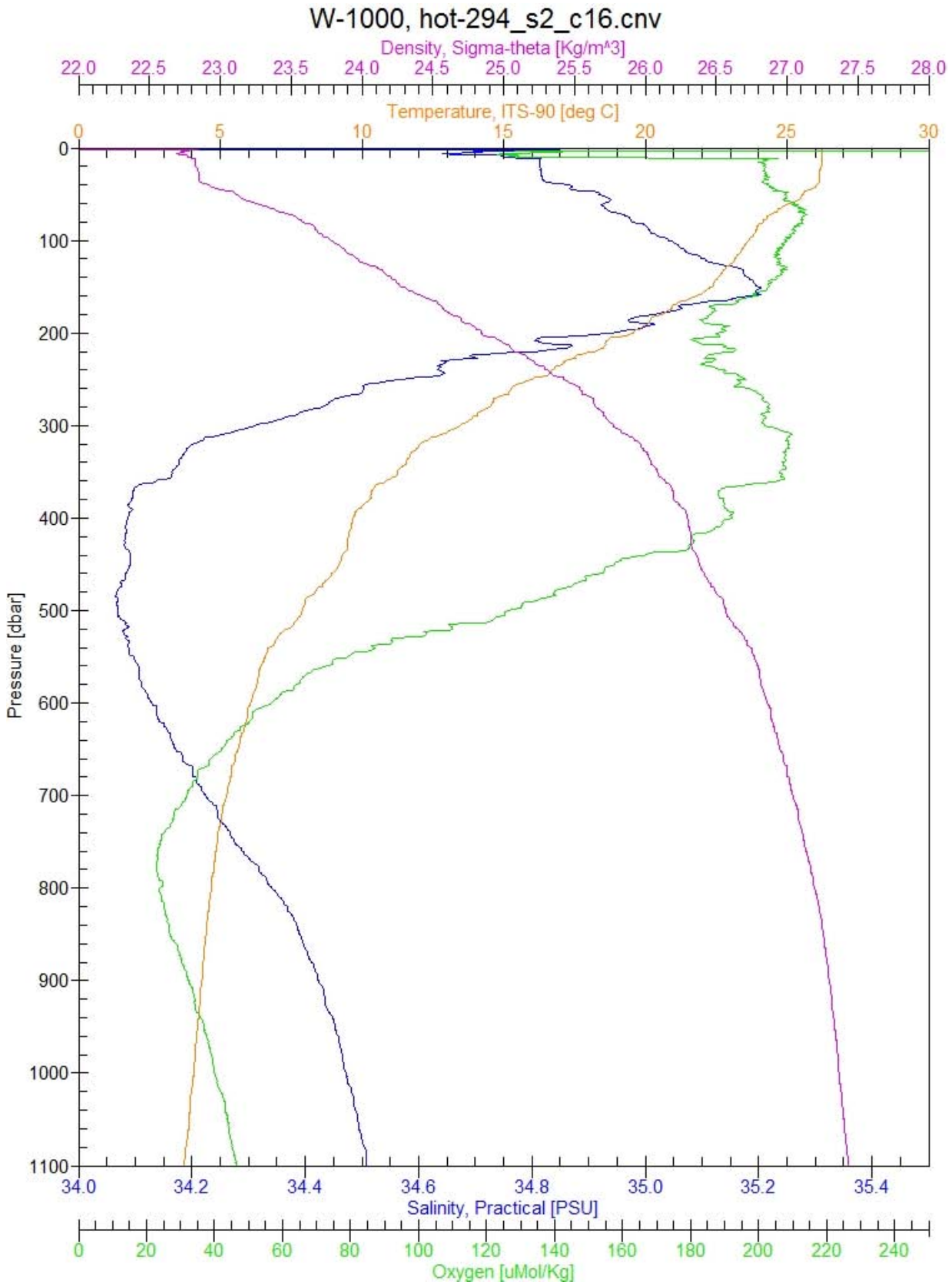

G-1000, hot-294_s2_c14.cnv
Fluorescence, Seapoint
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0
ISUS [voltage]
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

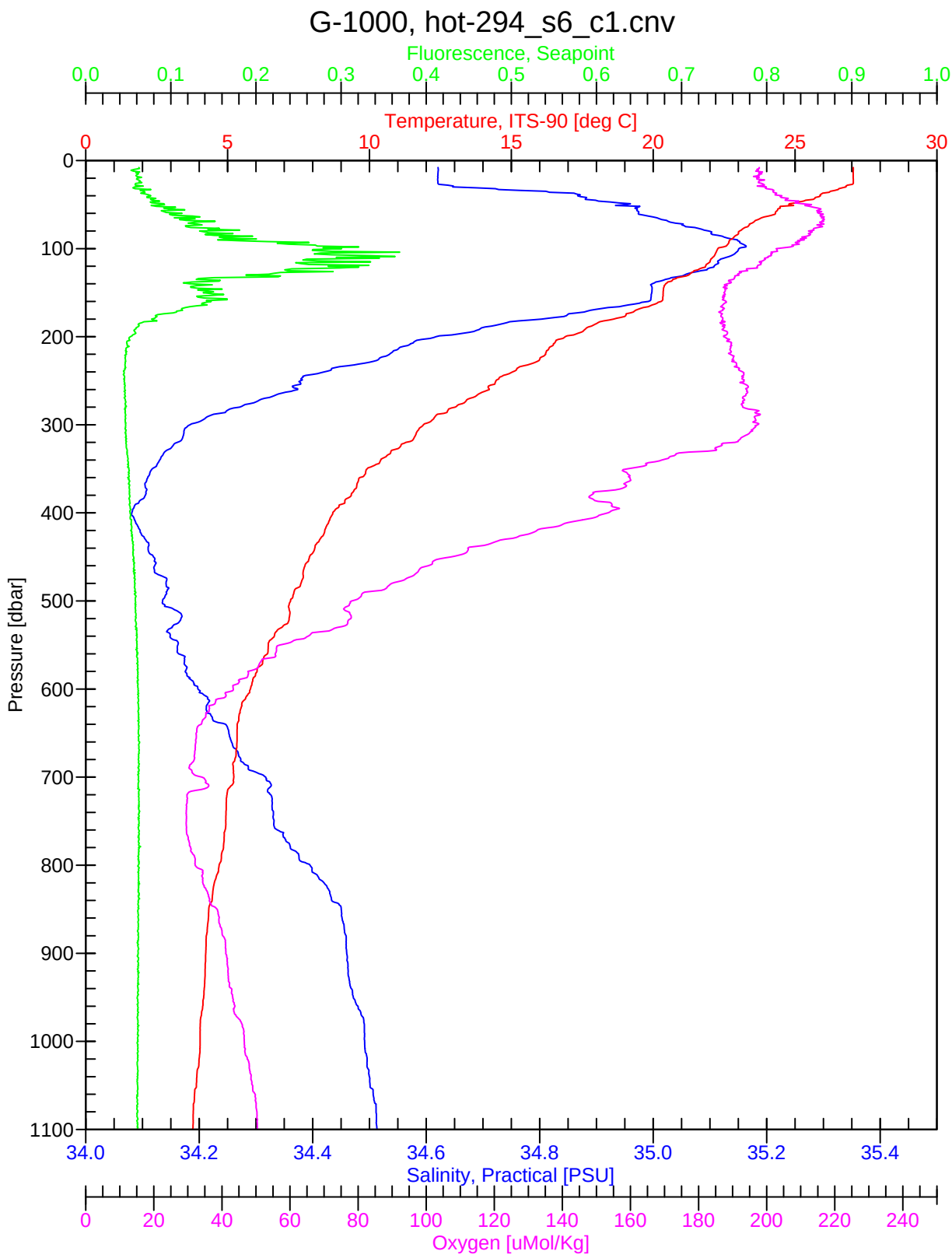

W-1000, hot-294_s2_c14.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
Salinity, Practical [PSU]
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Oxygen [uMol/Kg]
0 20 40 60 80 100 120 140 160 180 200 220 240

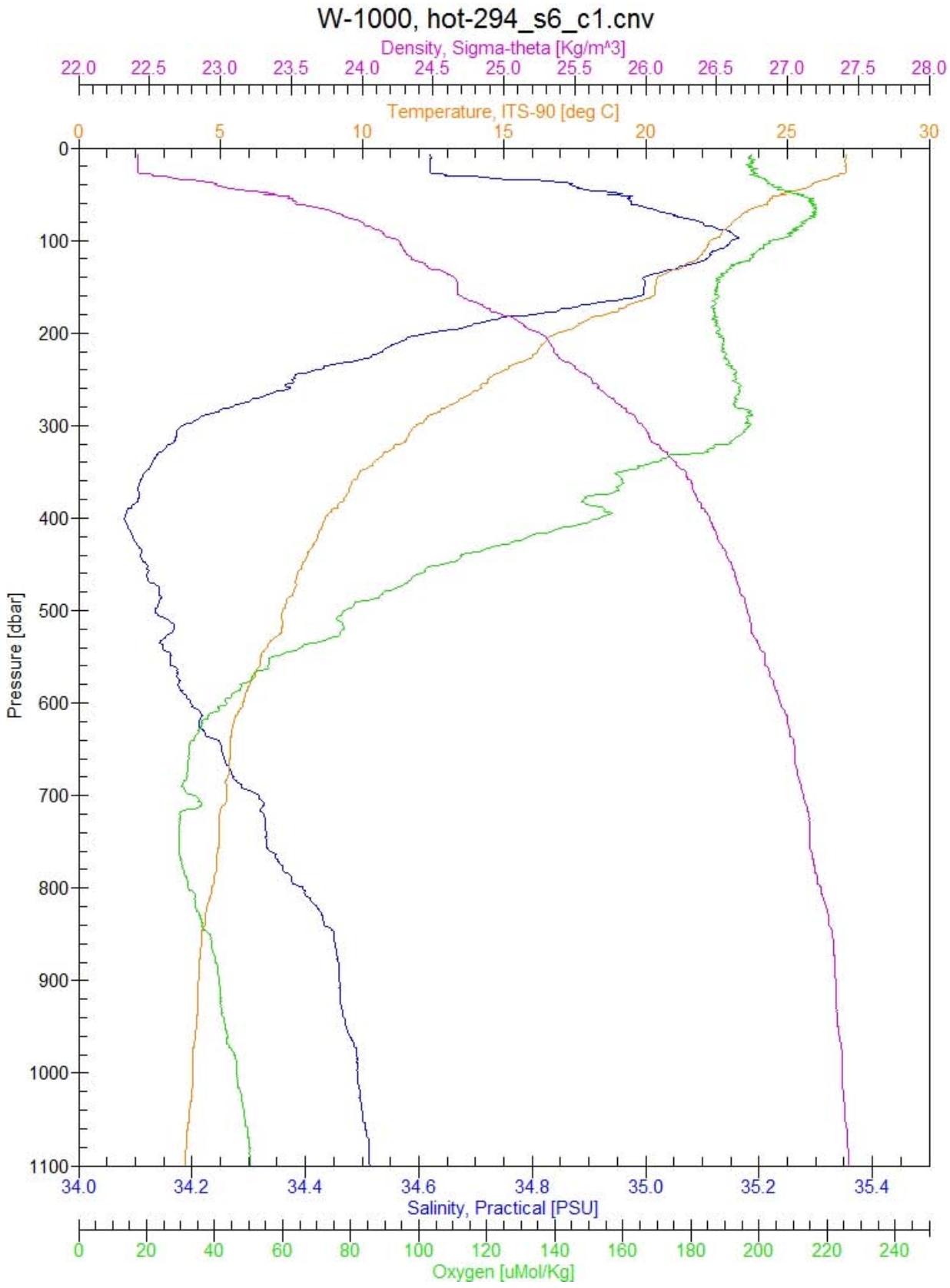

G-1000, hot-294_s2_c15.cnv
Fluorescence, Seapoint
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0
ISUS [voltage]
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

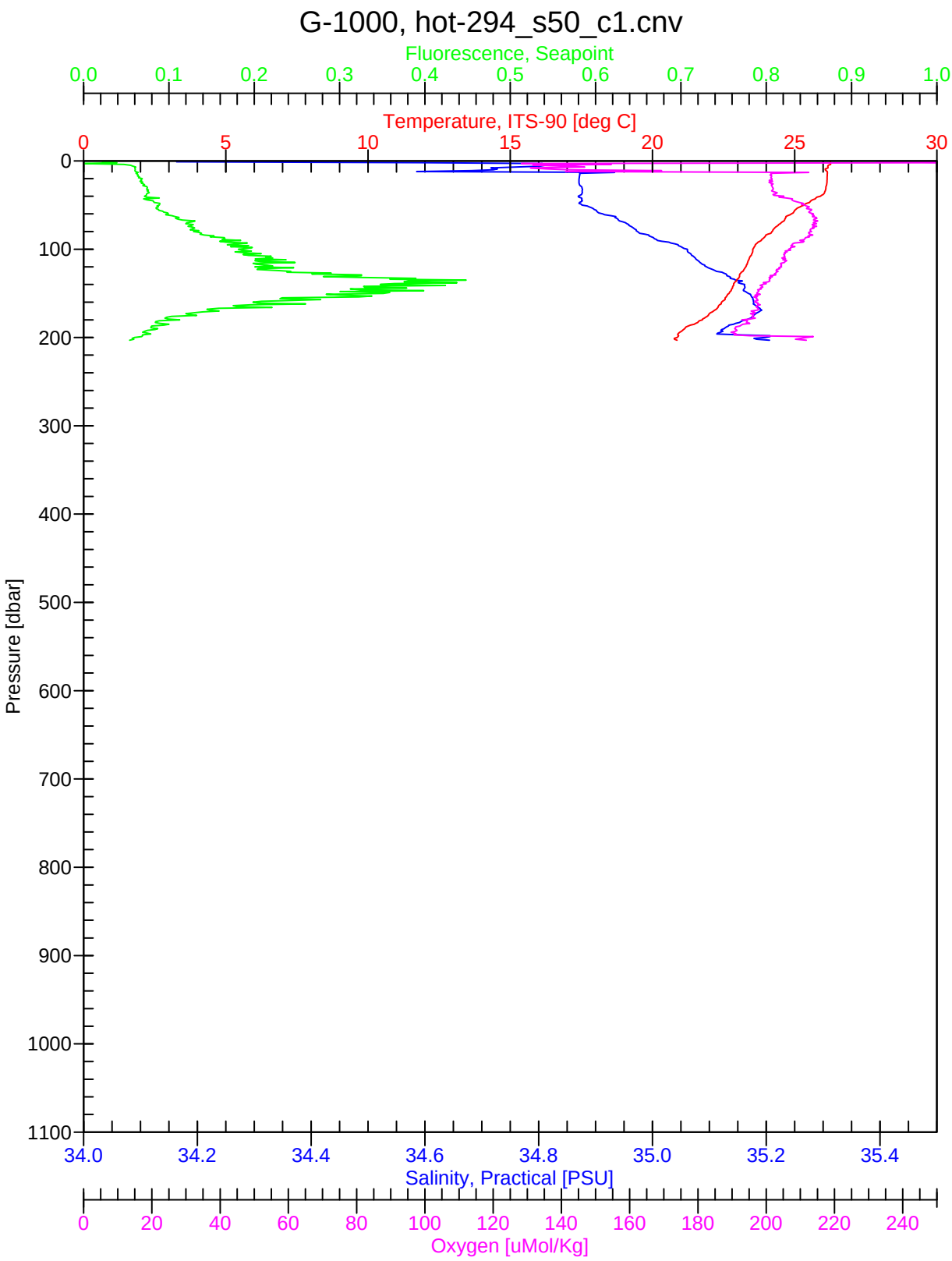

W-1000, hot-294_s2_c15.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
Salinity, Practical [PSU]
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Oxygen [uMol/Kg]
0 20 40 60 80 100 120 140 160 180 200 220 240

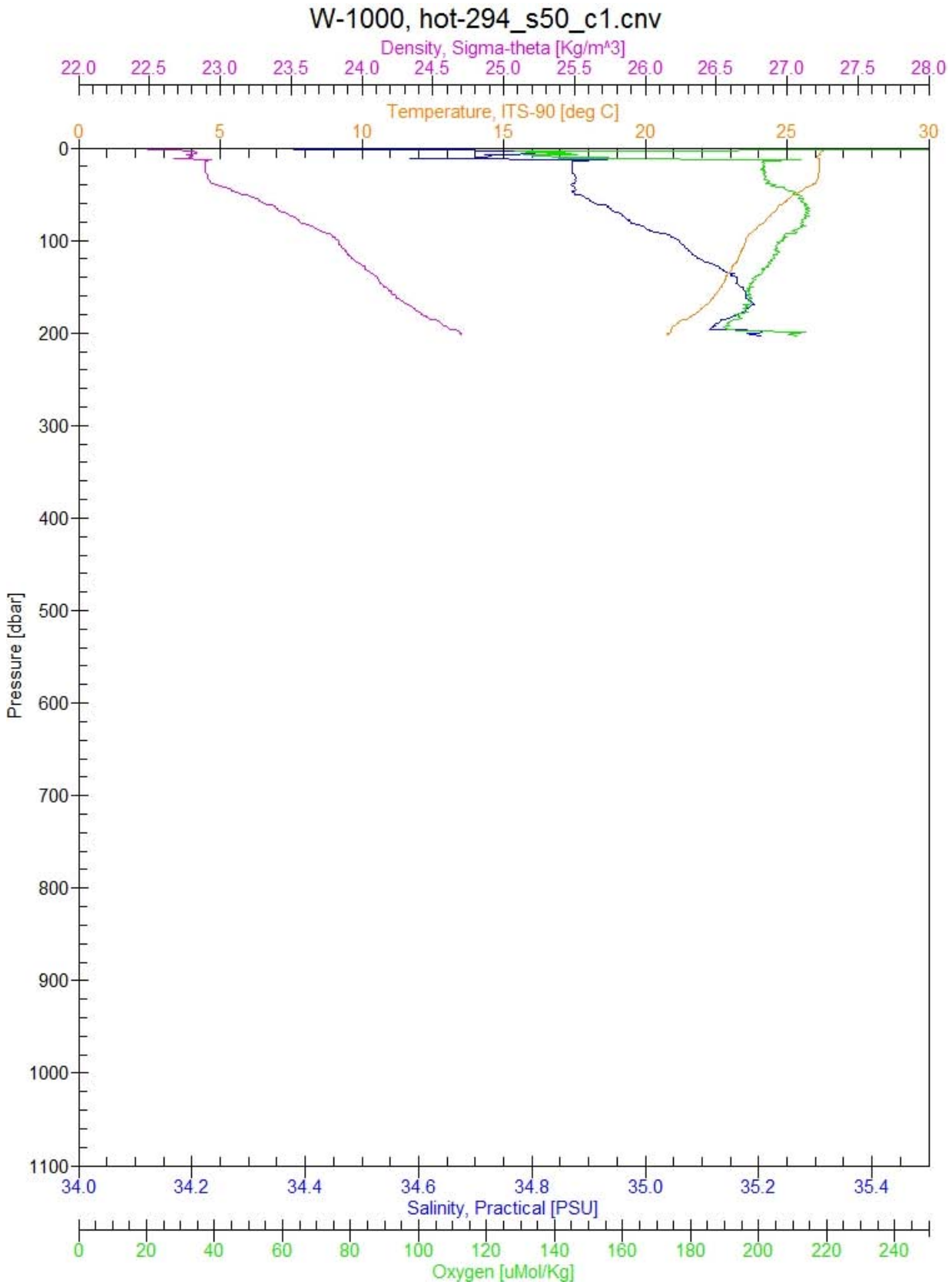

G-1000, hot-294_s2_c16.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Temperature, ITS-90 [deg C]
0
5
10
15
20
25
30
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]


W-1000, hot-294_s2_c16.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]


G-1000, hot-294_s6_c1.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Temperature, ITS-90 [deg C]
0
5
10
15
20
25
30
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]


W-1000, hot-294_s6_c1.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]


G-1000, hot-294_s50_c1.cnv
Fluorescence, Seapoint
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Temperature, ITS-90 [deg C]
0
5
10
15
20
25
30
Pressure [dbar]
0
100
200
300
400
500
600
700
800
900
1000
1100
34.0
34.2
34.4
34.6
34.8
35.0
35.2
35.4
Salinity, Practical [PSU]
0
20
40
60
80
100
120
140
160
180
200
220
240
Oxygen [uMol/Kg]


W-1000, hot-294_s50_c1.cnv
Density, Sigma-theta [Kg/m^3]
22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0
Temperature, ITS-90 [deg C]
0 5 10 15 20 25 30
Pressure [dbar]
0 100 200 300 400 500 600 700 800 900 1000 1100
34.0 34.2 34.4 34.6 34.8 35.0 35.2 35.4
Salinity, Practical [PSU]
0 20 40 60 80 100 120 140 160 180 200 220 240
Oxygen [uMol/Kg]

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
GOFS-1000	12L	27.81	JS

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

MLD: 60 dbar

S-min: 350 dbar

Station: 1	Cast: 1
Latitude start: 21°20.57 end: 21° 20.630' N	Longitude start: 158° 16.37 end: 158° 16.364
Depth of water: 1475 meters	Date (GMT): 6/20/17
Pressure on Deck	Time:
Begin: -.26 End: -0.22	Start Log: 00:30 In Water: 00:37
Max cast pressure: 1021 dbar	Out of Water: 02:02

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		01:12:00	1021	1020	
2		:21:25	751	750	
3		28:40	501	500	
4		34:00	351	350	☆
5		40:00	250	250	
6		43:20	200	200	
7		46:00	176	175	
8		48:20	149	150	
9		50:10	123	125	
10		51:45	101	100	
11		53:25	74	75	
12		55:30	45	45	
13		57:10	24	25	
14		59:00	4	[5	
15		:10	4	5]	
16		:20		5	
17		:30		5	
18		:40		5	
19		:50		5	vac test
20		02:00:00		5	
21		:10		5	
22		:20		5	
23		:30		5	
24					oops

Hawaii Ocean Time Series			Station #: 1	Cast #: 1	Box #: 2
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: SP/CE	
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			
16					
17					
18					
19					
20					
21					
22					
23					
24					

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G1000-GPS	12 L	26.05	KR/JS

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

MLD: 20 dbar DCM: 140 dbar

S-min: 530 dbar

Station: 2	Cast: 1
Latitude start: 22° 45.023'N end: 22° 45.020	Longitude start: 158° 2.181'W end: 158 02.185
Depth of water: 4751 meters	Date (GMT): 6/20/17
Pressure on Deck	Time:
Begin: −0.31 End: −0.2	Start Log: 11:51 In Water: 12:06 Out of Water: 13:19
Max cast pressure: 1022 dbar	

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		12:34:10	1020	1020	
2		12:46:55	531	530	S-min
3		12:55:20	174	175	
4		57:45	151	150	
5		13:20	124	125	
6		13:30	124	125	
7		13:40	124	125	
8		03:10	102	100	
9		03:15	101	100	
10		03:20	100	100	
11		06:10	76	75	
12		06:20	75	75	
13		06:30	75	75	
14		09:20	46	45	
15		09:30	45	45	
16		09:40	45	45	
17		12:30	25	25	
18		12:35	25	25	
19		12:40	25	25	
20		16:10	17	15	
21		16:20	16	15	
22		18:10	7	5	
23		18:15	6	5	
24		19:20	5	5	

Hawaii Ocean Time Series			Station #: 2	Cast #: 1	Box #: 2, 3
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: JS/SN	
Niskin #	Depth	Serial #	Comments		
1	1020	40			
2	530	41	5-Min		
3	175	42			
4	150	43			
5	125	44			
6	125	45			
7	125	46			
8	100	47			
9	100	48			
10	100	49			
11	75	50			
12	75	51			
13	75	52			
14	45	53			
15	45	54			
16	45	55			
17	25	56			
18	25	57			
19	25	58			
20	15	59			
21	15	60			
22	5	61			
23	5	62			
24	5	63			

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G-5000	12L	26.21	JS

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

S-min ≈472
MLD ≈30m
7 METERS OFF

Station: 2	Cast: 2
Latitude start: 22°45.00 end: 22° 45.049	Longitude start: 158°00.01 end: 157°59.998
Depth of water: 4750 meters	Date (GMT): 6 / 20 / 2017
Pressure on Deck	Time:
Begin: -0.3221	Start Log: 15:30
End: -0.5661	In Water: 15:39
Max cast pressure: 4803 dbar	Out of Water: 20:03

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		17:35:30	4803	4800	
2		42:10	4602	4600	
3		46:10	4500	4500	
4		49:50	4400	4400	
5		56:05	4201	4200	
6		18:02:00	4000	4000	
7		08:40	3800	3800	
8		15:15	3600	3600	
9		21:30	3400	3400	
10		27:15	3199	3200	
11		33:30	3000	3000	
12		39:00	2800	2800	
13		44:40	2600	2600	
14		50:55	2400	2400	
15		19:15	2200	2200	
16		02:35	2000	2000	
17		08:45	1801	1800	
18		15:00	1601	1600	
19		21:00	1401	1400	
20		26:20	1199	1200	
21		31:55	1000	1000	
22		20:05	750	750	
23		46:20	502	500	
24		20:01:45	5.9	5	

Hawaii Ocean Time Series			Station #: 2	Cast #: 2	Box #: 5
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: JS, KT, SN	
Niskin #	Depth	Serial #	Comments		
1	4800	97			
2	4600	98			
3	4500	99			
4	4400	100			
5	4200	101			
6	4000	102			
7	3800	103			
8	3600	104			
9	3400	105			
10	3200	106			
11	3000	107			
12	2800	108			
13	2600	109			
14	2400	110			
15	2200	111			
16	2000	112			
17	1800	113			
18	1600	114			
19	1400	115			
20	1200	116			
21	1000	117			
22	750	118			
23	500	119			
24	5	120			

Hawaii Ocean Time Series			Station #: 2	Cast #: 2	Box #: 4, 5
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: SM, KT, JS	
Niskin #	Depth	Serial #	Comments		
1	4800	73			
2	4600	74			
3	4500	75			
4	4400	76			
5	4200	77			
6	4000	78			
7	3800	79			
8	3600	80			
9	3400	81			
10	3200	82			
11	3000	83			
12	2800	84			
13	2600	85			
14	2400	86			
15	2200	87			
16	2000	88			
17	1800	89			
18	1600	90			
19	1400	91			
20	1200	92			
21	1000	93			
22	750	94			
23	500	95			
24	5	96			

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
CT-1000	12L	26.49	JS

Station: 2	Cast: 3
Latitude start: 22°45.05 end: 22°45.024	Longitude start: 158°00.01 end: 158°00.04
Depth of water: 4750 meters	Date (GMT): 6/20/17
Pressure on Deck	Time:
Begin: -.39 End: -.34	Start Log: 21:49 In Water: 21:55 Out of Water: 23:35
Max cast pressure: 1020 dbar	

- ☑ Pinger
- ☑ Altimeter
- ☑ Transmissometer
- ☐ BEACH Sea Tech Fluorometer
- ☐ OTG Seapoint Fluorometer
- ☑ ISUS
- ☑ PO Fluorometer
- ☐ DCM ≈ 140

MLD ≈ 45m

S-min ≈ 475

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		22:29:30	1020	1020	
2		33:15	975	976	
3		36:45	925	925	
4		39:20	897	898	
5		42:55	807	808	
6		46:10	726	725	
7		49:20	650	651	
8		52:15	594	594	
9		50:30	533	531	
10		57:55	506	506	
11		00:40	480	479	
12		23:02:10	444	444	
13		06:15	395	395	
14		08:40	350	351	
15		11:15	284	281	
16		13:00	266	266	
17		15:15	219	218	
18		16:35	210	210	
19		18:40	178	177	
20		20:00	170	170	
21		22:35	126	126	
22		24:40	99	99	
23		26:25	82	81	
24		28:45	44	44	

Hawaii Ocean Time-Series

HOT - 294

Station:	2	Cast:	3
Latitude:	22°45.05	Longitude:	158°00.01
Date:	6/20/17	Time (GMT):	21:50
Operator:	JS		

$\delta\theta$	$\sigma\theta$	Depth
700	20.76	
650	21.28	
600	21.80	
550	22.33	
500	22.85	44
450	23.37	82
400	23.90	126
350	24.42	178
300	24.95	219
250	25.47	266
200	26.00	284
180	26.21	395
160	26.42	444
140	26.63	506
130	26.73	533
120	26.84	594
110	26.94	650
100	27.05	726
90	27.16	807
80	27.26	897
70	27.37	

S_{max}	170
S_{min}	480
S_{max}	
S_{min}	

O_{max}	99
O_{min}	210
O_{max}	350
O_{min}	810
O_{max}	

F_{max}	143
F_{min}	
F_{max}	
F_{min}	
F_{max}	

Bottle	Depth
1	1020
2	975
3	925
4	897
5	807
6	726
7	650
8	594
9	533
10	506
11	480
12	444
13	395
14	350
15	284
16	266
17	219
18	210
19	178
20	170
21	126
22	99
23	82
24	44

Hawaii Ocean Time Series			Station #: 2	Cast #: 3	Box #: 6
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: JS, SN, CE	
Niskin #	Depth	Serial #	Comments		
1	1020	121			
2	975	122			
3	925	123			
4	897	124			
5	807	125			
6	726	126			
7	650	127			
8	594	128			
9	533	129			
10	506	130			
11	480	131			
12	444	132			
13	395	133			
14	350	134			
15	284	135			
16	266	136			
17	219	137			
18	210	138			
19	178	139			
20	170	140			
21	126	141			
22	99	142			
23	82	143			
24	44	144			

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G/O/S GPS	12L	26.60	KR/AL

PC/PN

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

MLD: 30 dbar
S-min: 500 dbar
DCM: 130 dbar

Station: 2	Cast: 4
Latitude start: 22° 44.977'N end: 22° 45.003'N	Longitude start: 157° 59.695 end: 157° 59.681
Depth of water: 4741 meters	Date (GMT): 6/21/17
Pressure on Deck	Time:
Begin: -0.33 End: -.25	Start Log: 01:01 In Water: 01:11
Max cast pressure: 1020 dbar	Out of Water: 02:12

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		01:37:20	1019	1020	
2		48:40	502	500	S-min
3		52:20	350	[350	
4		:30	350	350]	
5		55:25	250	250	
6		57:25	199	200	
7		59:00	174	175	
8		02:00:35	149	150	
9		02:00	125	[~~125~~	
10		:10	125	125]	
11		04:00	98	[100	
12		:10	99	100]	
13		05:40	75	[75	
14		:50	75	75	3
15		06:00	74	75]	
16		07:40	45	[45	
17		:50	45	45	3
18		08:00	45	45]	
19		09:40	25	[25	
20		:50	24	25	3
21		10:00	25	25]	
22		11:40	4	[5	
23		:50	4	5	3
24		12:00	5	5]	

Hawaii Ocean Time Series			Station #: 2	Cast #: 4	Box #: 7
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: SP, CE, AK	
Niskin #	Depth	Serial #	Comments		
1	1000	145			
2		146	Smin		
3	350	147			
4	350	148			
5	250	149			
6	200	150			
7	175	151			
8	150	152			
9	125	153			
10	"	"			
11	100	154			
12	"	"			
13	75	155			
14	"	"			
15	"	"			
16	45	156			
17	"	"			
18	"	"			
19	25	157			
20	"	"			
21	"	"			
22	5	158			
23	"	"			
24	"	"			

14

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
GlobalGPS	12L	26.09	KR/AK

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

PPO4 →

MLD: 45 dbar
S-min: 485 dbar
DCM: 145 dbar

Station: 2	Cast: 5
Latitude start: 22° 46.773 end: 22° 46.760	Longitude start: 158° 3.668 end: 158° 3.651
Depth of water: 4753 meters	Date (GMT): 6/21/17
Pressure on Deck	Time:
Begin: -0.32 End: -0.19	Start Log: 02:56 In Water: 03:03
Max cast pressure: 1020 dbar	Out of Water: 04:05

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		03:30:40	1019	1020	
2		41:25	485	485	S-min
3		45:00	350	[350	
4		45:10	349	350]	
5		48:20	250	250	
6		50:45	200	200	
7		52:25	175	175	
8		54:20	149	150	
9		56:00	126	125	
10		57:40	99	100	
11		59:20	76	75	
12		04:00:50	44	45	
13		02:10	25	[25	
14		:20	25	25]	
15		03:05	6	[5	
16		:15	4	5]	
17					
18					
19					
20					
21					
22					
23					
24					

Hawaii Ocean Time Series			Station #: 2	Cast #: 5	Box #: 7,8
Salinity Sample Log Sheet			Cruise #: HOT-294	Sampler: CE, SP, AK	
Niskin #	Depth	Serial #	Comments		
1	1000	159			
2	485	160	5-min		
3	350	161			
4	350	162			
5	250	163			
6	200	164			
7	175	165			
8	150	166			
9	125	167			
10	100	168			
11	75	169			
12	45	170			
13	25	171			
14	—	—			
15	5	172			
16	—	—			
17					
18					
19					
20					
21					
22					
23					
24					

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G/ooo GPS	12L	26.40	KR/AK

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

MLD : 30 dbar
S-Min: 495 dbar
DCM: 135 dbar

05:06

Station: 2	Cast: 6
Latitude start: 22° 47.530'N end: 22° 47.474'N	Longitude start: 158° 4.611'W end: 158° 4.573'W
Depth of water: 4753 meters	Date (GMT): 6/21/17
Pressure on Deck	Time:
Begin: -0.30 End: -0.25	Start Log: 06:26 In Water: 06:34
Max cast pressure: 1020 dbar	Out of Water: 08:04

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1	07:05:10	05:30	1020	1020	
2	12:30	12:50	801	800	O_2 - min
3	21:05	21:25	494	495	S-min
4		29:20	201	200	
5		32:10	175	175	
6		34:20	165	165	
7		36:40	150	150	
8		39:05	129	130	
9		40:40	125	125	
10		42:50	115	115	
11		44:00	109	110	
12		45:50	99	100	
13		47:40	91	90	
14		49:00	85	85	
15		50:50	74	75	
16		52:10	59	60	
17		55:00	45	45	
18		56:25	35	35	
19		58:20	24	25	
20		:30	24	25	
21		08:00:30	17	15	
22		02:30	6	5	
23		:40	7	5	3
24		:50	7	5	

Hawaii Ocean Time Series			Station #: 2	Cast #: 6	Box #: 8
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: SGP, KR, AK	
Niskin #	Depth	Serial #	Comments		
1	1000	173			
2	800	193	O_2 - min 3 out of		
3	495	194	5- min 5 order!		
4	200	174			
5	175	175			
6	165	176			
7	150	177			
8	130	178			
9	125	179			
10	115	180			
11	110	181			
12	100	182			
13	90	183			
14	85	184			
15	75	185			
16	60	186			
17	45	187			
18	35	188			
19	25	189			
20	—	—			
21	15	190			
22	5	191			
23	5	192			
24	—	—			

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G/1000 GPS	12L	26.31	KR/AK

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

MLD 25 dbar
S-min 470 dbar
DCM 130 dbar

Station: 2	Cast: 7
Latitude start: 22° 46.847'N end: 22° 46.814'N	Longitude start: 158° 3.661' W end: 158° 3.601'W
Depth of water: 4751 meters	Date (GMT): 6 / 21 / 17
Pressure on Deck	Time:
Begin: −0.29 End: −0.19	Start Log: 09:22 In Water: 09:31
Max cast pressure: 1022 dbar	Out of Water: 10:36

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		10:00:25	1022	1020	
2		12:30	469	470	S-min
3		19:30	173	175	
4		:40	172	175	
5		21:40	150	150	
6		:50	149	150	
7		23:50	125	125	
8		:00	125	125	
9		26:30	100	100	
10		:50	99	100	
11		29:10	75	75	
12		31:25	44	45	
13		33:20	25	25	
14		:30	25	25	
15		35:20	6	5	
16		:30	6	5	
17					
18					
19					
20					
21					
22					
23					
24					

Hawaii Ocean Time Series			Station #: 2	Cast #: 7	Box #: 9
Salinity Sample Log Sheet			Cruise #: HOT-	Sampler:	
Niskin #	Depth	Serial #	Comments		
1	1020	195			
2	470	196			
3	175	197			
4	—	—			
5	150	198			
6	—	—			
7	125	199			
8	—	—			
9	100	200			
10	—	—			
11	75	201			
12	45	202			
13	25	203			
14	—	—			
15	5	204			
16	—	—			
17					
18					
19					
20					
21					
22					
23					
24					

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G1000GPS	12 L	26.25	KR/AIC

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

GAS

MLD : 30 dbar
S-Min : 500 dbar
DCM : 130 dbar

Station: 2	Cast: 8
Latitude start: 22° 46.800 end:	Longitude start: 158° 3.606 end:
Depth of water: 4751 meters	Date (GMT): 6/21/17
Pressure on Deck	Time:
Begin: -0.25 End: -0.287	Start Log: 11:46 In Water: 11:54
Max cast pressure: 1021 dbar	Out of Water: 13:00

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		12:21:50	1021	1020	
2		33:10	489	490	S-Min
3		41:30	126	125	} 3
4		:40	126	125	
5		:50	124	125	
6		44:10	99	100	} 3
7		:20	100	100	
8		:30	100	100	
9		47:10	74	75	} 3
10		:20	75	75	
11		:30	75	75	
12		49:10	45	45	} 3
13		:20	45	45	
14		:30	45	45	
15		53:30	25	25	} 4
16		40	25	25	
17		50	25	25	
18		54:00	25	25	
19		56:10	15	15	} 2
20		:20	15	15	
21		58:00	5	5	} 4
22		:10	5	5	
23		:20	5	5	
24		:30	5	5	

Hawaii Ocean Time Series			Station #: 2	Cast #: 8	Box #: 9, 10
Salinity Sample Log Sheet			Cruise #: HOT-294	Sampler: JS/JN/KT	
Niskin #	Depth	Serial #	Comments		
1	1020	205			
2	490	206	5-min		
3	125	207			
4	125	208			
5	125	209			
6	100	210			
7	100	211			
8	100	212			
9	75	213			
10	75	214			
11	75	215			
12	45	216			
13	45	217			
14	45	218			
15	25	219			
16	25	220			
17	25	221			
18	—	—			
19	—	—			
20	—	—			
21	5	222			
22	5	223			
23	5	224			
24	—	—			

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
C-1000	12	26.30	JS

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

MLD ≈30m

5-min

Station: 2	Cast: 9
Latitude start: 22°46.80 end: 22° 46.813	Longitude start: 158°03.61 end: 158° 03.605
Depth of water: 4752 meters	Date (GMT): 6/21/17
Pressure on Deck	Time:
Begin: -.30 End: -0.3993	Start Log: 14:15 In Water: 14:22
Max cast pressure: 273 dbar	Out of Water: 14:57

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		14:36:30	273	275	
2		38:10	250	250	
3		39:50	225	225	
4		41:35	200	200	
5		43:10	125	125	
6		:20	125	125	
7		:30	125	125	
8		46:20	102	100	
9		:30	102	100	
10		:40	102	100	
11		48:50	75	75	
12		49:00	75	75	
13		:10	75	75	
14		51:10	45	45	
15		:20	45	45	
16		:30	45	45	
17		53:10	25	25	
18		:20	25	25	
19		:30	25	25	
20		:40	25	25	
21		55:30	5	5	
22		40	5	5	
23		50	5	5	
24		56:00	5	5	

Hawaii Ocean Time Series			Station #: 2	Cast #: 9	Box #:
Salinity Sample Log Sheet			Cruise #: HOT-294		Sampler:
Niskin #	Depth	Serial #	Comments		
1	275	205			
2	250	206			
3	225	207			
4	200	208			
5	125	209			
6	125	210			
7	125	211			
8	100	212			
9	100	213			
10	100	214			
11	75	215			
12	75	216			
13	75	217			
14	45	218			
15	45	219			
16	45	220			
17	25	221			
18	25	222			
19	25	223			
20	25	224			
21	5	225			
22	5	226			
23	5	227			
24	5	228			

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G1000 GPS	12L	26.22	SN

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

MLD: ~30

S-min: 468m

Station: 2	Cast: 10
Latitude start: 22° 45.649 end: 22° 45.631	Longitude start: 158° 02.553 end: 158° 02.549
Depth of water: 4750 meters	Date (GMT): 06 / 21 / 2017
Pressure on Deck	Time:
Begin: -0.405 End: -0.16	Start Log: 16:25 In Water: 16:27
Max cast pressure: 1020 dbar	Out of Water: 17:26

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		16:56:00	1020	1020	
2		07:15	500	500	
3		15:05	124	125	
4		16:50	99	100	
5		18:40	76	75	
6		20:45	46	45	
7		22:45	26	25	]
8		22:50	26	25	]
9		24:50	6	5	]
10		24:55	5	5	]
11		25:00	5	5	]
12					
13					
14					
15					
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- 294	Sampler: KJ, GS	
Niskin #	Depth	Serial #	Comments		
1	1020	229			
2	500	230			
3		—			
4		—			
5		—			
6		—			
7		—			
8		—			
9		—			
10		—			
11	5	231			
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

HOT- 294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G1000 GPS	12L	26.13	SN

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

MLD: 30 m

S-min: ~445 m

Station: 2	Cast: 11
Latitude start: 22° 45.639 end: 22° 45.631	Longitude start: 158° 02.548 end: 15 7.56.502
Depth of water: 4752 meters	Date (GMT): 06 / 21 / 2017
Pressure on Deck	Time:
Begin: -0.3037 End: -0.17	Start Log: 18:36 In Water: 18:40
Max cast pressure: 1021 dbar	Out of Water: 19:40

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		19:08:10	1021	1020	
2		20:15	445	445	s-min
3		26:40	174	175	
4		28:15	149	150	
5		29:55	124	125	
6		31.30	99	100	
7		32:55	76	75	
8		34.50	45	45	]
9		34:55	40	45	]
10		36:30	25	25	]
11		36:35	25	25	]
12		36:40	25	25	]
13		46:45	25	25	]
14		38:55	7	5	] ✓
15		39:00	7	5	] ✓
16		39:05	7	5	] ✓
17		39:10	7	5	] ✓
18		39:15	7	5	] ✓
19					
20					
21					
22					
23					
24					

Hawaii Ocean Time Series			Station #: 2	Cast #: 11	Box #: 10, 11
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: JS, KT, CE, SN	
Niskin #	Depth	Serial #	Comments		
1	1020	232			
2	445	233			
3	175	234			
4	150	235			
5	125	236			
6	100	237			
7	75	238			
8	45	239			
9	—				
10	25	240			
11	—				
12	—				
13	—				
14	5	241			
15	—				
16	—				
17	—				
18	—				
19					
20					
21					
22					
23					
24					

HOT- 294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G/1000 GPS	12L	26.38	SN

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

MLD: 35m

S-min: 463

Station: 2	Cast: 12
Latitude start: 22° 45.621 end: 22° 45.63	Longitude start: 158° 02.566 end: 158° 02.56
Depth of water: 4752 meters	Date (GMT): 06 / 21 / 2017
Pressure on Deck	Time:
Begin: -0.3709 End: -0.2122	Start Log: 20:38 In Water: 20:43
Max cast pressure: 1020 dbar	Out of Water: 21:52

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		21:10:40	1020	1020	
2		10:45	1020	1020	
3		18:15	749	750	
4		25:15	499	500	
5		25:20	499	500	
6		27:35	462	463	S-min
7		30:40	399	400	
8		34:00	299	300	
9		37:25	201	200	
10		39:50	151	150	
11		41:30	126	125	
12		43:10	99	100	
13		:20	99	100	
14		44:30	75	75	
15		40	75	75	
16		46:30	45	45	
17		:40	45	45	
18		48:20	25	25	
19		:30	25	25	
20		:40	25	25	
21		50:00	5	5	
22		:10	5	5	
23		:20	5	5	
24					

Hawaii Ocean Time Series			Station #: 2	Cast #: 12	Box #: 11
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: JS, KT, CE, SM	
Niskin #	Depth	Serial #	Comments		
1	1020	242	✓		
2	1010	—			
3	750	243	5-min ✓		
4	500	—			
5	500	—			
6	463	—			
7	400	—			
8	300	—			
9	200	—			
10	150	—			
11	125	—			
12	100	—			
13	100	—			
14	75	—			
15	75	—			
16	45	—			
17	45	—			
18	25	—			
19	25	—			
20	25	—			
21	5	—			
22	5	—			
23	5	244	✓		
24	—	—			

HOT- 294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G1000 GPS	L12	26.38	SN

- ☑ Pinger
- ☑ Altimeter
- ☑ Transmissometer
- ☐ BEACH Sea Tech Fluorometer
- ☐ OTG Seapoint Fluorometer
- ☑ ISUS
- ☑ PO Fluorometer
- ☐ DCM: 150 dbar

5-min: 494 dbar

MLD= 30 DBARS

Station: 2	Cast: 13
Latitude start: 22° 45.515 end: 22° 45.535	Longitude start: 158° 01.806 end: 158° 45.535
Depth of water: 4748 meters	Date (GMT): 06 / 22 / 2017
Pressure on Deck	Time:
Begin: -0.35 End: -0.18	Start Log: 00:02 In Water: 00:08
Max cast pressure: 1019 dbar	Out of Water: 01:15

	Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
*	1		00:36:55	1019	1020	
	2		43:20	769	[770	
	3		43:25	769	770]	
	4		49:30	499	[500	
	5		49:40	500	500]	
*	6		51:00	493	494	
	7		54:20	400	[400	
	8		:30	399	400]	
*	9		56:40	349	350	
	10		58:40	299	[300	
	11		:50	300	300]	
*	12		01:00:40	250	250	
*	13		03:20	151	150	
*	14		04:00	129	125	
*	15		06:50	99	100	
*	16		08:45	75	75	
*	17		10:40	46	45	
*	18		12:30	24	[25	
	19		:40	25	25]	
*	20		14:20	4	[5	
	21		:30	5	5]	
	22					
	23					
	24					

Hawaii Ocean Time Series			Station #: 2	Cast #: 13	Box #: 11
Salinity Sample Log Sheet			Cruise #: HOT- 194	Sampler: SP, KR, AK, CE	
Niskin #	Depth	Serial #	Comments		
1	1020	245			
2	—				
3	—				
4	—				
5	—				
6	494	246			
7	—				
8	—				
9	350	247			
10	—				
11	—				
12	250	248			
13	150	249			
14	125	250			
15	100	251			
16	75	252			
17	45	253			
18	25	254			
19	—				
20	5	255			
21	—				
22	—				
23	—				
24	—				

11

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
CTDOXYFPS	12L	27.00	KR/AK

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

Open

MLD: 35 dbar
DCM: 140 dbar
S-min: 490 dbar

Station: 2	Cast: 14
Latitude start: 22° 47.739'N end: 22° 47.745	Longitude start: 158° 4.192'W end: 158° 4.188
Depth of water: 4748 meters	Date (GMT): 6/22/17
Pressure on Deck	Time:
Begin: -0.28 End: -0.17	Start Log: 03:15 In Water: 03:24
Max cast pressure: 1020 dbar	Out of Water: 04:32

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1	03:52:20	52:40	1020	1020	
2	57:40	58:00	800	800	
3	04:02:35	02:55	601	600	
4	06:00	06:20	491	490	S-min
5	08:50	09:10	399	400	
6	10:50	11:10	350	350	
7	12:50	13:10	299	300	
8	15:10	15:30	251	250	
9	17:00	17:20	201	200	
10	18:40	19:05	176	175	
11	20:30	20:50	149	150	
12	21:53	22:15	126	125	
13	23:29	23:50	101	100	
14	25:10	25:30	75	75	
15	26:53	27:20	44	45	
16	28:22	28:45	29	25	
17	30:01	30:25	6	5	
18					
19					
20					
21					
22					
23					
24					

Hawaii Ocean Time Series			Station #: 2	Cast #: 19	Box #: 11
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: KH/AK/SP/CE	
Niskin #	Depth	Serial #	Comments		
1	1020	256			
2	—	—			
3	—	—			
4	490	257	S-min		
5	—	—			
6	—	—			
7	—	—			
8	—	—			
9	—	—			
10	—	—			
11	—	—			
12	—	—			
13	—	—			
14	—	—			
15	—	—			
16	—	—			
17	5	258			
18					
19					
20					
21					
22					
23					
24					

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
GLOBGPS	RL	26.60	KR/AK

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

HPLC

MLD: 35
S-min: 475
DCM: 140

Station: 2	Cast: 15
Latitude start: 22° 45.014 end: 22° 44.983	Longitude start: 158 0.017 end: 158° 0.035
Depth of water: 4743 meters	Date (GMT): 6/22/17
Pressure on Deck	Time:
Begin: -0.30 End: -0.24	Start Log: 05:52 In Water: 06:02
Max cast pressure: 1020 dbar	Out of Water: 07:17

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		06:32:30	1019	1020	
2		45:20	475	475	S-min
3		58:10	176	175	
4		55:35	150	150	
5		57:25	136	135	
6		59:15	125	125	
7		07:00:50	115	115	
8		02:45	102	100	
9		04:45	86	85	
10		06:30	75	75	
11		08:20	59	60	
12		10:15	44	45	
13		12:20	25	25	
14		15:00	7	5	
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

14 Salts

Hawaii Ocean Time Series			Station #: 2	Cast #: 15	Box #: 11 & 12
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: SP	
Niskin #	Depth	Serial #	Comments		
1	1020	259			
2		260	S-min		
3	175	261			
4	150	262			
5	135	263			
6	125	264			
7	115	265			
8	100	266			
9	85	267			
10	75	268			
11	60	269			
12	45	270			
13	25	271			
14	5	272			
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G5000GPS	12L	24.95	KR/AK

- [x] Pinger — PO-3
- [x] Altimeter
- [x] Transmissometer
- [ ] BEACH Sea Tech Fluorometer
- [ ] OTG Seapoint Fluorometer
- [ ] ISUS
- [x] PO Fluorometer
- [ ]

MLD : 35 dbar — 4770 | 40
S-Min : 485 dbar — 80 | 30
DCM : 130 dbar

Station: 2	Cast: 16
Latitude start: 22° 44.999 end: 22° 45.013'N	Longitude start: 158° 0.036 end: 158° 0.045'W
Depth of water: 4743 meters	Date (GMT): 6/21/17
Pressure on Deck	Time:
Begin: −0.29	Start Log: 08:52
End: −0.39	In Water: 08:57
Max cast pressure: 4806 dbar	Out of Water: 12:26

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		10:46:30	4805	4800	8 m off @ 22°45.012'N 158° 0.041'W
2		11:01:45	4002	4000	
3		55	4000	4000	
4		02:05	4000	4000	
5		20:50	2998	3000	
6		21:00	2999	3000	
7		40:55	2000	2000	
8		41:05	2001	2000	
9		59:50	1000	1000	
10		12:05:30	769	770	O_2 Min
11		11:30	485	485	S-Min
12		20:20	76	75	O_2 max
13		12:24:20	4	5	
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

Hawaii Ocean Time Series			Station #: 2	Cast #: 16	Box #: 12
Salinity Sample Log Sheet			Cruise #: HOT-299	Sampler: JS/SN/K	
Niskin #	Depth	Serial #	Comments		
1	4800	273			
2	4000	—			
3	4000	274			
4	4000	—			
5	3000	275			
6	3000	—			
7	2000	276			
8	2000	—			
9	1000	—			
10	770	277	O_2 min		
11	485	278	5-min		
12	75	279	O_2-max		
13	5	280			
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G 200	L 12	25.25	SN

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

MLD: ≈ 30 db
DCM: ≈ 135 db

Station: 50	Cast: 1
Latitude start: 22° 47.652 end: 22° 47.65	Longitude start: 157° 56.669 end: 157° 56.67
Depth of water: 4703 meters	Date (GMT): 06 1 22 12017
Pressure on Deck	Time:
Begin: -0.24 End: -0.29	Start Log: 21:41 In Water: 21:45
Max cast pressure: 135 dbar	Out of Water: 23:02

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		22:47:15	135	135	DCM (deep chlorophyll max)
2		48:40	124	125	
3		50:40	101	100	
4		52:25	76	75	
5		52:30	75	75	
6		54:30	44	45	
7		54:35	44	45	
8		56:20	23	25	
9		56:25	25	25	
10		56:30	24	25	
11		58:30	5	5	
12		58:35	5	5	
13		58:40	5	5	
14		58:45	5	5	
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

Hawaii Ocean Time Series			Station #: 50	Cast #: 1	Box #: N/A
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: N/A	
Niskin #	Depth	Serial #	Comments		
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

HOT-294

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
CTDOGPS	12L	25.50	KR/AK

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

MLD: 25 dbar
DCM: 108 dbar
S-min: 400 dbar

Station: 6	Cast: 1
Latitude start: 21° 50.809 end: 21° 50.805	Longitude start: 158° 21.742 end: 158° 21.723
Depth of water: 2445 meters	Date (GMT): 6/23/17
Pressure on Deck	Time:
Begin: -0.28	Start Log: 09:08
End: -0.28	In Water: 09:10
Max cast pressure: 2454 dbar	Out of Water: 11:09

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		10:06:15	2452	2500	7.7 m off bottom
2		17:40	2001	2000	
3		27:20	1500	1500	
4		37:00	1001	1000	
5		47.00	499	500	
6		54:00	174	175	
7		55:40	151	150	
8		57:40	126	125	
9		11:00:10	99	100	
10		02:20	75	75	
11		04:20	46	45	
12		06:05	24	25	
13		08:00	05	5	
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

Hawaii Ocean Time Series			Station #: 6	Cast #: 1	Box #: 12, 13
Salinity Sample Log Sheet			Cruise #: HOT- 294	Sampler: SP, CE, AK	
Niskin #	Depth	Serial #	Comments		
1	2500	281			
2	2000	282			
3	1500	283			
4	1000	284			
5	500	285			
6	175	286			
7	150	287			
8	125	288			
9	100	289			
10	75	290			
11	45	291			
12	25	292			
13	5	293			
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

HOT-294 (KM-1708) June 19th, 2017

CTD CONFIGURATIONS

CTD: 850
Deck Unit: 111361
Pressure: 1430
Carousel: 518
T_1: 1416 T_2: 5519
C_1: 2959 C_2: 2218
O_1: 1601 O_2: 43262
$Pump_1$: 968 $pump_2$: 494
Fluorometer: 3602
Altimeter: 7769
Bucket Thermometer: 201002
Transmissometer: 1432DR

Cruise Participants

Stephanie Peart, Stockton, undergrad volunteer
Carla Esquivel, UH, undergrad volunteer
Ksenia Trifonova, UH, unaffiliated volunteer
S. Nuterova
A. King
J. Snyder
D. Sadler - Ch. Sci.
B. Waj
K. Aukai
A. Nelson
M. Linney
Michael Gray, unaffiliated volunteer
B. Watkins
E. Shimabukuro
T. Clemente
G. Terlouw
Angelicque White,
K. Watkins-Brandt.
Mark Haught, UW, Chem. Oceanog.
S. Brugger - OTG
R. Palomares - OTG
T. Young - OTG

Weight cast-
- Dry: ~1325 lbs
- Wet ~950 lbs

HOT-294 June 19, 2017

2000
20:00 Depart Pier 35.

2015 KM Safety Pre-brief.
- Greg Seale (?), Capt.
- Muster: Staging bay

1030
30 Science Safety Pre-brief

1045
45 Fire drill / muster

2227
22:27 Arrive Station Kahe

2245
22:45 START 1300 LB 1000 METER WEIGHT CAST

23:36 End of weight cast

23:48
2348 START HYPER PRO
21° 20.67 158° 16.31

20 JUNE 2017

00:15 END HYPER PRO

00:30 START STATION 1 CAST 1
21°20.57 158° 16.37
- Secondary conductivity sensor began to diverge from C, near bottom of cast. Diffs. approached 0.6psu in Salinity.

02:07 End Station 1 Cast 1 - 15. Marks OK.

02:23 Transit ALOHA.

HOT-294

20 June 2017

REPLACE CONDUCTIVITY SENSOR 2218 WITH S/N 3162

0905 Arrive Station ALOHA circle. Heading 3 nm W of center for ST deploy.

09:48 Begin Sediment trap deployment.

[illegible]:29 Sediment trap deployed. 22° 45.007'N, 158° 3.232'W.

[illegible]:55 Begin Station 2 Cast 1 - G1000-GPS.

[illegible]:45 NO WATER FLOWING THRU UNDERWAY SYSTEM. ENG IS CHANGING PUMPS. REDUCED FLOW STARTED AT 0800 UTC WITH INTERMITTANT FLOW CONTINUEING UNTIL 12:00 UTC.

13:15 UNDERWAY SYSTEM FLOWING PROPERLY.

13:19 END STATION 2 CAST 1
24 MARKS O.K.

14:30 START P.P. ARRAY DEPLOYMENT
22°45.02 158° 02.18

14:50 END P.P ARRAY
TRANSIT TO CENTER

15:40 START STATION 2 CAST 2
22° 45.00 158° 00.01

HOT-294 20 JUNE 2017

17:25 STOP WINCH AT 4735 TO INSPECT WIRE DAMAGED DURING LAST CRUISE. WIRE LOOKS GOOD, PULL TEST UP TO 4730 TO TEST WINCH. WINCH WORKING WELL, CONTINUE TO 4800.

CAST TO 7 METERS OFF BOTTOM

20:03 END Station 2 CAST 2
24 marks OK

20:15 TRANSIT FOR PUMP RUN

21:50 start station 2 cast 3
22° 45.043 ; 158° 00.026

23:40 END CAST 3

23:50 START NET TOW
22°45.045 158°00.02

21 JUNE 2017

00:20 END NET TOW

00:30 START HYPERPRO
22 44.95 157° 59.71

00:59 End Hyper Pro cast.

01:01 Begin Station 2 Cast 4 - GLODAPS

- VCR ate a tape. Thrown out. Needs replacement. Even box.

HOT-294 21 June 2017

02:15 End Station 2 Cast 4. 24 Marks OK.

02:56 Begin Station 2 Cast 5 - G1000 GPS.

04:07 End Station 2 Cast 5. 16 Marks OK.

0415
04:15 Transit to PP array.

0509
05:09 Begin PP array recovery @ 22° 48.713'N 158° 7.944'W

0553
05:53 End PP array recovery.

0555
05:55 Pump run during transit back to ALOHA Circle.

06:26 Begin Station 2 Cast 6 - G1000 GPS

0806
08:06 End Station 2 Cast 6 - 24 Marks OK!

0819 Begin Net Tow #1
22° 47.483'N, 158° 4.591'W

08:49 End Net Tow

08:50 Begin Net Tow #2
22° 47.069'N, 158° 04.139'W

09:20 End Net Tow 2.

09:25 Begin Station 2 Cast 7 - G1000 - GPS.

10:40 End Station 2 Cast 7. 16 Marks OK.

HOT-294 21 June 2017

11:46 Begin Station 2 Cast 8 - Glodo-GPS.

CAROUSEL RESET AFTER BOTTLE #11
NO BOTTLES FIRED AFTER #11

13:00 END CAST 8
REPLACE CAROUSEL CABLE AND TEST

14:19 START STATION 2 CAST 9
275 METER CAST FOR GAS ARRAY

14:57 end STATION 2 CAST 9
24 marks OK

15:00 DEPLOY ST 9 EXPERIMENTAL ARRAY.
22°46.81 158°03.60

15:20 END DEPLOYMENT

15:40 START GAS ARRAY DEPLOYMENT
22°45.84 158°02.59

16:05 END GAS ARRAY DEPLOYMENT

16:25 START STATION 2 CAST 10
22° 45.649 158°02.553

17:26 END Station 2 cast 10
11 marks OK

18:36 START STATION 2 CAST 11
22° 45.634 ; 158° 02.548

1940
19:40 END Station 2 cast 11
18 Marks OK

HOT-294 21 JUNE 2017

20:38 START STATION 2 CAST 12
22° 45.621 , 158° 02.566

22:00 END CAST 12
23 marks OK
Noisy transmisometer signal during cast

RE-SEAT WET-MATE TRANSMISSOMETER CONNECTOR.

22:15 START WET TOW
22°45.48 158°01.81

23:10 END NET TOWS

2310 START HYPER-PRO
22°45.48 158°01.81

23:56 END Hyper pro

23:57 START STATION 2 CAST 13
22° 45.515, 158° 01.806

22 June 2017

01:17 End Station 2 Cast 13. 21 Marks OK.

01:30 Transit to pump tanks.

02:15 Begin XT9 array recovery
22° 49.042' N, 158° 8.042' W

0245
:45 End XT9 Recovery.

- CTD2 Thumb drive deleted all data upon safe removal and transfer from acq to proc. Suggest replacing both.
  Loss of Summary294.xls.

HOT-294

22 June 2017

02:50 Transit back to ALOHA circle.

03:15 Begin Station 2 Cast 14. G1000-GPS

04:34 End Station 2 Cast 14. 17 Marks OK.

05:52 Begin Station 2 Cast 15. G1000-GPS

07:18 End Station 2 Cast 15. 14 Marks OK.

08:06 Begin Net Tow @ 22° 44.844'N 157°59.938'W.

08:30 End Net Tow.

08:52 Begin Station 2 Cast 16. G500 GPS.

10:46 8m off @ 22° 45.012'N, 158° 0.041'W.

12:30 End Station 2 Cast 16. 13 Marks OK

12:55 START OPTICS CAST
22°45.01 157° 59.97

14:05 END OPTICS CAST 1

14:10 START OPTICS CAST 2

15:20 END OPTICS
TRANSIT TO S.A.

17:00 ARRIVE AT S.A.
22° 51.46 158° 14.28

HOT-294

22 JUNE 2017

17:20 END G.A. RECOVERY
TRANSIT TO S.T.

18:30 ARRIVE AT S.T. START RECOVERY
22°53.34 158°24.34

1900 END S.T. RECOVERY
TRANSIT TO WHOTS MOORING.

21:41 START STATION 50 CAST 1
22° 47.652, 157° 56.669

21:48 START cycle #1
22:06 START cycle #2
22:21 START cycle #3
22:37 START cycle #4

23:02 END STATION 50 CAST 1.
14 marks OK.

23:05 TRANSIT TO APEX FLOAT DEPLOYMENT

23 June 2017

01:36 APEX Float Deployed @ 1 kt.
22° 59.997' N, 157° 29.977' W

01:42 Transit to Station 6, Kaena

08:40 Arrive Station 6, Kaena.

8:42 Begin Station 6 Cast 1 - 45000 GPS

X-miss Cals

Dark: 0.17582

Light: 3.9056

HOT-294

23 June 2017

08:57 Bridge lost DP holding at 55 dbar on downcast.

09:07 Resume cast. DP resumed on bridge. Bringing rosette to surface to restart cast. Restarted Sea Save Cast at 10m.

1009
10:09 7.7 m off bottom, 2437 m
21° 50.815' N, 158° 21.725' W

11:11 End Station 6 cast 1. Marks OK.

11:21 Transit HNL.

18:15 ARRIVE PIER 35