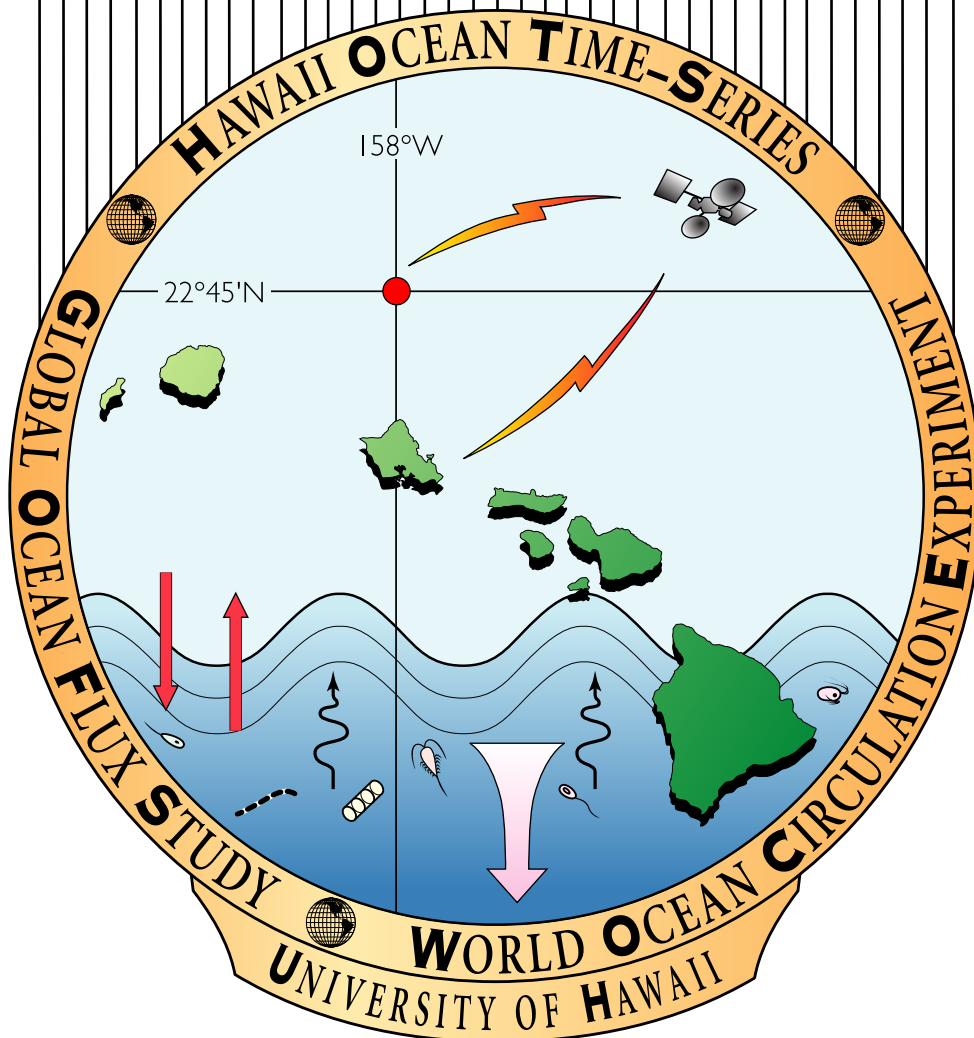


Hawaii Ocean Time-series Program

HOT 301



Hawaii Ocean Time-Series

HOT-301

KAHE Station Data Sheet

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

Date: 4/16/18 (HST)
 Time: 1310 (HST)

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/Alk	pH	Nuts	LLN/LLP	Chl <i>a</i>	
1	1000	1	6.4						
2	750	2,3,4	7.6						
3	500	5	8.6						
4	350	6	11.9			4			
5	250	7	15.3			5			
6	200								
7	185							7	
8	175							8	
9	150	8	19.9			9	9	9	
10	125							10	
11	100	9,10,11	22.4			11	11	11A-B	
12	75							12	
13	45	12	24.6	12	1	13	13	13	
14	25	13	25.2	13	2			14A-B	
15	5	14	25.4	14	3,4,5	15	15	15	
16	5	QC	25.5						
17									
18									
19									
20									
21									
22									
23									
24									

Notes: added chl at 185m. Odd fluorescence trace. Result of massive rains?? (28 inches over weekend in Kauai). Lots of plant material on surface (leaves/clumps of grass/branches/logs)

Hawaii Ocean Time-Series

HOT-301

KAHE Station Data Sheet

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

Date: 4/16/18 (HST)
 Time: 1310 (HST)

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/Alk	pH	Nuts	LLN/LLP	Chl <i>a</i>	
1	1000	1	6.4						
2	750	2,3,4	7.6						
3	500	5	8.6						
4	350	6	11.9			4			
5	250	7	15.3			5			
6	200								
7	185							7	
8	175							8	
9	150	8	19.9			9	9	9	
10	125							10	
11	100	9,10,11	22.4			11	11	11A-B	
12	75							12	
13	45	12	24.6	123	1	13	13	13	
14	25	13	25.2	134	2			14A-B	
15	5	14	25.4	145	3,4,5	15	15	15	
16	5	QC	25.5						
17									
18									
19									
20									
21									
22									
23									
24									

Notes:

Hawaii Ocean Time-series

HOT-301 Primary Production Data Sheet

Station # 2
 Cast # 6
 Operator(s): KB, CF, RT,DS,

Date: 4/18/18 (HST)
 Time: 0200 (HST)

Rosette Position	Desired Depth	Light Bottle	Chl <i>a</i>	FCM	SFS	O2 SF-S	
1	1000						
2	700						
3	Sal min						
4	175		4A-B	4A-B			
5	150		5A-B	5A-B			
6	125	3-1	6	6	X		
7	125	3-2	7	7	X		
8	125	3-3	8	8	X		
9	100	4-1	9	9	X		
10	100	4-2	10	10	X		
11	100	4-3	11	11	X		
12	75	5-1	12	12	X		
13	75	5-2	13	13	X		
14	75	5-3	14	14	X		
15	45	6-1	15	15	X		
16	45	6-2	16	16	X		
17	45	6-3	17	17	X		
18	25	7-1	18	18	X		
19	25	7-2	19	19	X		
20	25	7-3	20	20	X	20A,B	
21	5	8-1	21	21	X		
22	5	8-2	22	22	X		
23	5	8-3	23	23	X		
24	5					24A,B	

Notes:

Hawaii Ocean Time-series

HOT-301 Primary Production Data Sheet

Station # 2
 Cast # 6
 Operator(s): _____

Date: 4/18/18 (HST)
 Time: _____ (HST)

Rosette Position	Desired Depth	Light Bottle	Chl <i>a</i>	FCM	SFS	O2 SF-S	
1	1000						
2	700						
3	Sal min						
4	175		4A-B	4A-B	X		
5	150		5A-B	5A-B	X		
6	125	3-1	6	6	X		
7	125	3-2	7	7	X		
8	125	3-3	8	8	X		
9	100	4-1	9	9	X		
10	100	4-2	10	10	X		
11	100	4-3	11	11	X		
12	75	5-1	12	12	X		
13	75	5-2	13	13	X		
14	75	5-3	14	14	X		
15	45	6-1	15	15	X		
16	45	6-2	16	16	X		
17	45	6-3	17	17	X		
18	25	7-1	18	18	X		
19	25	7-2	19	19	X		
20	25	7-3	20	20	X	20A,B	
21	5	8-1	21	21	X		
22	5	8-2	22	22	X		
23	5	8-3	23	23	X		
24	5					24A,B	

Notes:

Hawaii Ocean Time-series

HOT-301

WOCE Deep Data Sheet

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

Date: 4/17/18 (HST)
 Time: 9:45 (HST)

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/ Alk	pH	DOC	Nutrient	Refrig. Si	Sasha Wagner
1	4800	15	3.2				1	1	
2	4600	16	3.3				2	2	
3	4500	17,18,19	3.5	3A-B	1,4,3	3ABC	3A-B	3A-B	
4	4400	20	3.5				4	4	X
5	4200	21	3.3				5	5	X
6	4000	22	3.5				6	6	X
7	3800	23,24,25	3.7			7ABC	7A-B	7A-B	X
8	3600	26	3.4				8	8	X
9	3400	27	3.5				9	9	X
10	3200	28	3.5				10	10	X
11	3000	29,30,31	4.1	11	2	11ABC	11	11	X
12	2800	32	3.7				12	12	X
13	2600	33	3.7				13	13	X
14	2400	34	3.8				14	14	
15	2200	35	4.0				15	15	
16	2000	36	4.4	16	5	16ABC	16A-B	16A-B	
17	1800	37,38,39	4.6				17	17	
18	1600	150	4.6				18	18	
19	1400	41	4.95				19	19	
20	1200	42	5.2				20	20	
21	1000	43	5.6				21	21	
22	750	44	6.2				22	22	
23	500	45	8.0				23	23	
24	5	46	23.4				24		

Notes:

Hawaii Ocean Time-series

HOT-301

WOCE Deep Data Sheet

Station # 2

Date: 4/17/18 (HST)

Cast # 1

Time: 9:45 (HST)

Operator(s): KB, ES, DS

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/Alk	pH	DOC	Nutrient	Refrig. Si	SW
1	4800	15	3.2				1	1	
2	4600	16	3.3		4		2	2	
3	4500	17,18,19	3.5	3A-B	1,2,3	3ABC	3A-B	3A-B	
4	4400	20	3.5				4	4	X
5	4200	21	3.3				5	5	X
6	4000	22	3.5				6	6	X
7	3800	23,24,25	3.7			7ABC	7A-B	7A-B	X
8	3600	26	3.4				8	8	X
9	3400	27	3.5				9	9	X
10	3200	28	3.5				10	10	X
11	3000	29,30,31	4.1	11	4.2	11ABC	11	11	X
12	2800	32	3.7				12	12	X
13	2600	33	3.7				13	13	X
14	2400	34	3.8				14	14	
15	2200	35	4.0				15	15	
16	2000	36	4.4	16	5	16ABC	16A-B	16A-B	
17	1800	37,38,39	4.6				17	17	
18	1600	150	4.6				18	18	
19	1400	41	4.95				19	19	
20	1200	42	5.2				20	20	
21	1000	43	5.6				21	21	
22	750	44	6.2				22	22	
23	500	45	8.0				23	23	
24	5	46	23.4				24		

Notes:

Hawaii Ocean Time-series

HOT-301

PO Shallow Data Sheet

Station # 2
 Cast # 2
 Operator(s): KB, CF, RT

Date: 4/17/18 (HST)
 Time: 1545 (HST)

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/Alk	pH	DOC	Nutrient	Refrig. Si	Replicat Depths
1	1020	47,48,49	6.2	1	1	1	1A-B	1A-B	1020
2	986	50	6.1				2	2	
3	921	51	6.1				3	3	
4	887	52	6.2				4	4	
5	854	53	6.1				5	5	
6	814	54	6.4				6	6	
7	773	55	6.4				7	7	
8	725	56,57,58	7.0	8	2	8	8	8	750
9	676	59	6.9				9	9	
10	611	60	7.3	10	3	10	10	10	600
11	561	61	7.6				11	11	
12	525	62	8.3				12A-B	12A-B	525
13	483	63	8.8				13	13	
14	429	64,65,66	10.4	14	4	14	14	14	450
15	395	67	11.4				15	15	
16	335	68	13.2	16A-B	5,6	16	16	16	350
17	291	69	14.6				17	17	
18	247	70,71,72	17.3	18	7	19	18	18	225
19	195	73	19.3				19	19	
20	160	74	20.5				20A,B	20	150
21	125	75	21.9				21		
22	76	76	22.4				22		
23	26	77	23.2				23		
24	6	78	23.3				24		

Notes: Sample DO 52 had an error when titrating and was deleted

Hawaii Ocean Time-series

HOT-301

PO Shallow Data Sheet

Station # 2
 Cast # 2
 Operator(s): KB, CF, RT

Date: 4/17/18 (HST)
 Time: 1545 (HST)

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/Alk	pH	DOC	Nutrient	Refrig. Si	Replicat Depths
1	1020	47,48,49	6.2	1	1	1	1A-B	1A-B	1020
2	986	50	6.1				2	2	
3	921	51	6.1				3	3	
4	887	52	6.2				4	4	
5	854	53	6.1				5	5	
6	814	54	6.4				6	6	
7	773	55	6.5				7	7	
8	725	56,57,58	6.70	8	2	8	8	8	750
9	676	59	6.9				9	9	
10	611	60	7.3	10	3	10	10	10	
11	561	61	7.6				11	11	600
12	525	62	8.3				12A-B	12A-B	
13	483	63	8.8				13	13	525
14	429	64,65,66	10.4	14	4	14	14	14	
15	395	67	11.4				15	15	450
16	335	68	13.2	16A-B	5,6	16	16	16	
17	291	69	14.6				17	17	350
18	247	70,71,72	17.3	18	7	19	18	18	
19	195	73	19.3				19	19	225
20	160	74	20.5				20A,B	20	
21	125	75	21.9				21		150
22	76	76	22.4				22		
23	26	77	23.2				23		
24	6	78	23.3				24		

Notes:

Hawaii Ocean Time-series

HOT-301

PO Shallow Data Sheet

Station # 2
 Cast # 2
 Operator(s): KB, CF, RT

Date: 4/17/18 (HST)
 Time: 1645 (HST)

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/Alk	pH	DOC	Nutrient	Refriger. Si	Replicate Depths
1	1020	47,48,49		1	1	1	1A-B	1A-B	1020
2	986	50					2	2	
3	921	51					3	3	
4	887	52					4	4	
5	854	53					5	5	
6	814	54					6	6	
7	773	55					7	7	
8	725	56,57,58		8	2	8	8	8	750
9	676	59					9	9	
10	611	60					10	10	
11	561	61		11	3	11	11	11	600
12	525	62					12	12	
13	483	63					13A-B	13A-B	525
14	429	64		14	4	14	14	14	
15	385	65,66,67					15	15	500 450
16	335	68					16	16	
17	291	69		17A-B	5,6	17	17	17	350
18	247	70					18	18	
19	195	71,72,73		19	7	19	19	19	225
20	160	74					20	20	
21	125	75					21A-B		150
22	76	76					22		
23	26	77					23		
24	6	78					24		

Notes:

Hawaii Ocean Time-series

HOT- 301

PC/PN Data Sheet

Station # 2 Date: 4/17/18 (HST)
 Cast # 3 Time: 1805 (HST)
 Operator(s): KB, CF, RT Pre-screen mesh size: 202 um
 Blank #'s B1 B2 B3

Rosette Position	Desired Depth	Carboy #	Total Volume	Sample #	DNA	Sasha Wagner	O2 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	9.65	7			
8	150	6	10	8			
9	125	7,8	4,4	9A-B			
10	DCM					X	
11	DCM					X	
12	DCM					X	
13	100	9	4	13			
14	75	10	4	14			
15	75				X		
16	45	11	4	16			
17	45				X		
18	25	12,13	4,4	18A-B			
19	25				X		19A,B
20	5	14	3.75	20			
21	5				X		21A,B
22	5					X	
23	5					X	
24	5					X	

**Notes: 301-2-3-20 (14) filter busted at end, 301-2-3-16 filterdropped on counter
 301-2-3-5,6 (carboys 4,5) filtered very slowly. Done ~2300. 5 redish brown, 6 orange brown.
 6 aborted wih 350 ml left.**

2007 4

Hawaii Ocean Time-series

HOT- 301

PC/PN Data Sheet

Station # 2 Date: 4/17/18 (HST)
 Cast # 3 Time: 1805 (HST)
 Operator(s): KB, CF, RT Pre-screen mesh size: 202 um
 Blank #'s B1 B2 B3

Rosette Position	Desired Depth	Carboy #	Total Volume	Sample #	DNA	Sasha Wagner	O2 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	DCM					X	
11	DCM					X	
12	DCM					X	
13	100	9	4	13			
14	75	10	4	14			
15	75				X		
16	45	11	4	16			
17	45				X		
18	25	12,13	4,4	18A-B			
19	25				X		19A,B
20	5	14	4	20			
21	5				X		21A,B
22	5					X	
23	5					X	
24	5					X	

Notes:

301-2-3-20 (14) filter busted (probably @ end)
 301-2-3-16 - filter clipped on counter

Hawaii Ocean Time-series

HOT- 301

Particulate Phosphorus Data Sheet

Station # 2 Date: 4/17/18 (HST)
 Cast # 5 Time: 2330 (HST)
 Operator(s): KB, CF, RT Pre-screen mesh size: 202 um
 Blank #'s B1 B2 B3

Rosette Position	Desired Depth	Carboy #	Total Volume	Sample #	SF-S	Sasha Wagner	DNA	
1	1000					X		
2	1000					X		
3	1000					X		
4	O2Min					X		
5	O2 Min					X		
6	O2 Min					X		
7	Sal min							
8	350	1	10	8				
9	350	2	10	9				
10	250	3	10	10				
11	200	4	10	11				
12	175	5	10	12				
13	175						X	
14	150	6	10	14				
15	150						X	
16	125	7,8	4,4	16A-B				
17	125						X	
18	100	9	4	18				
19	100						X	
20	75	10	4	20				
21	45	11	4	21				
22	25	12,13	4,4	22A-B				
23	25				23A,B			
24	5	14	4	24	24A,B			

Notes: Broad fluorescence peak around 600 m downcast only. SF bottle 23A HgCl₂ vol? Not sure all 200 ul in tip.

Hawaii Ocean Time-series

HOT- 301

Particulate Phosphorus Data Sheet

Station # 2 Date: 4/17/18 (HST)
 Cast # 5 Time: _____ (HST)
 Operator(s): KB, CF, RT Pre-screen mesh size: 202 um
 Blank #'s B1 B2 B3

Rosette Position	Desired Depth	Carboy #	Total Volume	Sample #	SF-S	Sasha Wagner	DNA	
1	1000					X		
2	1000					X		
3	1000					X		
4	O2Min					X		
5	O2 Min					X		
6	O2 Min					X		
7	Sal min							
8	350	1	10	8				
9	350	2	10	9				
10	250	3	10	10				
11	200	4	10	11				
12	175	5	10	12				
13	175						X	
14	150	6	10	14				
15	150						X	
16	125	7,8	4,4	16A-B				
17	125						X	
18	100	9	4	18				
19	100						X	
20	75	10	4	20				
21	45	11	4	21				
22	25	12,13	4,4	22A-B				
23	25				23A,B			
24	5	14	4	24	24A,B			

Notes:

23A SF - Hg(12 vol ?)
Deep fluorescence feature down
cast

Hawaii Ocean Time-series
HOT-301
BEACH Shallow Data Sheet (1/2)

Station # 2
 Cast # 4
 Operator(s): KB, CF, RT

Date: 4/17/18 (HST)
 Time: 2005 (HST)

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/ALK	Quay DIC	Keeling DIC	SF-S	pH	DOC
1	1000	79	6.4						
2	O ₂ min	80	6.9						
3	Sal min	81	7.9						
4	200	82	20.0	4				1	4
5	175	83	20.6						5
6	165	84	21.1						
7	150	85	21.7	7				2	7
8	130								
9	125	86	22.3						9
10	115	87	22.4						
11	110								
12	100	88,89,90	22.5	12				3	12
13	90								
14	85	91	22.6						
15	75	92	22.8	15				4	15
16	60								16
17	45	93	23.0	17				5	17
18	35								18
19	25	94	23.3	19				6	19
20	25				20		20A-B		
21	15								21
22	5	102	23.3	22A-B				7,8	22
23	5				23	23A-B			
24	5						24A-B		

Notes: Keeling 23A 2140, 23B 2141.200ul HgCl₂.

Broad fluorescence peak around 600 m on downcast only. No chl taken because feature gone on upcast.

Hawaii Ocean Time-series

HOT-301

BEACH Shallow Data Sheet (1/2)

Station # 2
 Cast # 4
 Operator(s): KB, CF, RT

Date: 4/17/18 (HST)
 Time: 2005 (HST)

Rosette Position	Desired Depth	Oxygen	Sample Temp.	DIC/ALK	Quay DIC	Keeling DIC	SF-S	pH	DOC
1	1000	79	10.4						
2	O ₂ min	80	6.9						
3	Sal min	81	7.9						
4	200	82	20.0	4				1	4
5	175	83	20.6						5
6	165	84	21.1						
7	150	85	21.7	7				2	7
8	130		22.3						
9	125	86	22.3						9
10	115	87	22.4						
11	110								
12	100	88,89,90	22.5	12				3	12
13	90								
14	85	91	22.6						
15	75	92	22.8	15				4	15
16	60								16
17	45	93	23.0	17				5	17
18	35								18
19	25	94	23.3	19				6	19
20	25				20		20A-B		
21	15								21
22	5	10795	23.3	22A-B				7,8	22
23	5				23	23A-B			
24	5						24A-B		

Notes: Keeling

A 2140
 B 2141
 200m H₂O₂

Hawaii Ocean Time-series

HOT-300

BEACH Shallow Data Sheet (2/2)

Station # 2
 Cast # 4
 Operator(s): KB, CF, RT

Date: 4/17/18 (HST)
 Time: (HST)

Rosette Position	Desired Depth	Nutrient		LLN	LLP			
1	1000							
2	O₂ min							
3	Sal min							
4	200	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-300

BEACH Shallow Data Sheet (2/2)

Station # 2
 Cast # 4
 Operator(s): KB, CF, RT

Date: 4/17/18 (HST)
 Time: _____ (HST)

Rosette Position	Desired Depth	Nutrient	Refrig. Si	LLN	LLP	<i>chl</i>		
1	1000							
2	O ₂ min							
3	Sal min					<i>34.2</i>		
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:

Fluorescence low @ 600m down cast only

Hawaii Ocean Time-series

HOT- 301

OPEN Data Sheet

Station # 2
 Cast # 7
 Operator(s): KB,DS

Date: 4/18/18 (HST)
 Time: 0550 (HST)

Rosette Position	Desired Depth	DNA	SFS	MC	Salts	Keri Opalk		
1	1020				X			
2	1020					X		
3	Sal min				X			
4	275	X						
5	250	X						
6	225	X						
7	200	X						
8	175			X				
9	150			X				
10	125			X				
11	DCM		X					
12	100			X				
13	75			X				
14	45			X				
15	25			X				
16	25		X					
17	5		X		X			
18	5			X				
19	5					X		
20								
21								
22								
23								
24								

Notes:

Hawaii Ocean Time-series

HOT- 301

OPEN Data Sheet

Station # 2

Date: 4/18/18 (HST)

Cast # 7

Time: 0550 (HST)

Operator(s): KB, DS

Rosette Position	Desired Depth	DNA	SFS	MC	Salts	Keri Opalk		
1	1020				X			
2	1020					X		
3	Sal min				X			
4	275	X						
5	250	X						
6	225	X						
7	200	X						
8	175			X				
9	150			X				
10	125			X				
11	DCM		X					
12	100			X				
13	75			X				
14	45			X				
15	25			X				
16	25		X					
17	5		X		X			
18	5			X				
19	5					X		
20								
21								
22								
23								
24								

Notes:

W

Hawaii Ocean Time-series

HOT- 301

Particulate Silica Data Sheet

Station # 2 Date: 4/18/18 (HST)
 Cast # 8 Time: 0800 (HST)
 Operator(s): DS,KB,SF-S,MB Pre-screen mesh size: none
 Blank # **B1, B2, B3**

Rosette Position	Desired Depth	Carboy #	Total Volume	Sample #	SF-S	Salts		
1	1000					X		
2	Sal min					X		
3	400				X			
4	350				X			
5	300				X			
6	250				X			
7	200				X			
8	175	7	4	8				
9	150	8	4	9				
10	150				X			
11	125				X			
12	125	9,10	4,4	12A-B				
13	100	11	4	13				
14	100				X			
15	75				X			
16	75	12	4	16				
17	45	13	4	17				
18	45				X			
19	40				X			
20	35				X			
21	25	14,15	4,4	21A-B				
22	25				22a,b			
23	5	16	4	23				
24	5				24a,b	X		

Notes:

Hawaii Ocean Time-series

HOT- 301

Particulate Silica Data Sheet

Station # 2 Date: 4/18/18 (HST)
 Cast # 8 Time: 0900 (HST)
 Operator(s): _____ Pre-screen mesh size: none
 Blank # B1, B2, B3

Rosette Position	Desired Depth	Carboy #	Total Volume	Sample #	SF-S	Salts		
1	1000					X		
2	Sal min					X		
3	400				X			
4	350				X			
5	300				X			
6	250				X			
7	200				X			
8	175	7	4	8				
9	150	8	4	9				
10	150				X			
11	125				X			
12	125	9,10	4,4	12A-B				
13	100	11	4	13				
14	100				X			
15	75				X			
16	75	12	4	16				
17	45	13	4	17				
18	45				X			
19	40				X			
20	35				X			
21	25	14,15	4,4	21A-B				
22	25				22a,b			
23	5	16	4	23				
24	5				24a,b	X		

Notes:

Hawaii Ocean Time-series

HOT- 301

OPEN Data Sheet

Station # 2
 Cast # 9
 Operator(s): DS,KB,SF-S

Date: 4/18/18 (HST)
 Time: 1115 (HST)

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

Notes:

Hawaii Ocean Time-series

HOT- 301

ATP Data Sheet

Station # 2 Date: 4/18/18 (HST)
 Cast # 10 Time: 1410 (HST)
 Operator(s): _____ 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	500					X	
4	Sal min						
5	400					X	
6	350	1 – 3	3x2	1			
7	300					X	
8	250	4 – 6	3x2	2			
9	150	10-12	3x1	7			
10	125	7-9	3x1	8			
11	100	16 – 18	3x1	9			
12	75	13 – 15	3x1	10			
13	45	22 – 24	3x1	11			
14	25	19 – 21	3x1	12			
15	25				15A,B		
16	25				X		
17	25				X		
18	5	25 - 27	3x1	13			
19	5				19A,B		
20							
21							
22							
23							
24							

Notes: Note after large volume filtrations tube sets switched (as changed)

Hawaii Ocean Time-series

HOT- 301

ATP Data Sheet

Station # 2 Date: 4/18/18 (HST)
 Cast # 10 Time: 1410 (HST)
 Operator(s): _____ 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	500					X	
4	Sal min						
5	400					X	
6	350	1 - 3	3x2	1			
7	300					X	
8	250	4 - 6	3x2	2			
9	150	7 - 9	3x1	7			
10	125	10 - 12	3x1	8			
11	100	13 - 15	3x1	9			
12	75	16 - 18	3x1	10			
13	45	19 - 21	3x1	11			
14	25	22 - 24	3x1	12			
15	25				15A,B		
16	25						
17	25						
18	5	25 - 27	3x1	13			
19	5				19A,B		
20							
21							
22							
23							
24							

Notes:

Hawaii Ocean Time-series

HOT-301

OPEN CAST Data Sheet

Station # 2
 Cast # 11
 Operator(s): KB, CF, RT

Date: 4/18/18 (HST)
 Time: 1630 (HST)

Rosette Position	Desired Depth	SW	SF-S	KB			
1	1000						
2	800	X					
3	770			X			
4	600	X					
5	Sal Min						
6	400	X					
7	350	X					
8	300	X					
9	250	X					
10	175	X					
11	150	X					
12	125	X					
13	100	X					
14	75	X					
15	45	X					
16	25	X					
17	25		X				
18	25			X			
19	25			X			
20	25			X			
21	25			X			
22	5	X	X				
23							
24							

Notes:

Hawaii Ocean Time-series

HOT-301

OPEN CAST Data Sheet

Station # 2

Date: 4/18/18 (HST)

Cast # 11

Time: 1630 (HST)

Operator(s): KB, LF, RI

Rosette Position	Desired Depth	SW	SF-S	KB			
1	1000						
2	800	X					
3	770			X			
4	600	X					
5	Sal Min						
6	400	X					
7	350	X					
8	300	X					
9	250	X					
10	175	X					
11	150	X					
12	125	X					
13	100	X					
14	75	X					
15	45	X					
16	25	X					
17	25		X				
18	25			X			
19	25			X			
20	25			X			
21	25			X			
22	5	X	X				
23							
24							

Notes:

Hawaii Ocean Time-series

HOT-301

HPLC & Chl *a.* Bottle Data Sheet

Station # 2
 Cast # 12
 Operator(s): KB, CF, RT

Date: 4/18/18 (HST)
 Time: 2313 (HST)

Rosette Position	Desired Depth	Carboy #	Total Volume	HPLC	Chl <i>a.</i>	DNA	Sasha Wagner	O2
1	4000					X		103
2	3500						X	
3	3500						X	
4	3500						X	
5	3500						X	
6	3500						X	
7	3500						X	
8	3500						X	
9	3500						X	
10	3000					X		104
11	2000					X		106
12	1000					X		107
13	175	1	10	13	13			
14	150	2	10	14	14			
15	135	7	4	15	15A-B			
16	125	8,9	4,4	16A-B	16			
17	115	10	4	17	17			
18	100	11	4	18	18			
19	85	12	4	19	19			
20	75	13	4	20	20			
21	60	14	4	21	21A-B			
22	45	15,16	4,4	22A-B	22			
23	25	3	10	23	23			
24	5	4	9.85	24	24			108

Notes Forgot to take O2 temps. Carboy 4 leak at valve –slow terminated 1815 4/19/18

Hawaii Ocean Time-series

HOT-301

HPLC & Chl *a*. Bottle Data Sheet

Station # 2
 Cast # 12
 Operator(s): KB, CF, RT

Date: 4/18/18 (HST)
 Time: 2313 (HST)

Rosette Position	Desired Depth	Carboy #	Total Volume	HPLC	Chl <i>a</i> .	DNA	Sasha Wagner	DO Temp
1	4000					X		103
2	3500						X	
3	3500						X	
4	3500						X	
5	3500						X	
6	3500						X	
7	3500						X	
8	3500						X	
9	3500						X	
10	3000					X		104
11	2000					X		105
12	1000					X		106
13	175	1	10	13	13			107
14	150	2	10	14	14			
15	135	7	4	15	15A-B			
16	125	8,9	4,4	16A-B	16			
17	115	10	4	17	17			
18	100	11	4	18	18			
19	85	12	4	19	19			
20	75	13	4	20	20			
21	60	14	4	21	21A-B			
22	45	15,16	4,4	22A-B	22			
23	25	3	10	23	23			
24	5	4	10	24	24			108

Notes

Hawaii Ocean Time-series

HOT- 301

STATION 52 Data Sheet

Station # 52
Cast # 1
Operator(s): DS, ES, KB, KMB,

Date: 4/19/18 (HST)
Time: 1438 (HST)

Rosette Position	Desired Depth	DIC/TA	pH					
1	5	6A,B	1,2,3					
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								

Notes:

Hawaii Ocean Time-series

HOT- 301

STATION 52 Data Sheet

Station # 52
 Cast # 1
 Operator(s): _____

Date: 4/19/18 (HST)
 Time: 14:38 (HST)

Rosette Position	Desired Depth	DIC/TA	pH					
1	5	6A,B	1,2,3					
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								

Notes:

Hawaii Ocean Time-series

HOT-301

In Situ Primary Production Data Sheet

Operators: DS,KB,BW,SF-S,MB

Date in: 4/18/18

Time in: 0455

(HST)

Date out: 4/18/18Time out: 1840

(HST)

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

Insertion Depth

Owner

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Position in: 22° 46.186 ' N 157° 00.064' WPosition out: 22° 44.70 ' N 158° 12.90' W

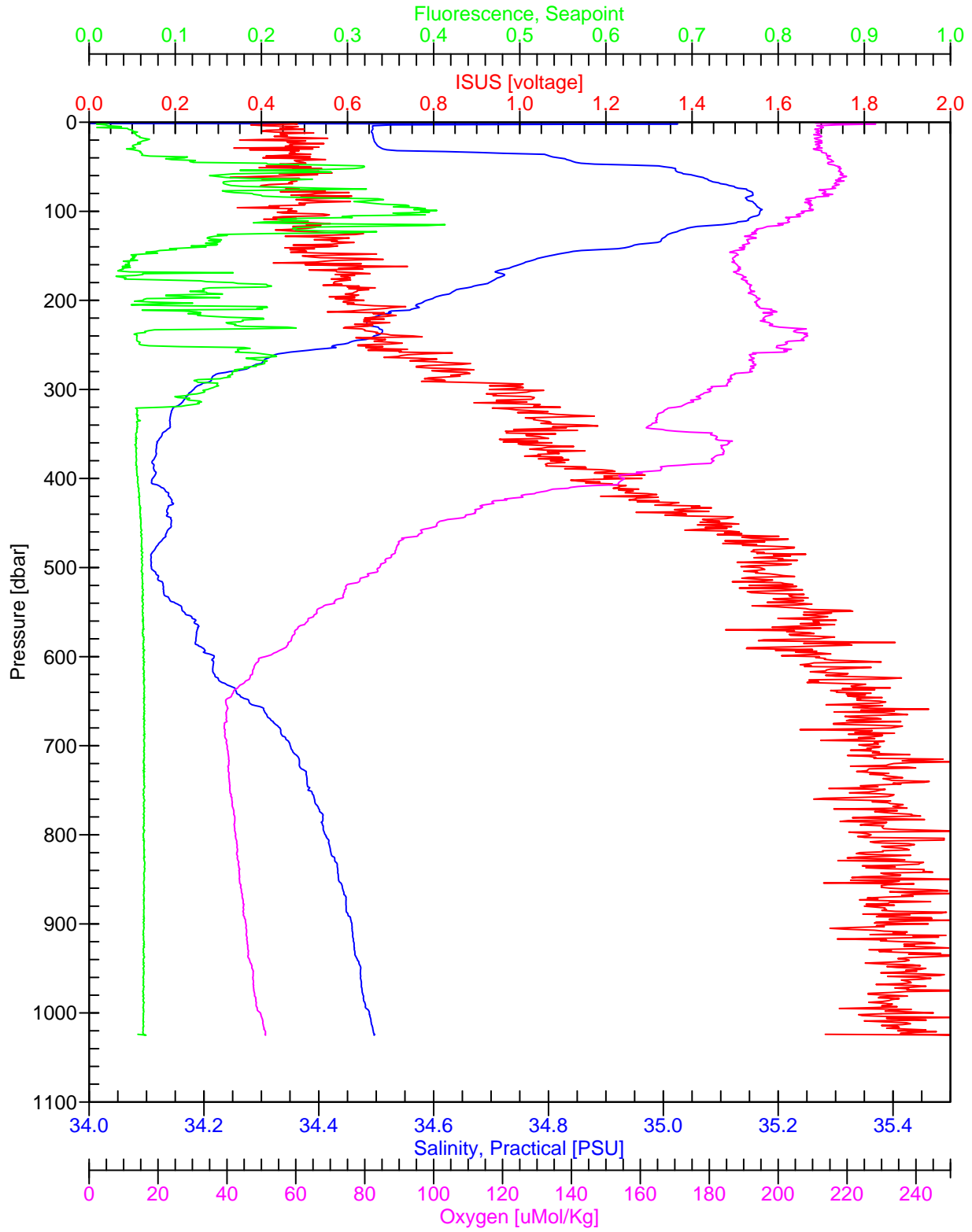
Average weather condition during incubation:

Average sea state during incubation:

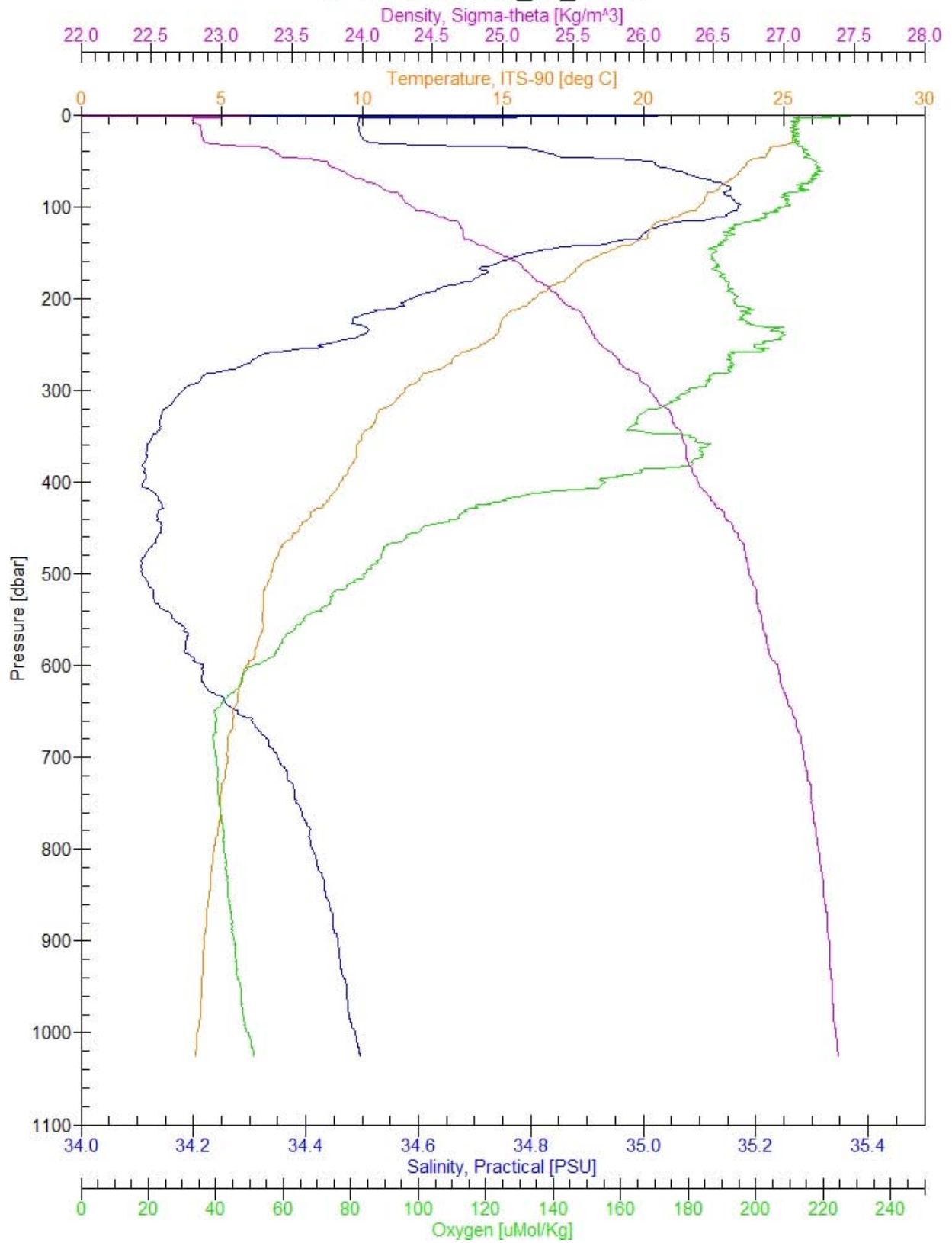
Notes: 3-1 lost some volume (~30 ml)

Begin Inoculation 0415End Inoculation 0425Filtration time 1930

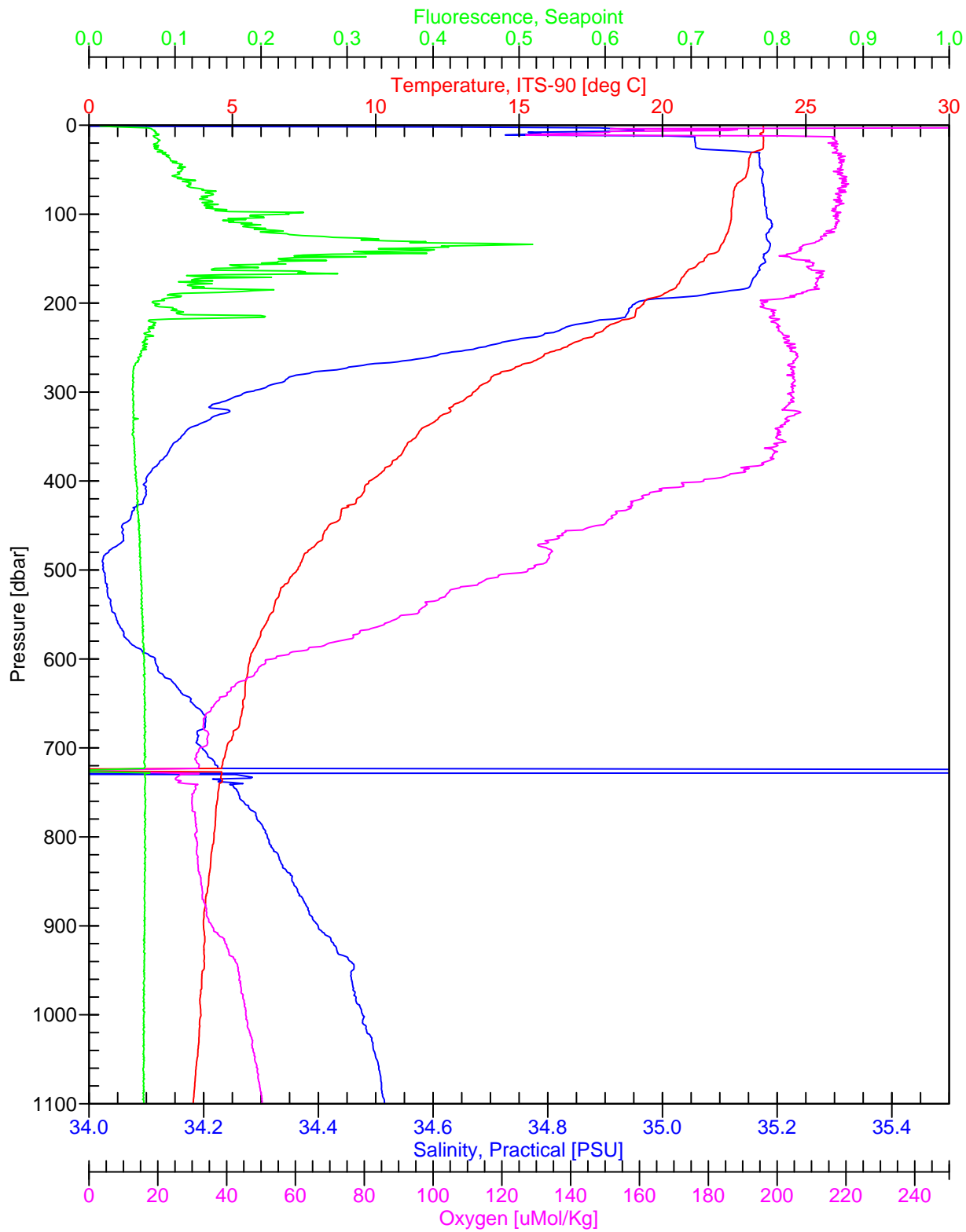
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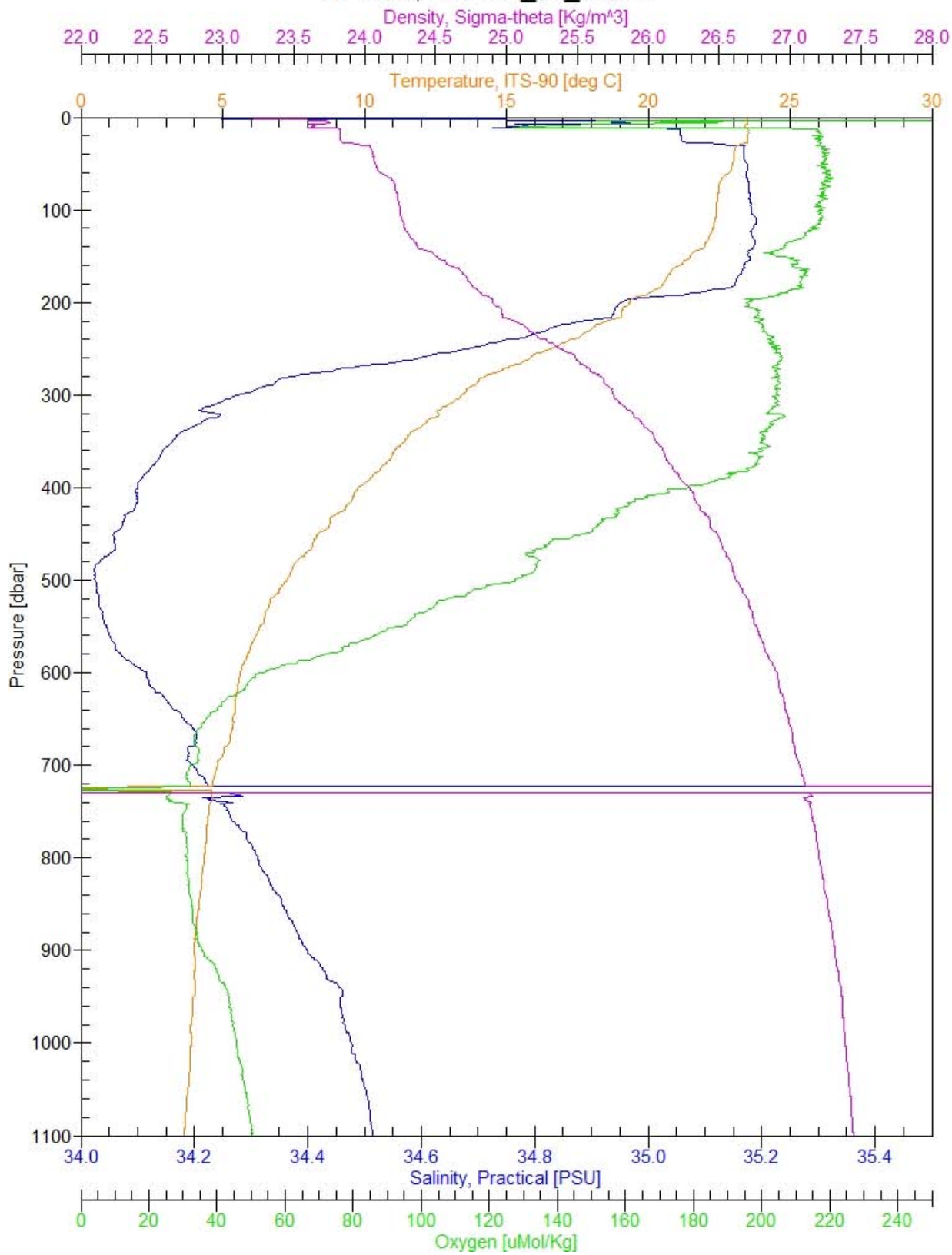
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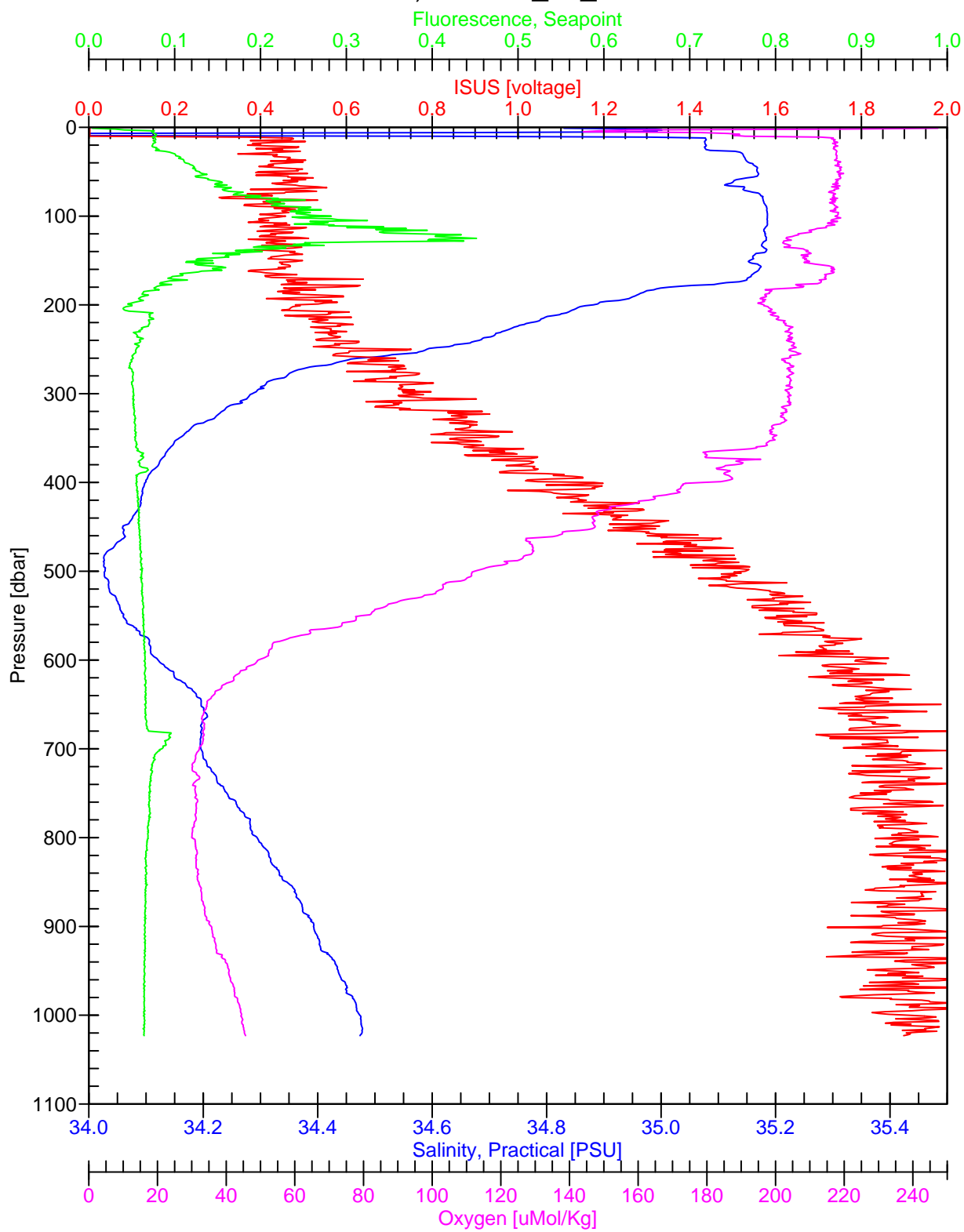
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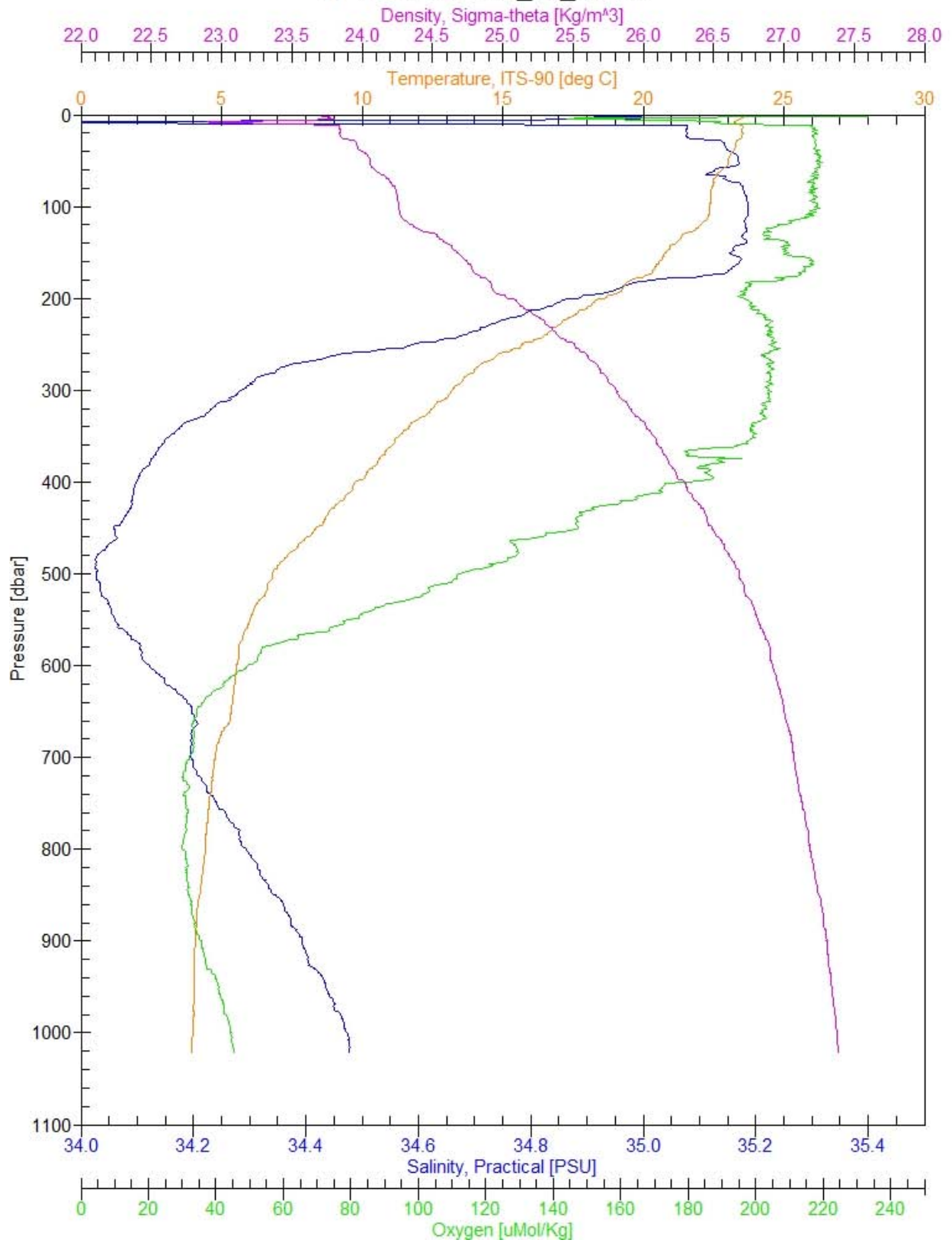
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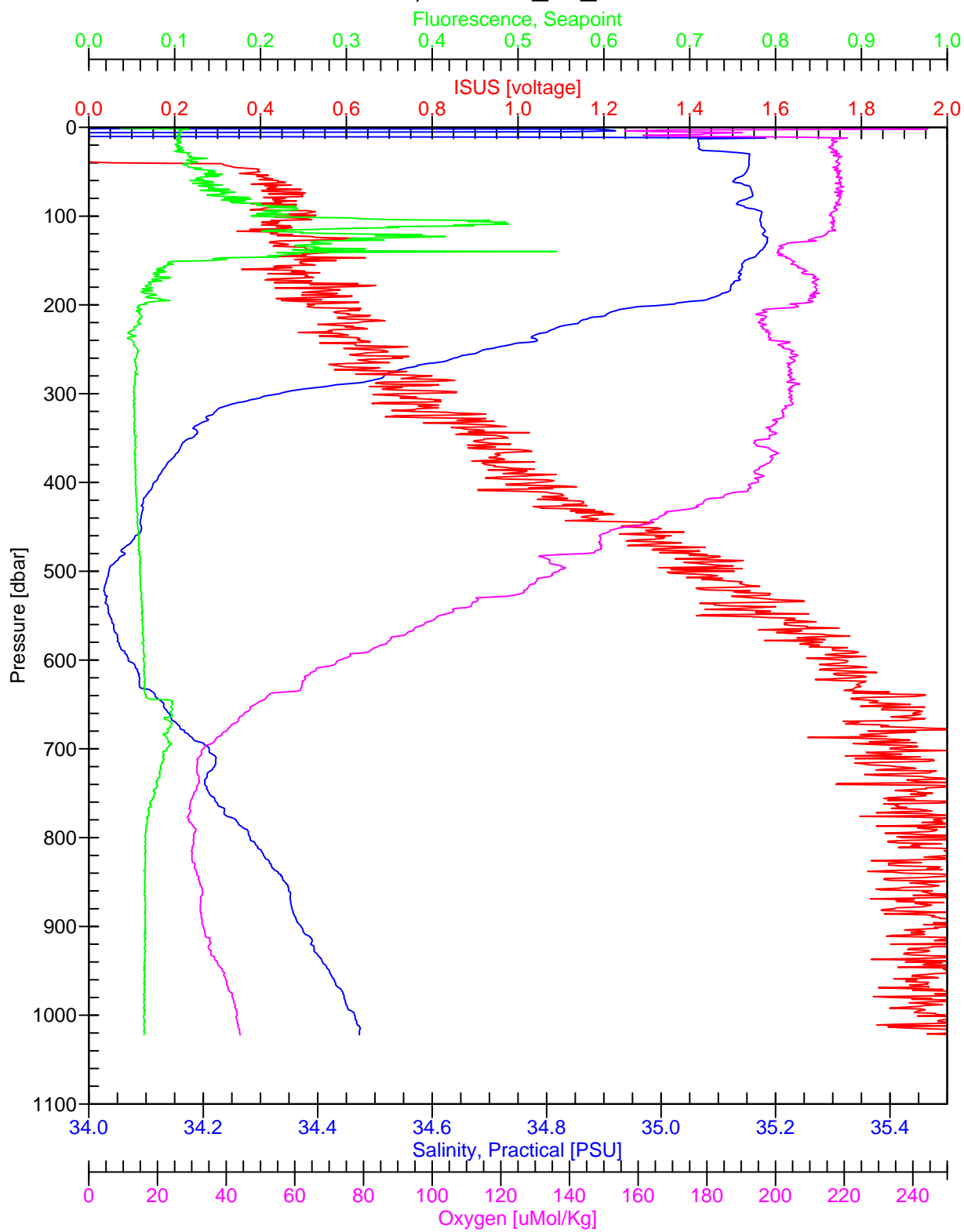
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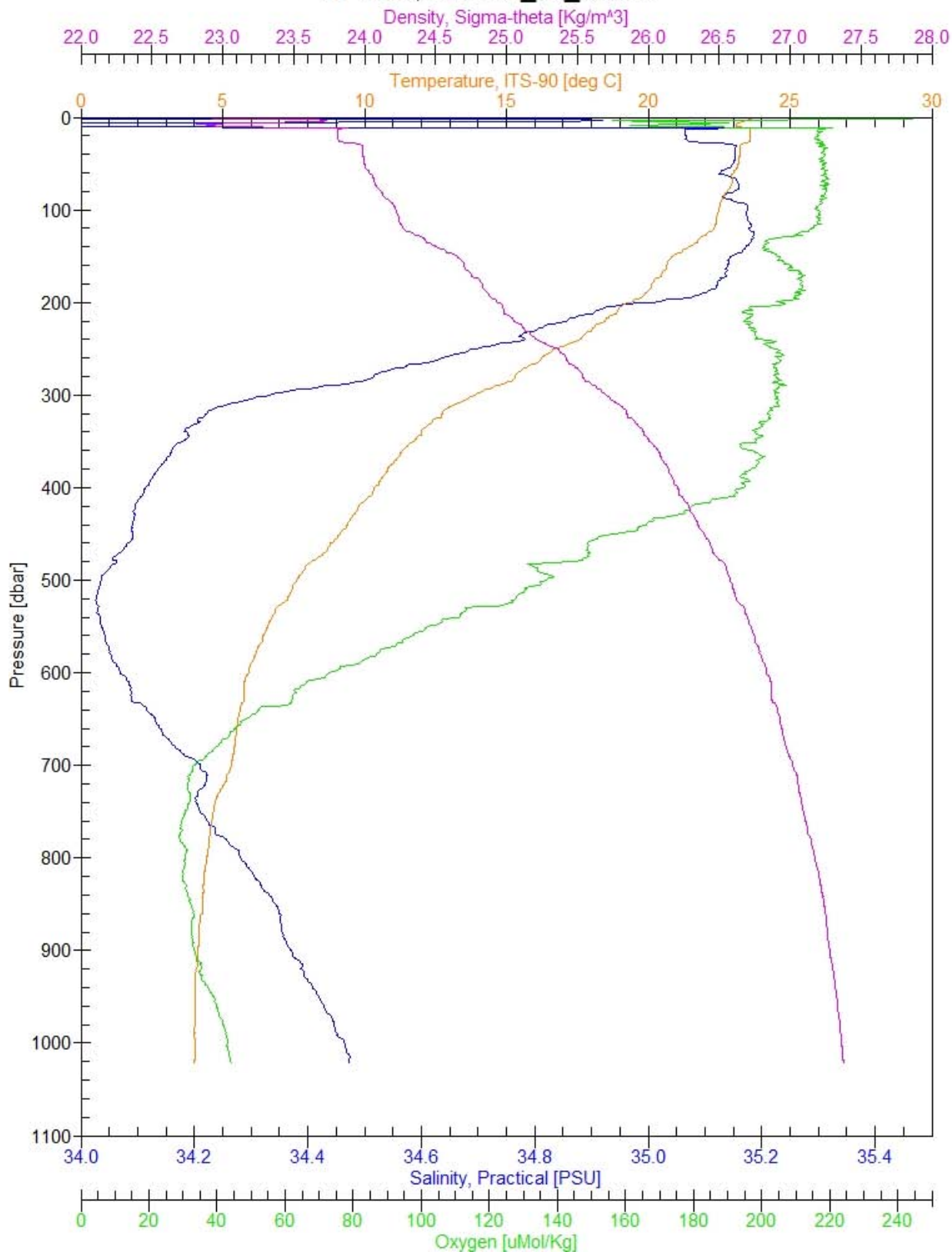
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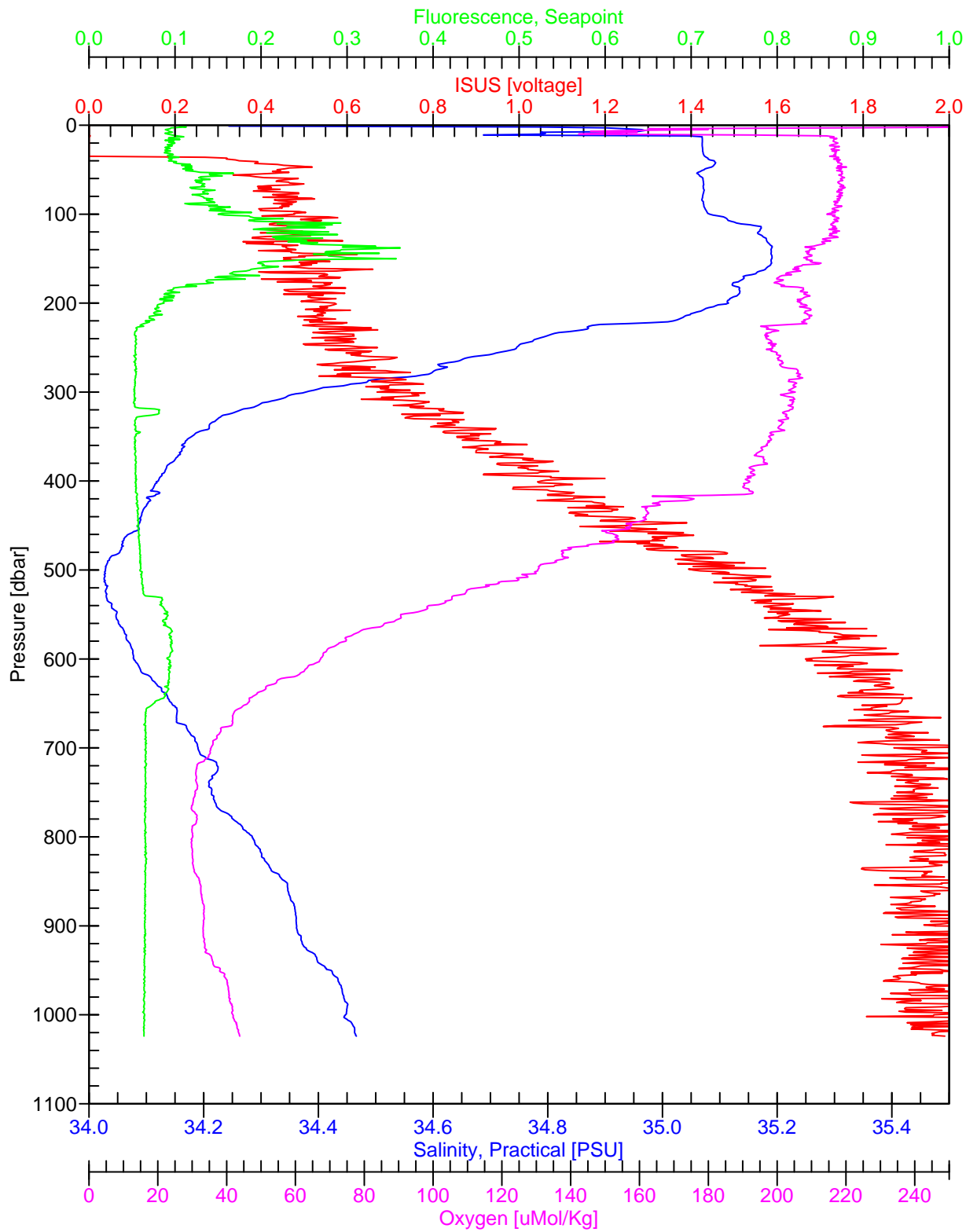
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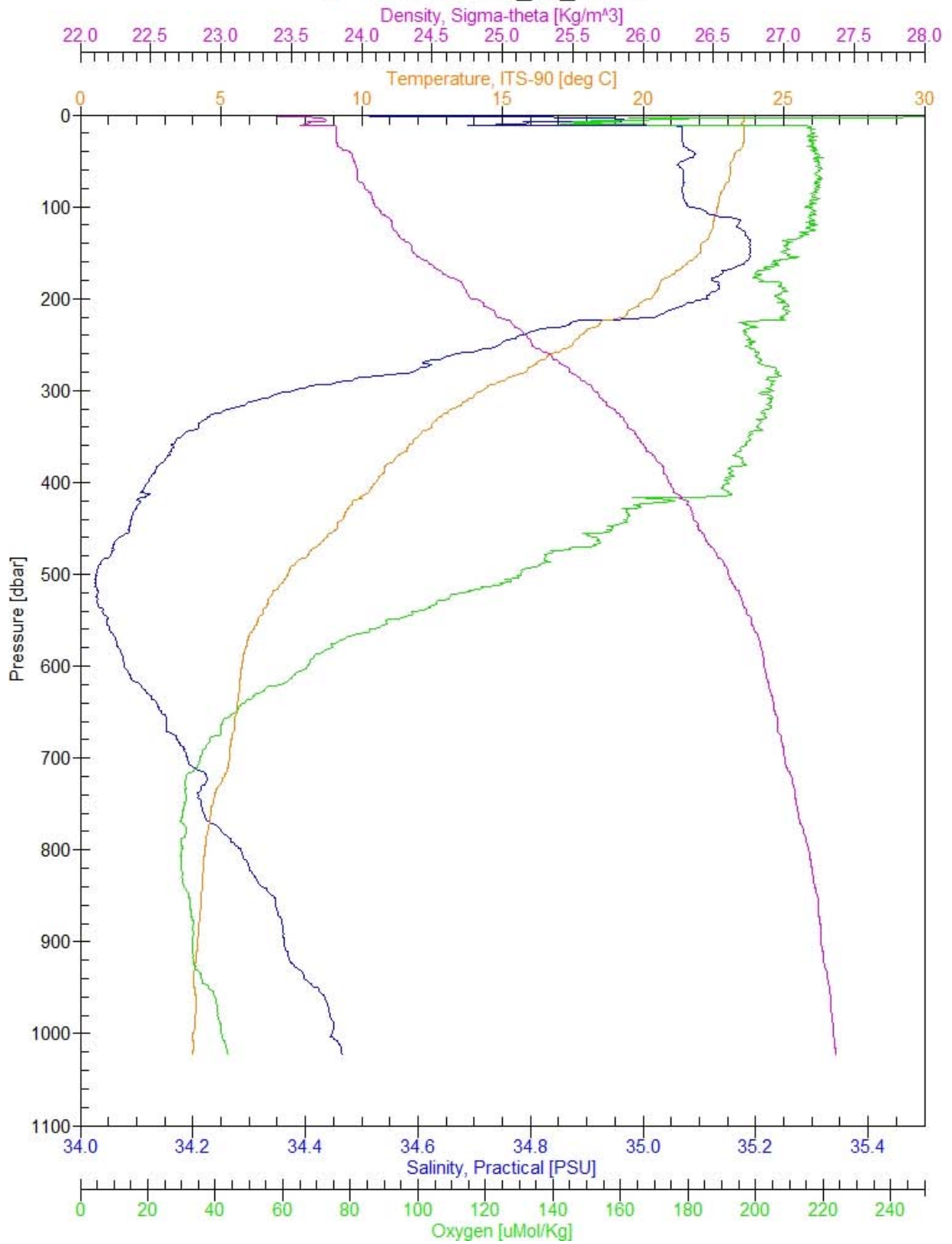
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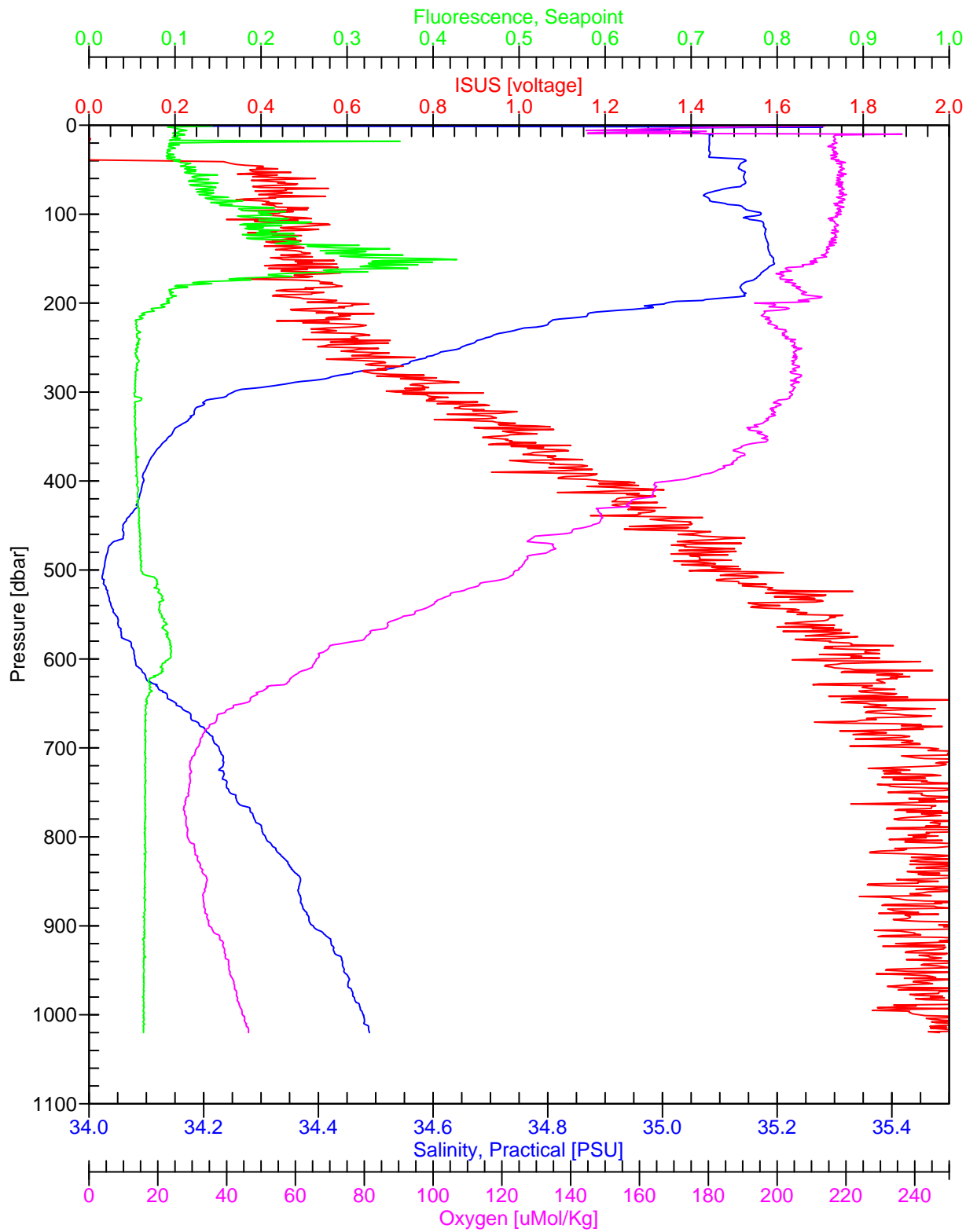
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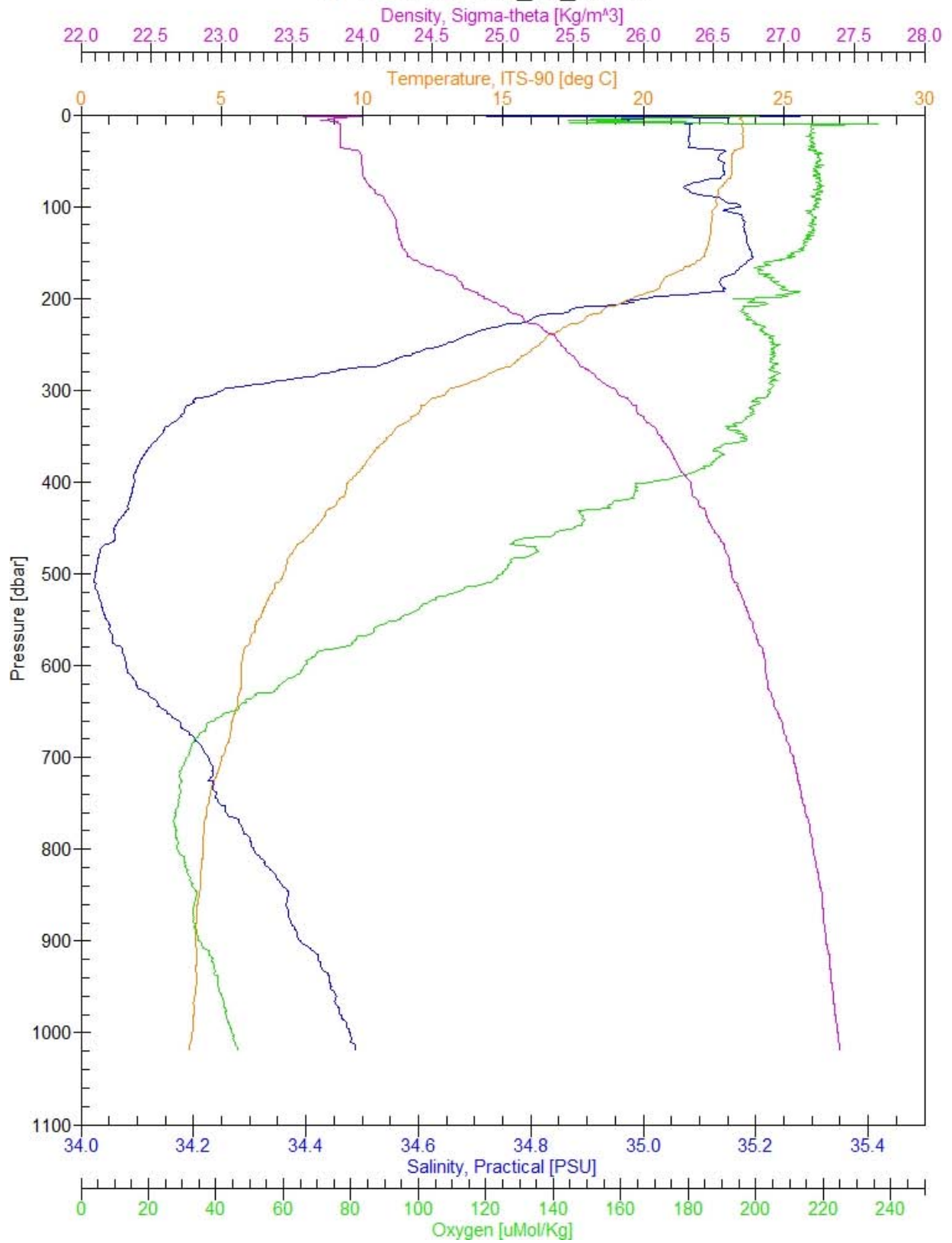
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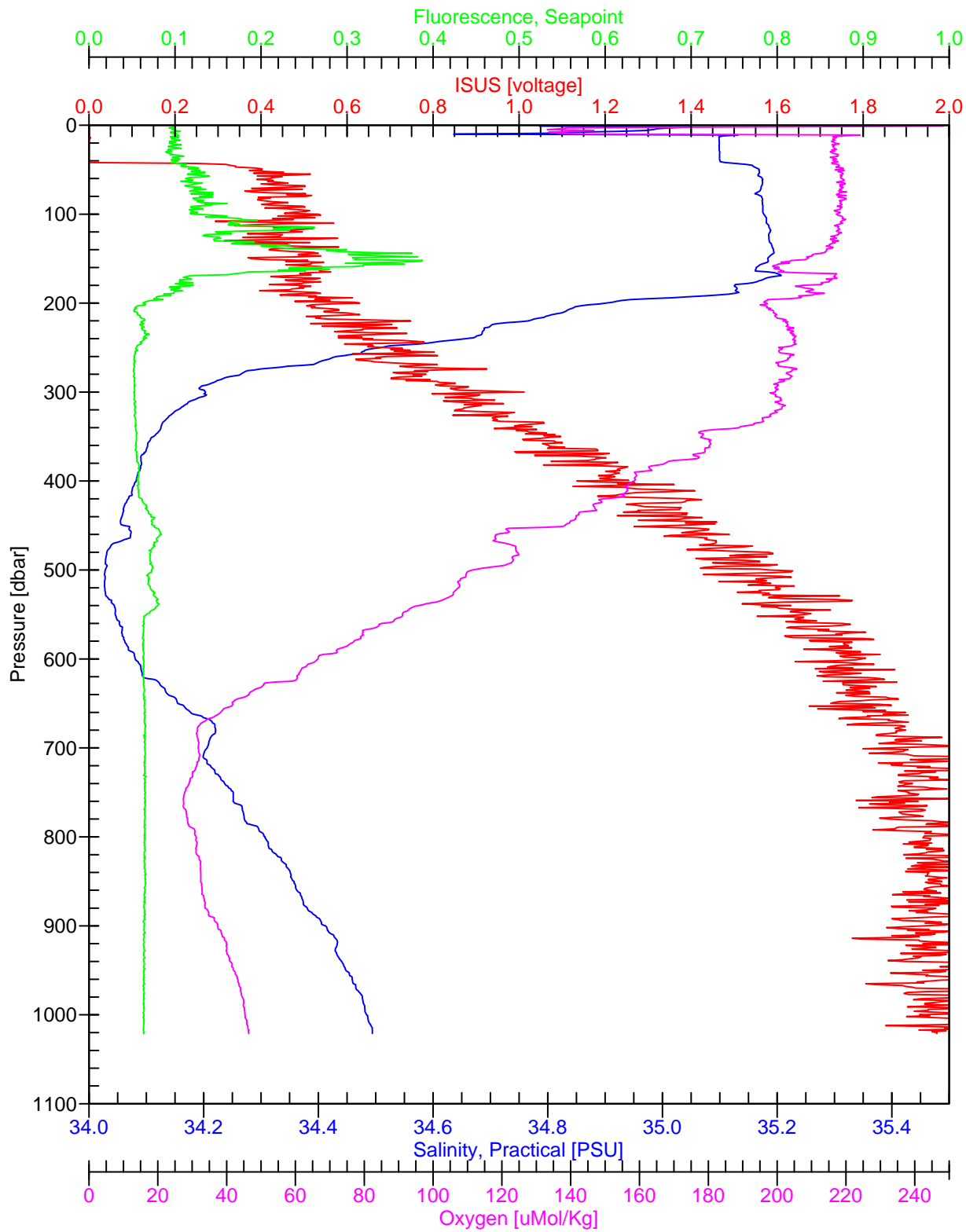
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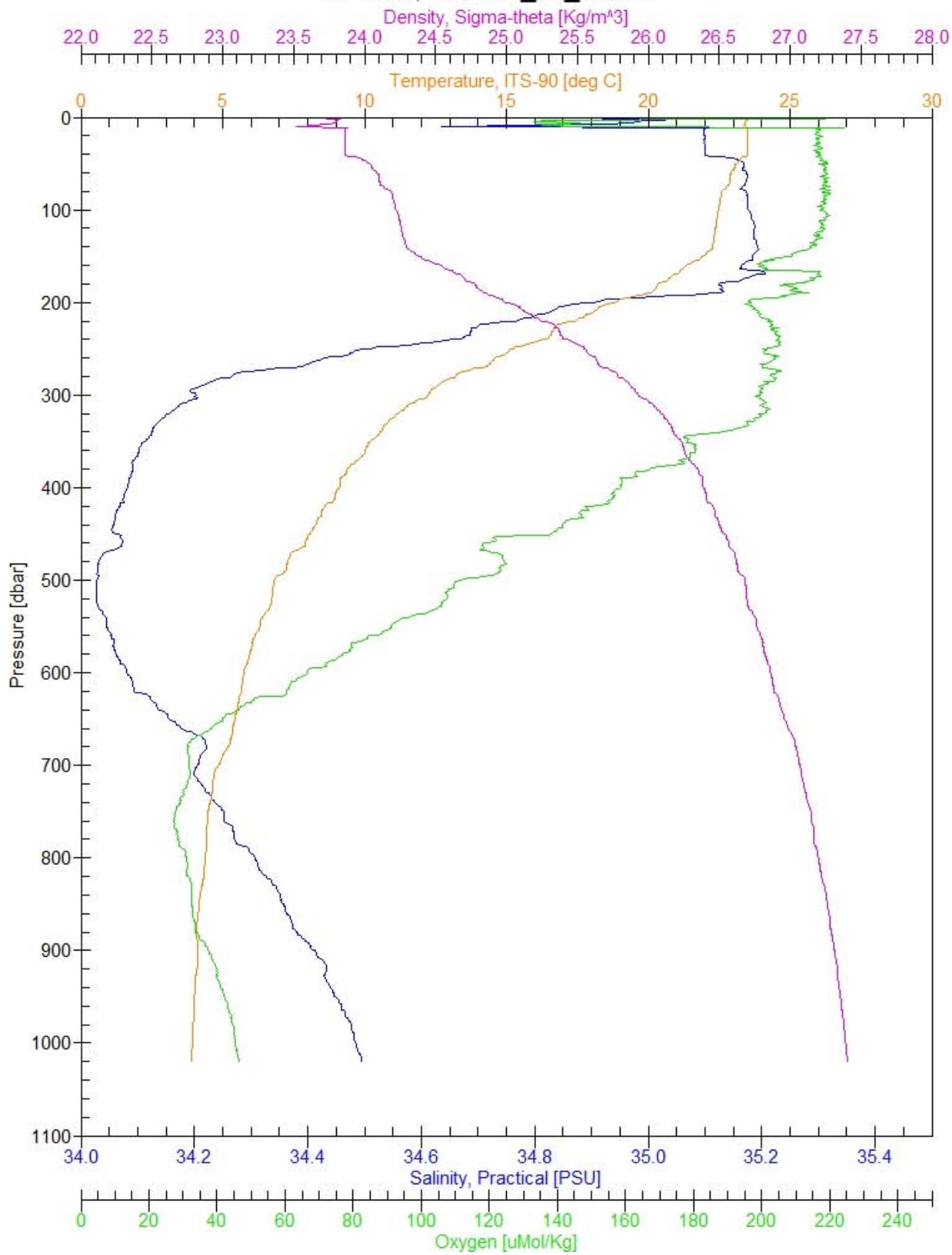
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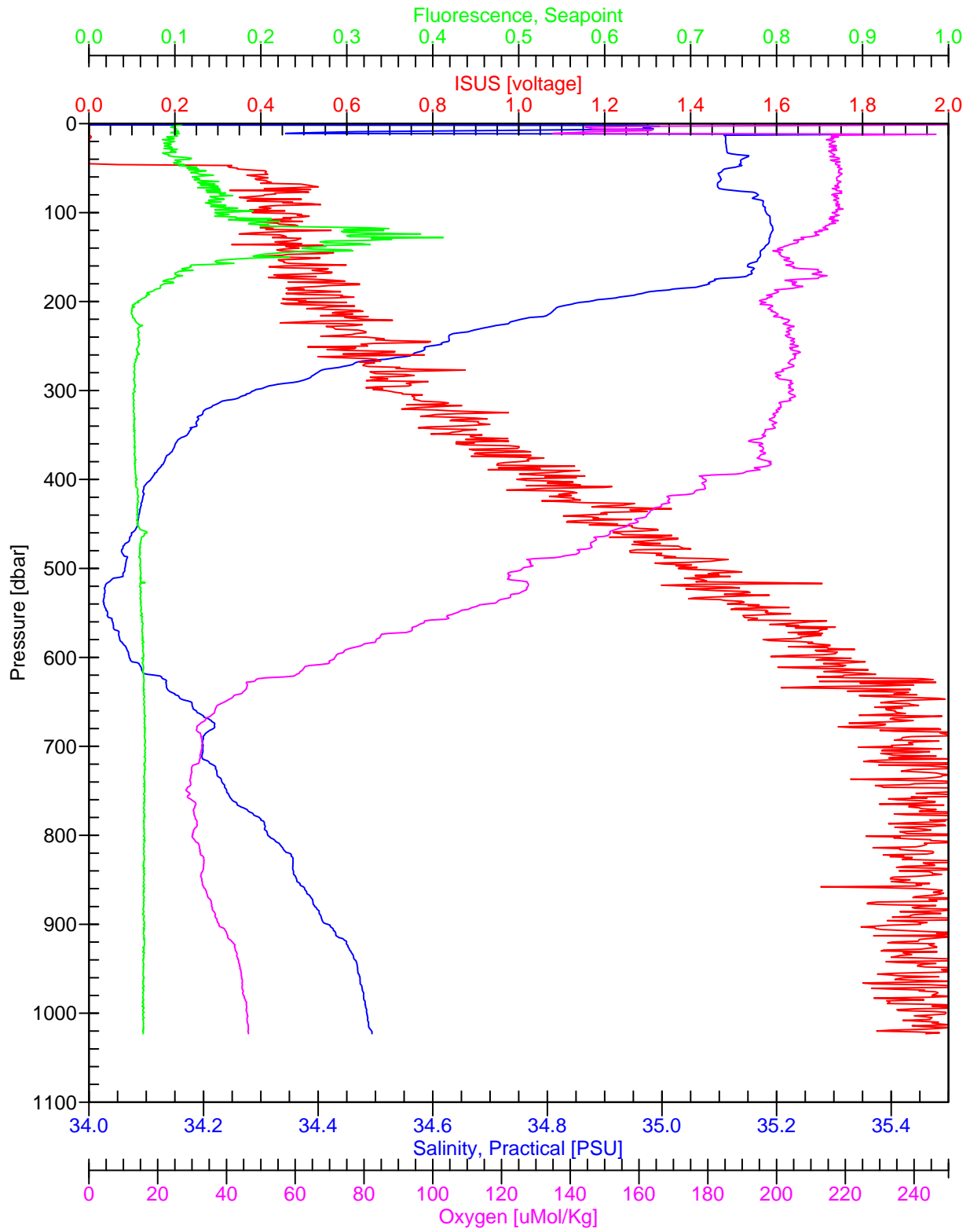
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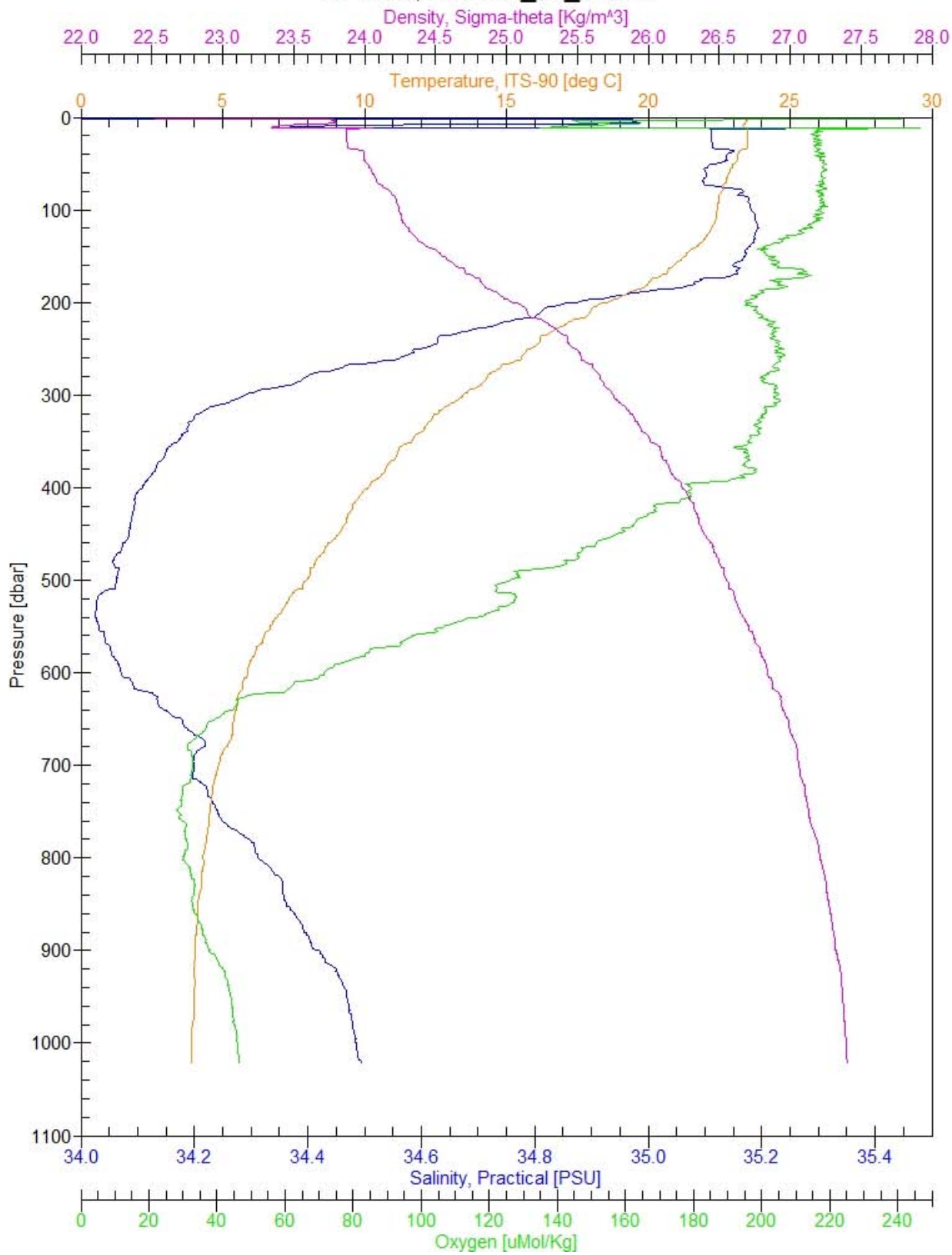
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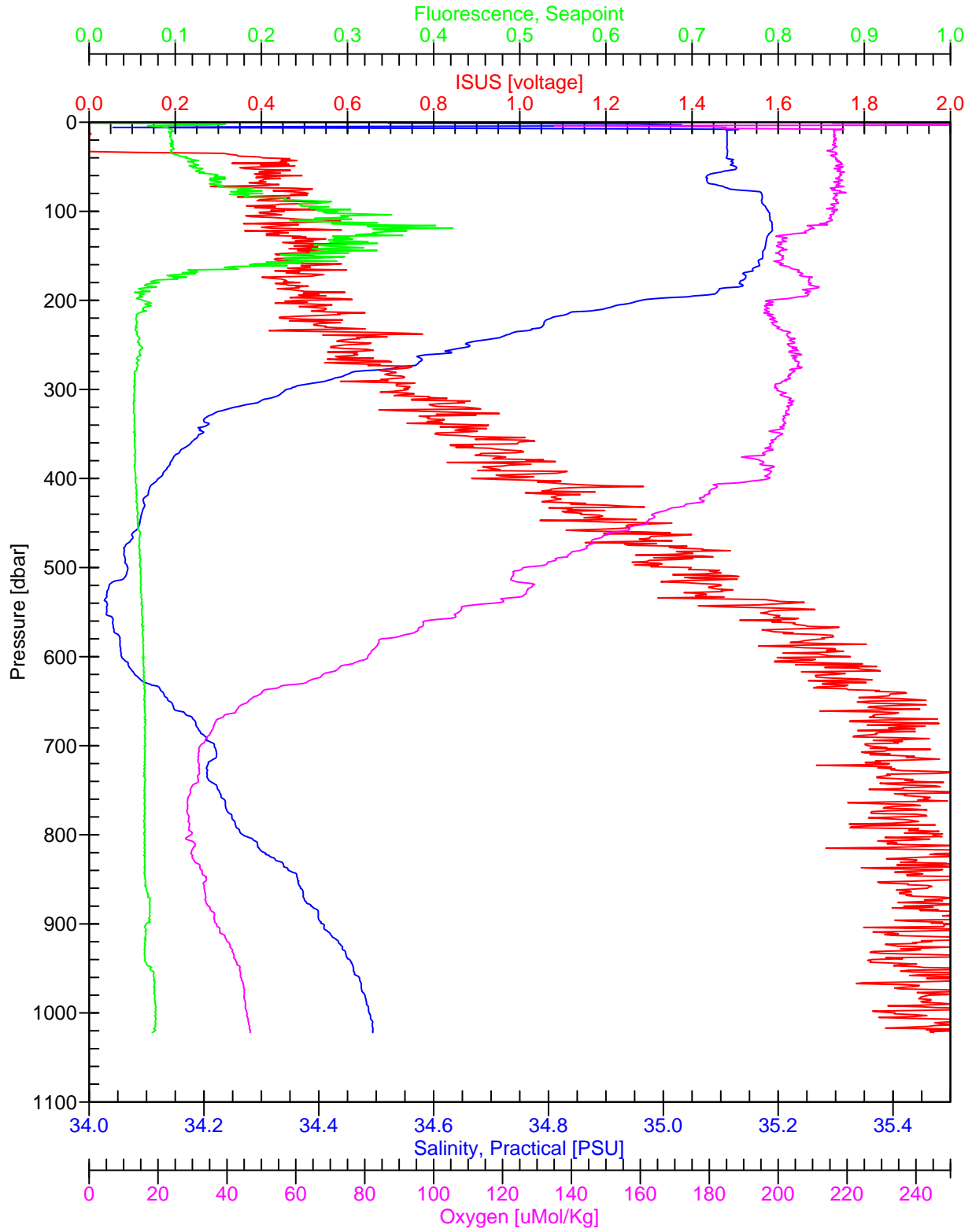
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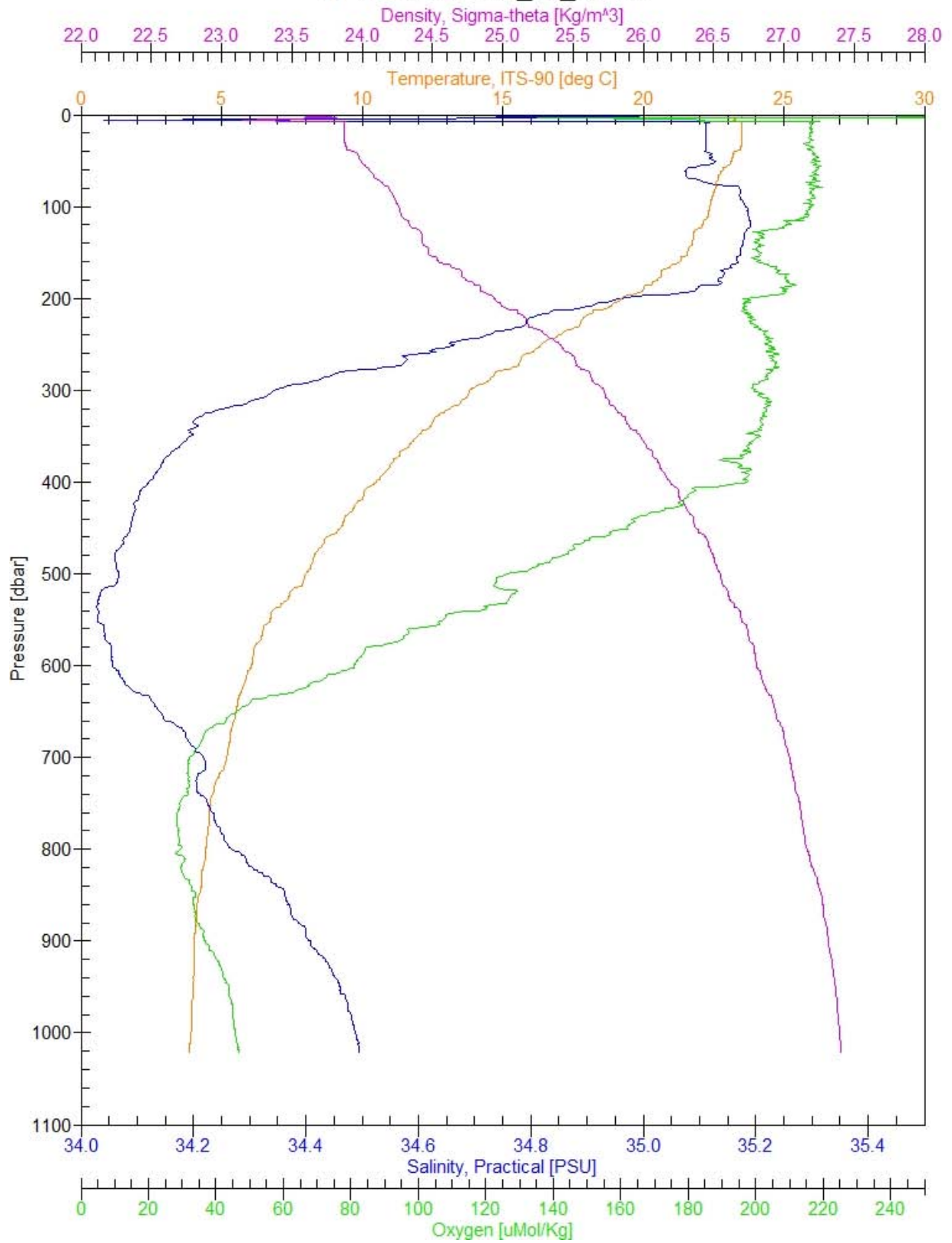
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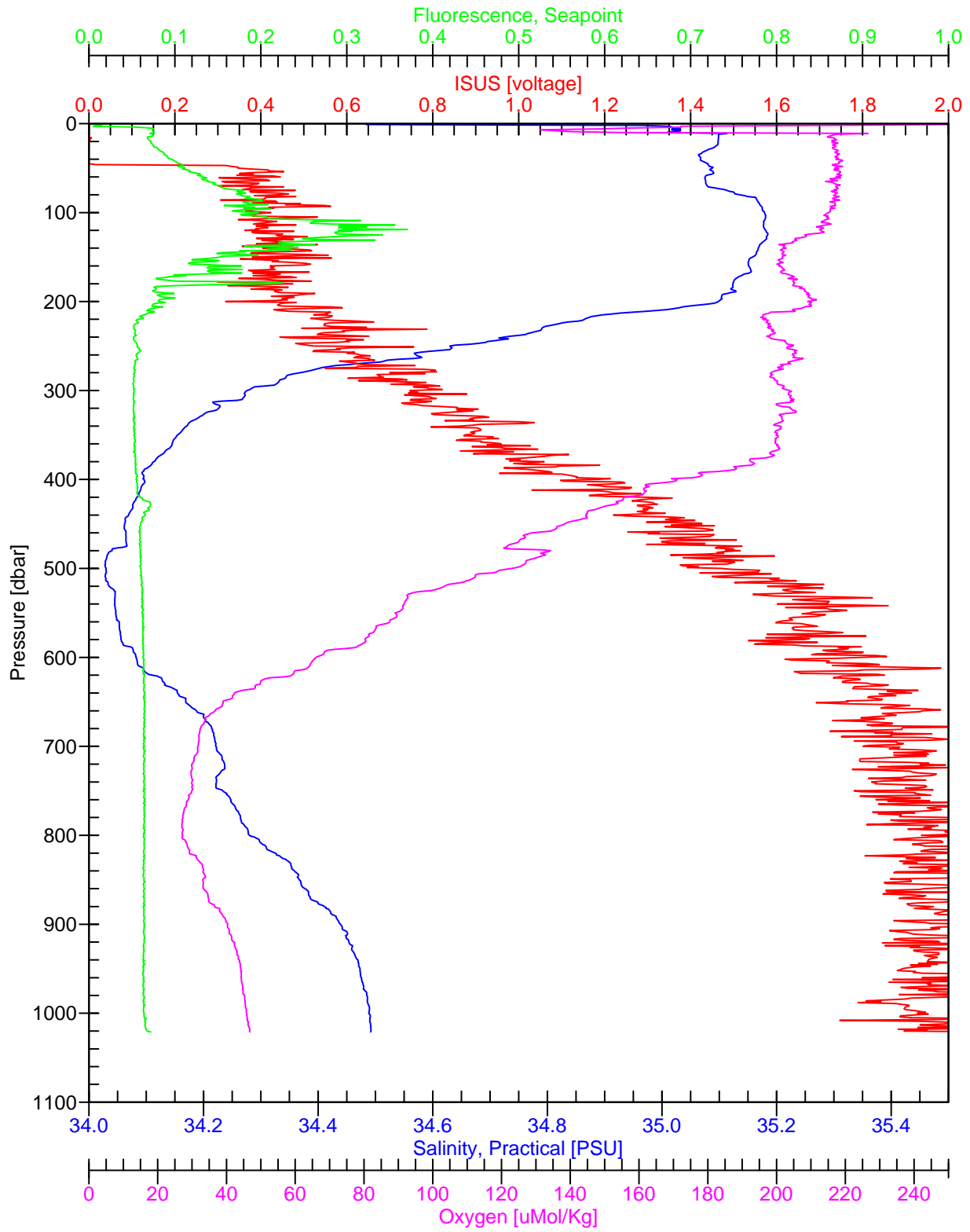
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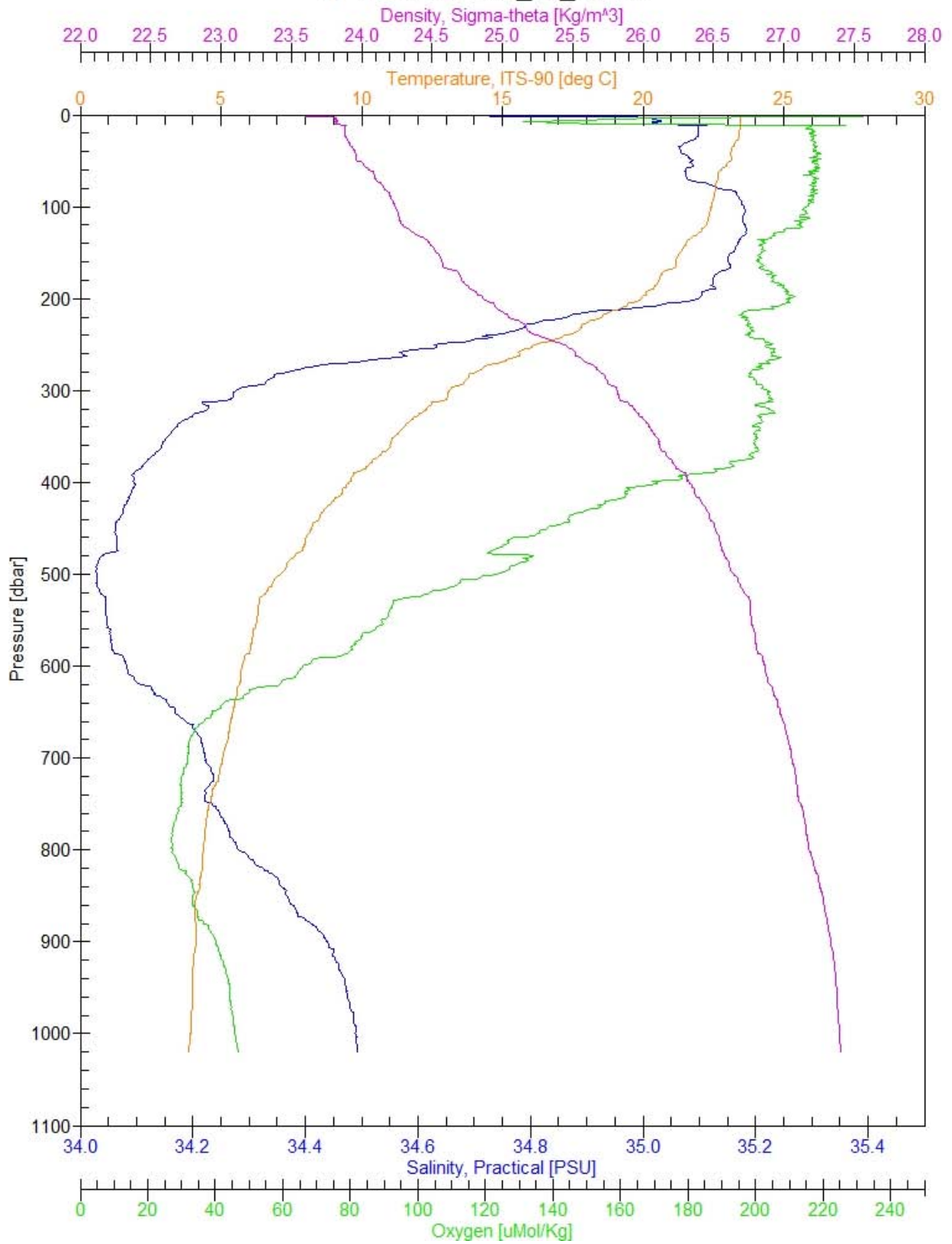
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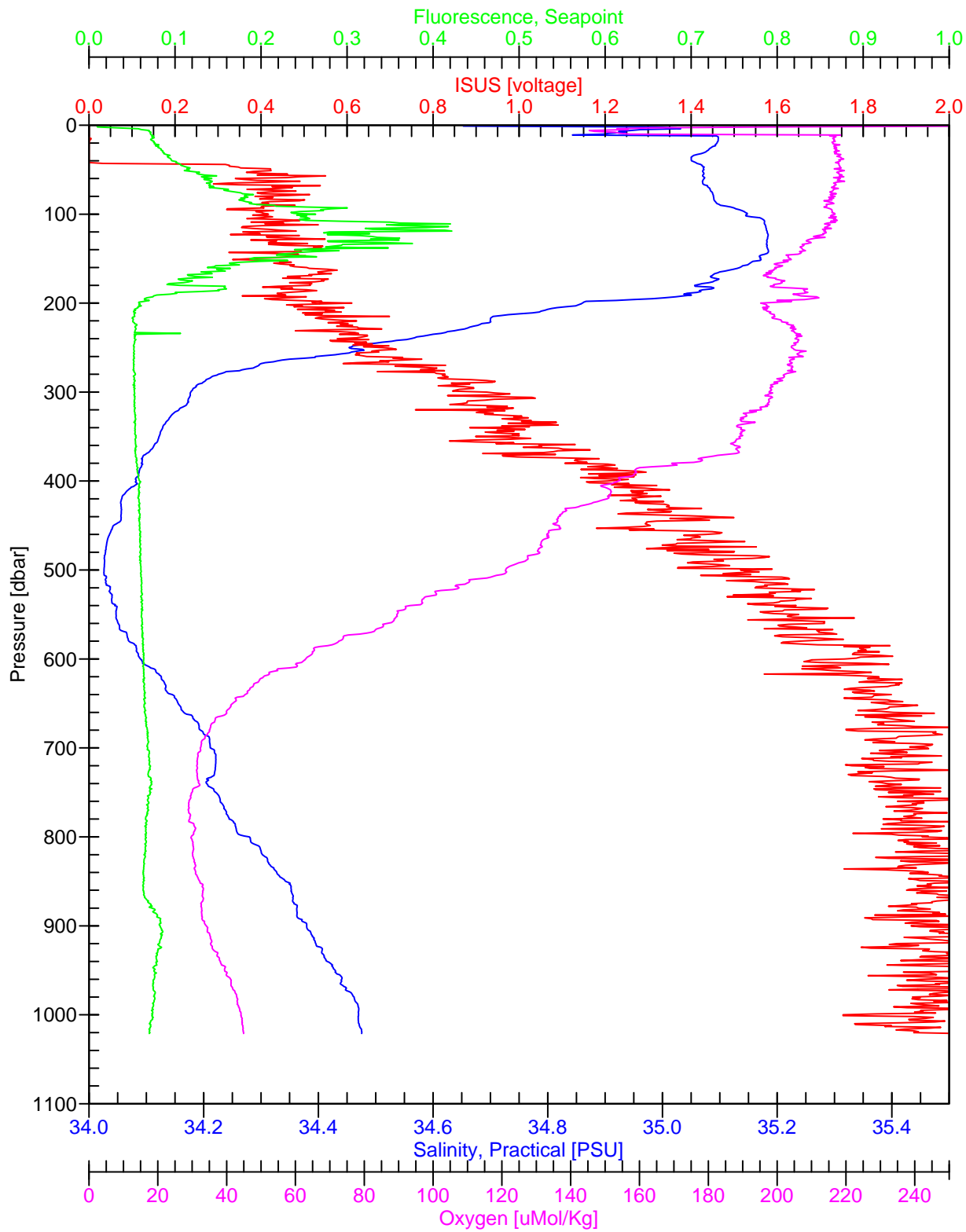
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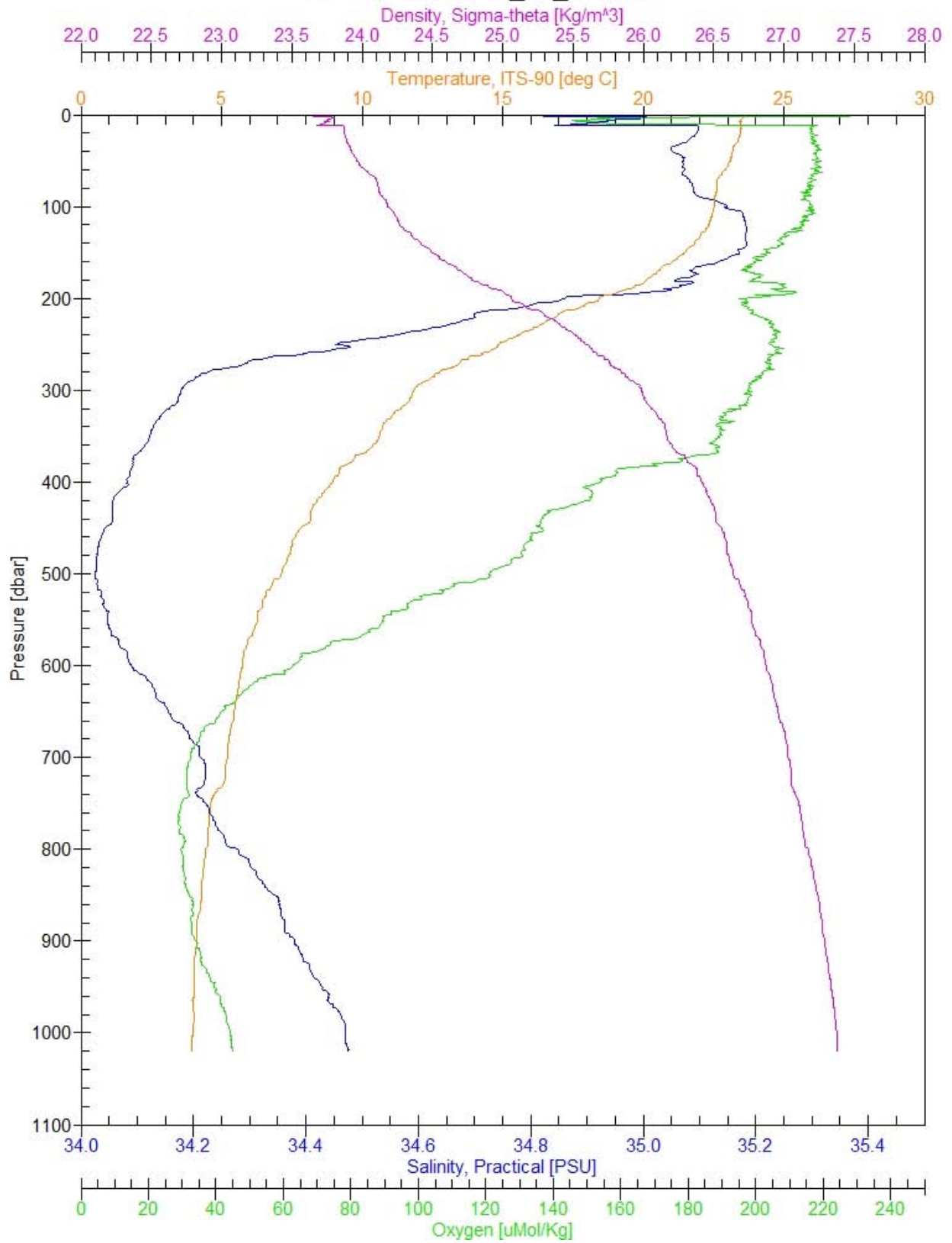
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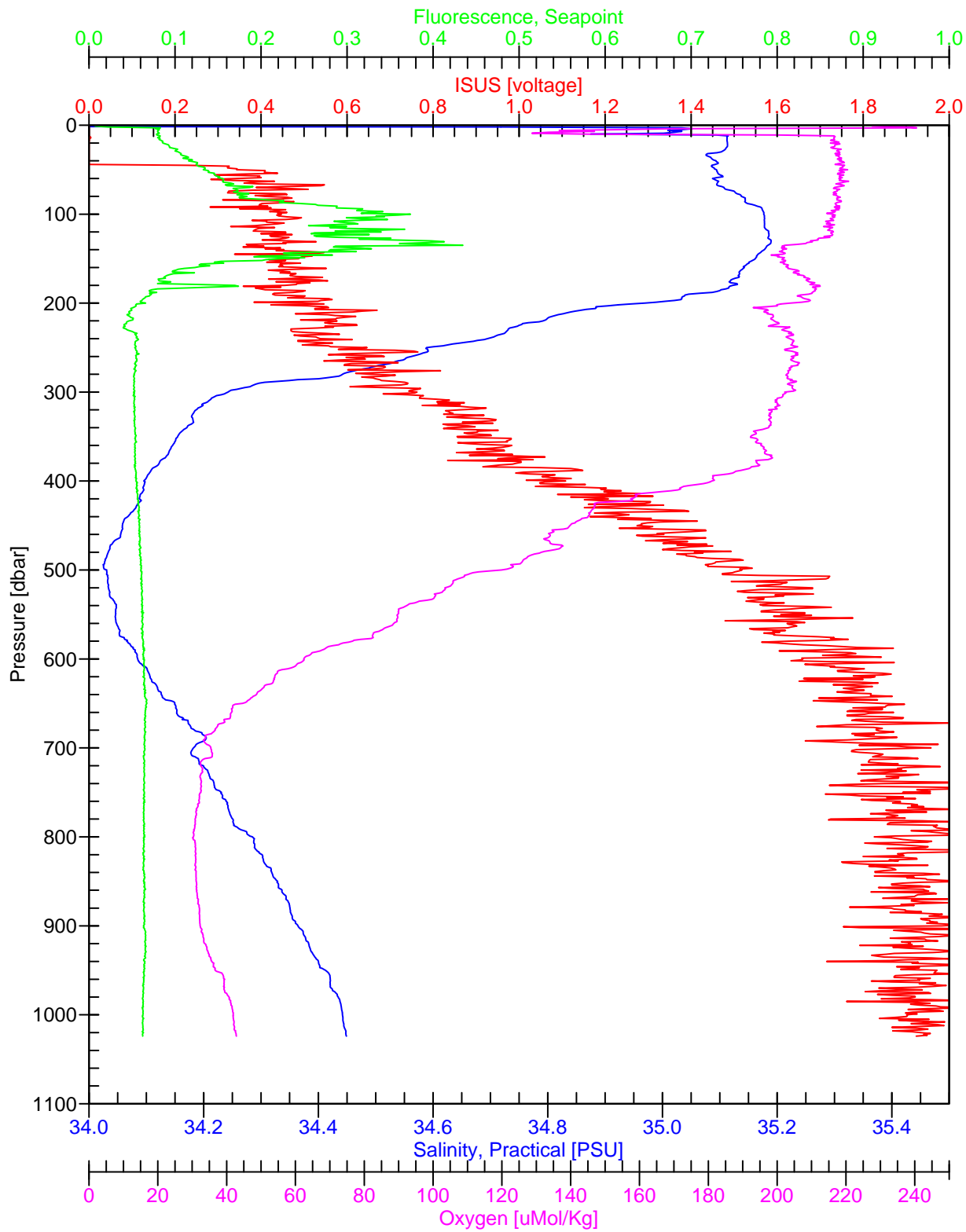
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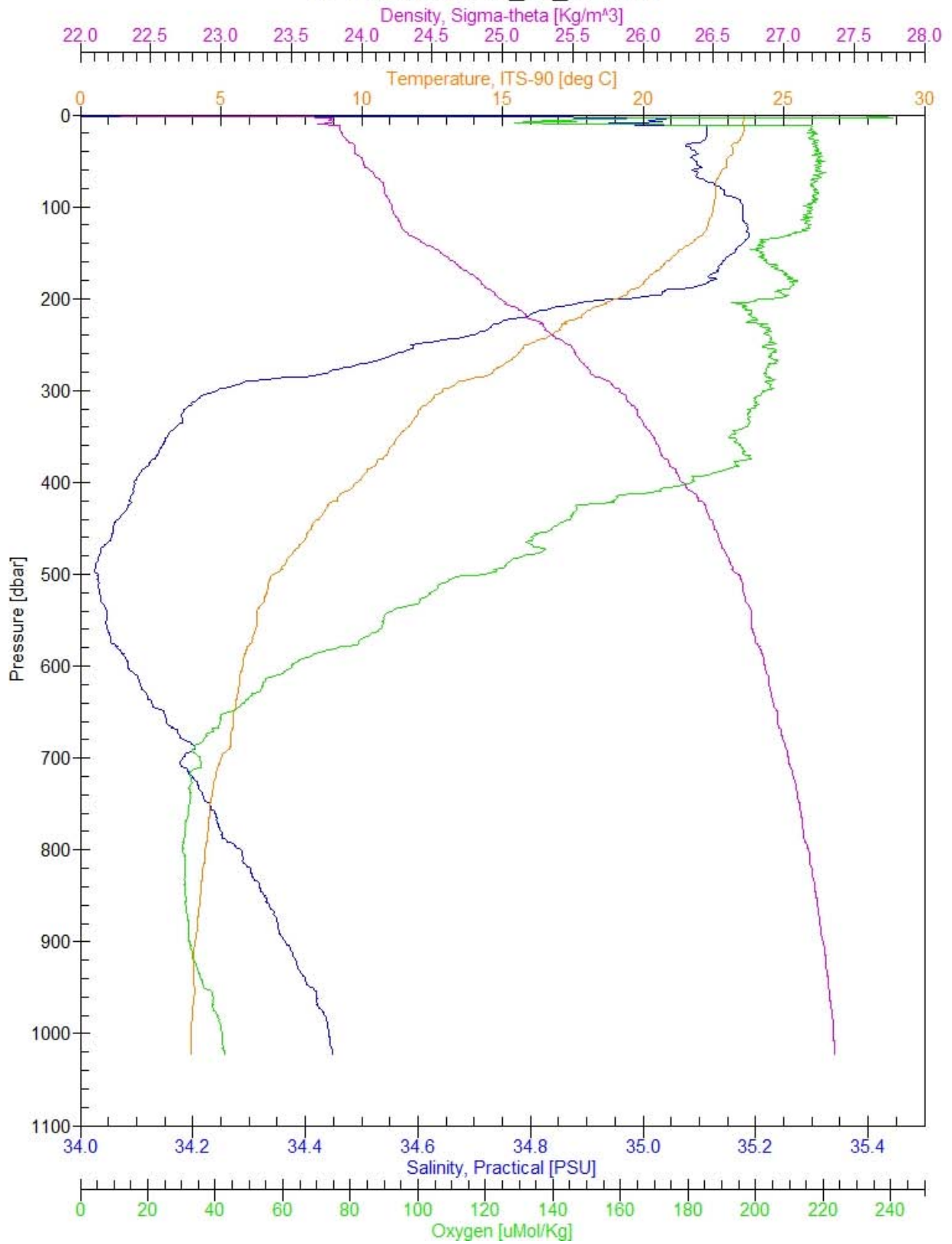
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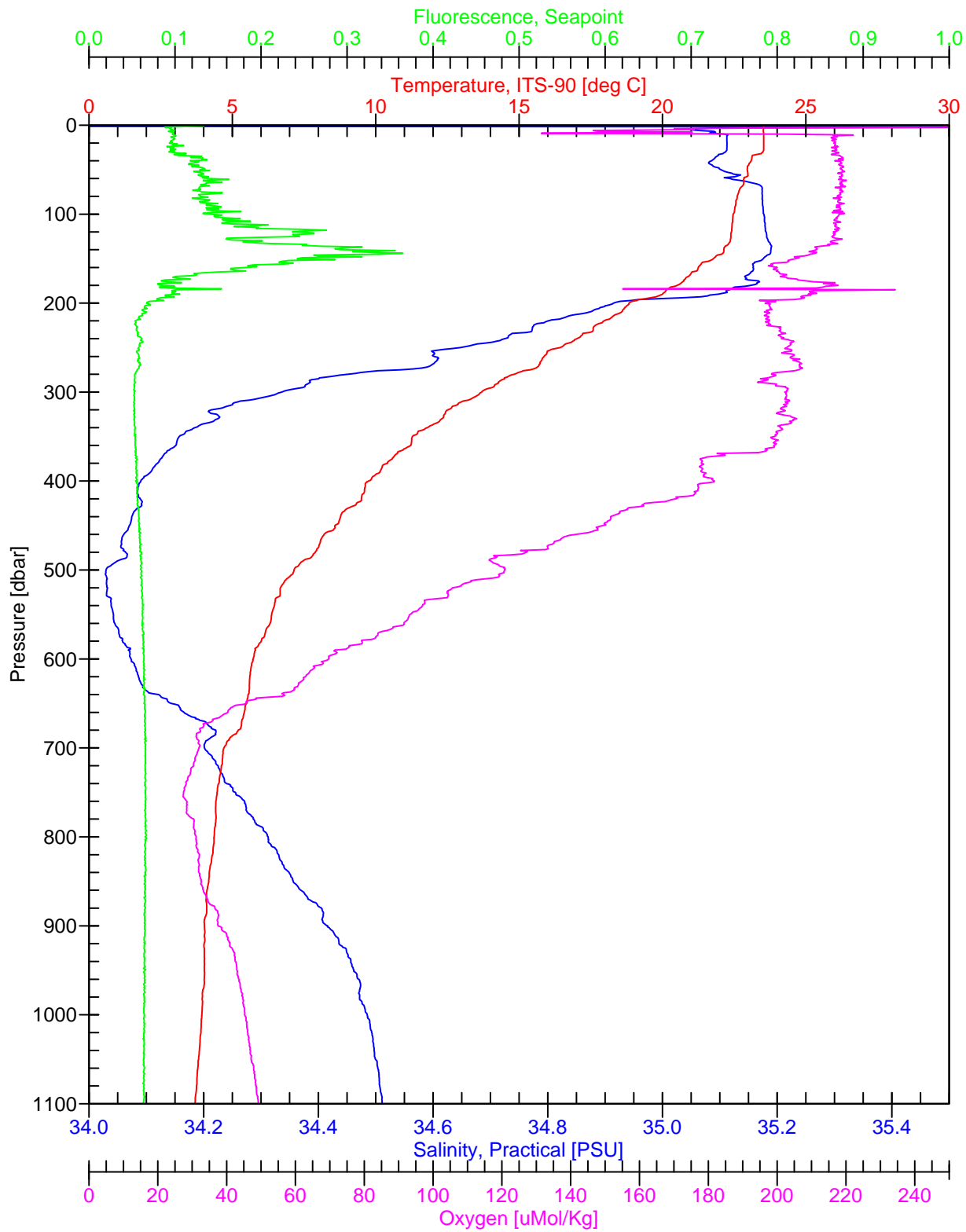
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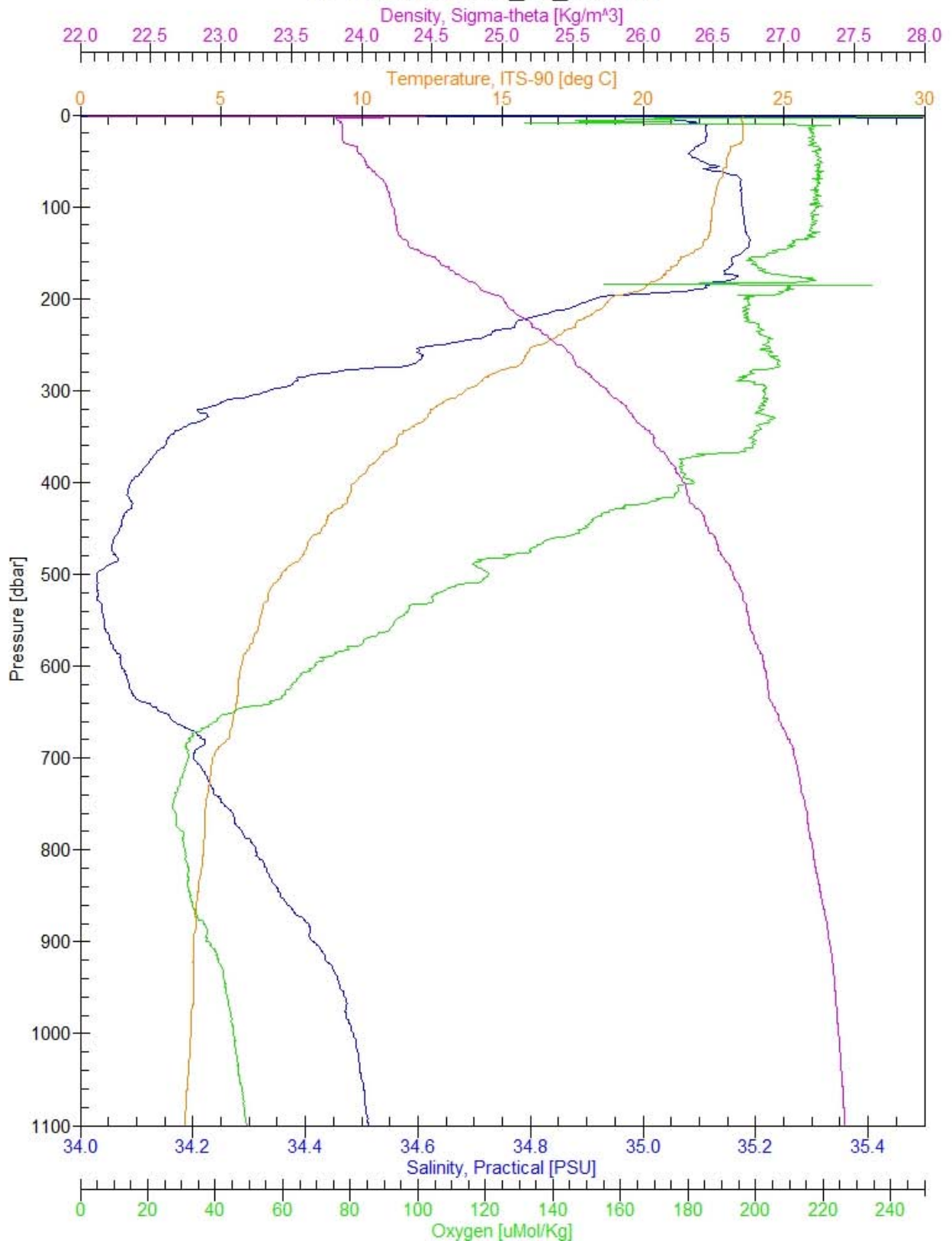
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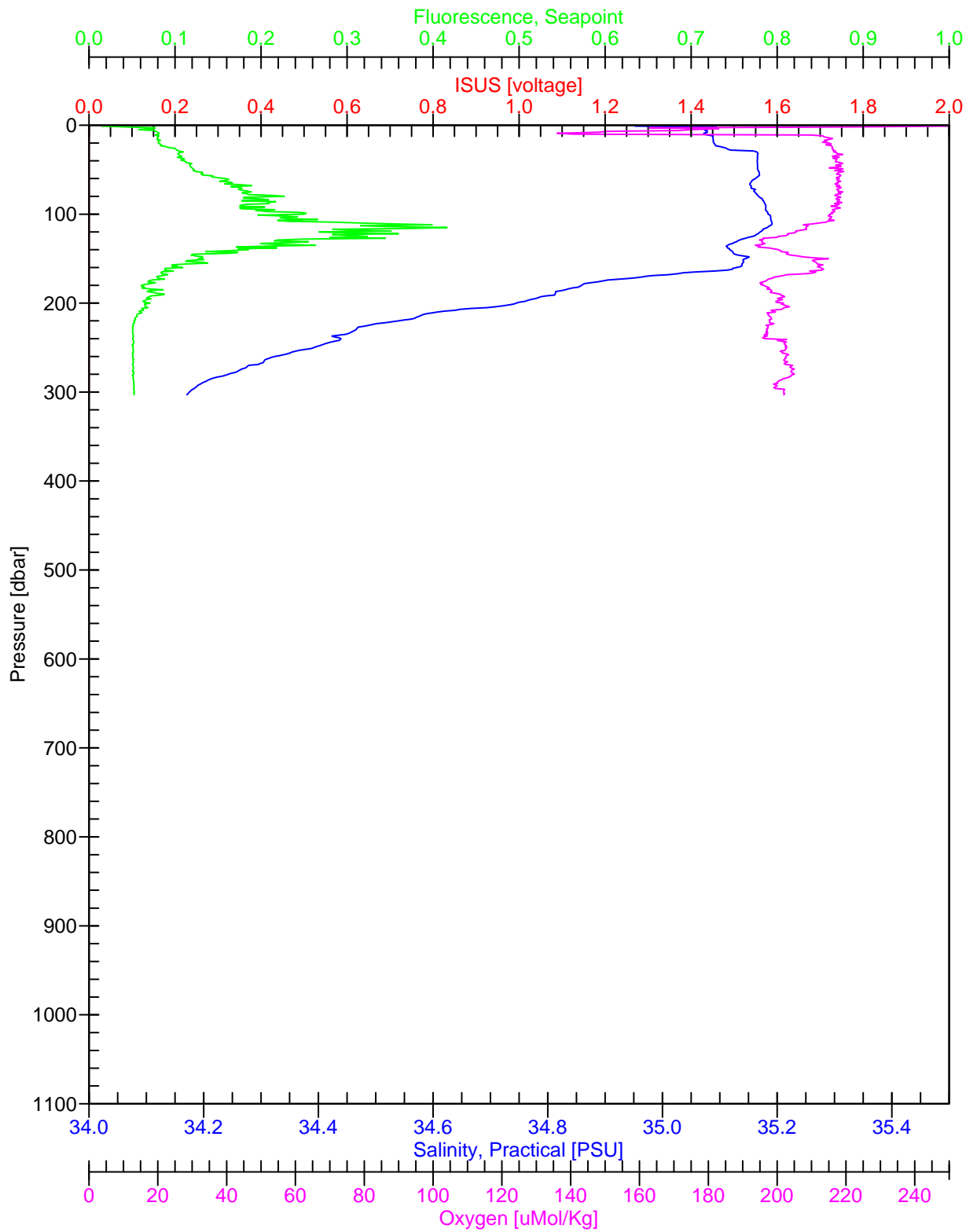
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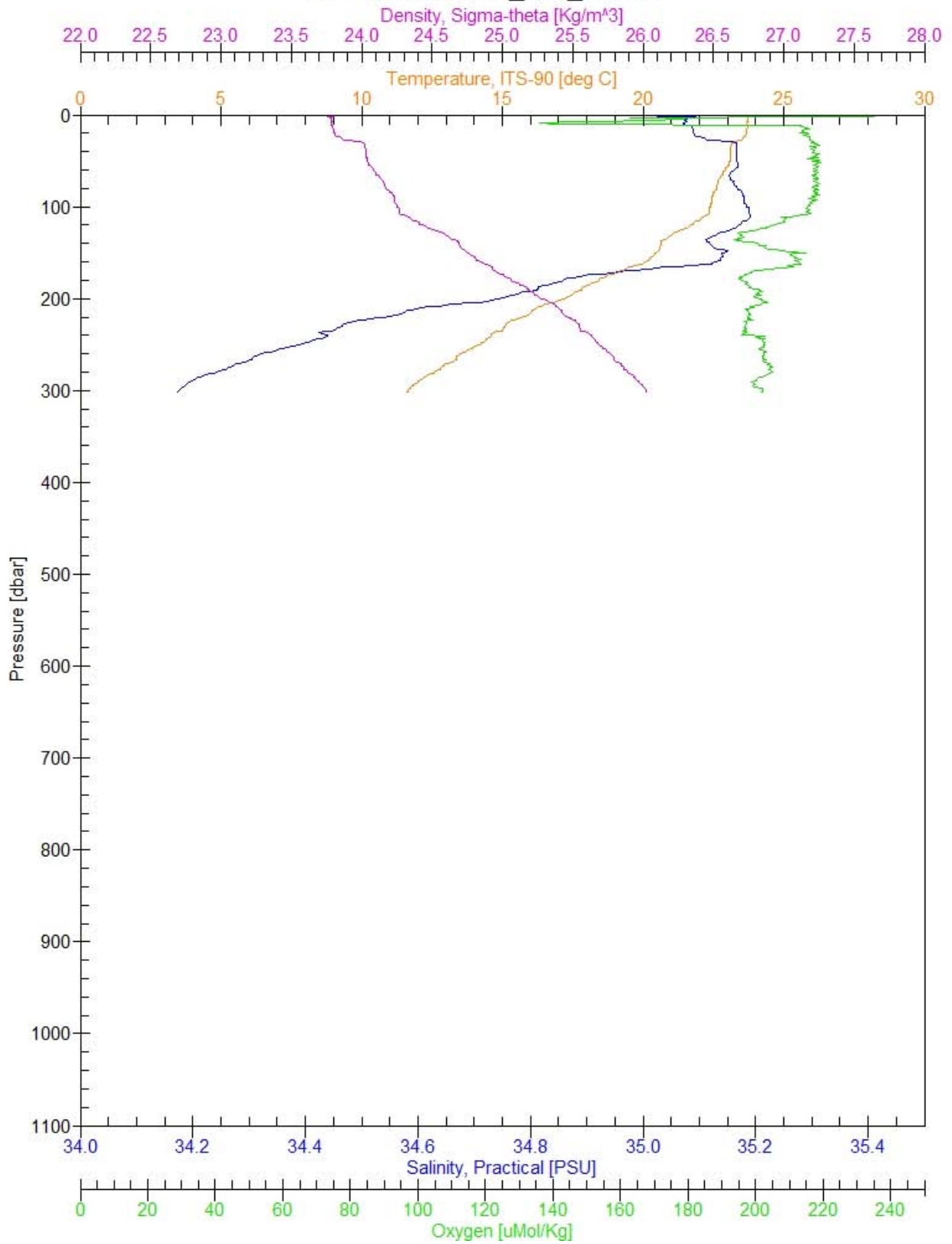
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G-1000, hot-301_s52_c1.cnv



W-1000, hot-301_s52_c1.cnv



Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
1000 GPS	12 L	25.52	SN, JS

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

MLD: 30m
 Salinity Min: 400m and 500m
 (double peak)

Station: 1	Cast: 1
Latitude start: 21° 20.6344 end: 21° 20.2525	Longitude start: 158° 15.8970 end: 158° 14.6731
Depth of water: 1405 meters	Date (GMT): 04/16/2018
Pressure on Deck	Time:
Begin: -0.21 End: -0.19	Start Log: 23:01 In Water: 23:07
Max cast pressure: 1023 dbar	Out of Water: 04/17/2018 00:22

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1			1023	1020	
2		23:51:00	747	750	
3		57:20	503	500	
4		00:01:45	351	350	
5		04:50	250	250	
6		07:20	198	200	
7		08:30	184	185	
8		09:40	179	175	
9		11:10	149	150	
10		12:45	126	125	
11		14:05	101	100	
12		15:35	75	75	
13		17:30	45	45	
14		18:45	25	25	
15		20:15	4	5	
16		:20	5	5	
17				5	
18				5	
19				5	
20				5	TESTING
21				5	
22				5	
23				5	
24				5	

Hawaii Ocean Time Series			Station #: 1	Cast #: 1	Box #: 2
Salinity Sample Log Sheet			Cruise #: HOT-301	Sampler: FS, KR, R, K	
Niskin #	Depth	Serial #	Comments		
1	1020	25			
2	750	26			
3	500	27			
4	350	28			
5	250	29			
6	200	30			
7	185	31			
8	175	32			
9	150	33			
10	125	34			
11	100	35			
12	75	36			
13	45	37			
14	25	38			
15	5	39			
16	5	40			
17					
18					
19					
20					
21					
22					
23					
24					

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G5000GPS	12L	23.52	SN/JS

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

MLD: ~30m
S-min: 500m

Station: 2	Cast: 1
Latitude start: 22° 45.0110 end: 22° 45.6998	Longitude start: 158° 00.0303 end: 158° 02.9539
Depth of water: 4734 meters	Date (GMT): 04 17 2018
Pressure on Deck Begin: -0.25 End: -0.43	Time: Start Log: 19:48 In Water: 19:50 Out of Water: 23:51
Max cast pressure: 4804 dbar	

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		21:53:50	4804	4800	~8m off
2		59:10	4595	4600	
3		22:02:30	4499	4500	
4		06:05	4399	4400	
5		11:40	4198	4200	
6		17:05	3998	4000	
7		22:05	3797	3800	
8		26:45	3595	3600	
9		31:30	3397	3400	
10		36:30	3200	3200	
11		40:50	2997	3000	
12		45:05	2799	2800	
13		49:15	2598	2600	Missing 1000 mark?
14		54:55	2400	2400	
15		59:30	2200	2200	
16		23:03:35	1997	2000	
17		:08:05	1798	1800	
18		12:30	1599	1600	
19		17:00	1403	1400	
20		21:25	1202	1200	✓ 21:44 mark 20.
21		25:45	1000	1000] Check marks.
22	✓	31:30	740	750	
23	✓	37:30	516	500	
24	✓	50:30	6	5	✓

Hawaii Ocean Time Series			Station #: 2	Cast #: 1	Box #: 3
Salinity Sample Log Sheet			Cruise #: HOT-301	Sampler: SN, JS, R, M	
Niskin #	Depth	Serial #	Comments		
1	4800	49			
2	4600	50			
3	4500	51			
4	4400	52			
5	4200	53			
6	4000	54			
7	3800	55			
8	3600	56			
9	3400	57			
10	3200	58			
11	3000	59			
12	2800	60			
13	2600	61			
14	2400	62			
15	2200	63			
16	2000	64			
17	1800	65			
18	1600	66			
19	1400	67			
20	1200	68			
21	1000	69			
22	750	70			
23	500	71			
24	5	72			

Hawaii Ocean Time Series			Station #: 2	Cast #: 1	Box #: 4
Salinity Sample Log Sheet			Cruise #: HOT-301	Sampler: S, S, M, R, SA	
Niskin #	Depth	Serial #	Comments		
1	4800	73	duplicates		
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			

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G1000GPS	12L	73.45	JK

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

MLD : 22
S-MH: 98

Station: 2	Cast: 2
Latitude start: 22° 45.263' end: 22° 45.698'	Longitude start: 158° 00.1135' end: 158° 0.470'
Depth of water: 4714 meters	Date (GMT): 4/18/18
Pressure on Deck	Time:
Begin: -0.34	Start Log: 01:33
End: -0.33	In Water: 01:44
Max cast pressure: 1071 dbar	Out of Water: 02:55

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
2		13:10	986	987	
3		15:30	922	921	
4		17:00	887	887	
5		18:30	853	854	
6		20:00	812	814	
7		21:40	773	773	
8		23:40	724	725	
9		25:30	675	676	
10		27:30	609	611	
11		29:15	561	561	
12		30:45	522	525	
13		32:20	481	483	
14		34:00	429	429	
15		35:40	384	385	
16		37:20	335	335	
17		39:00	293	291	
18		41:00	244	247	
19		42:40	195	195	
20		44:10	157	160	
21		45:20	125	125	
22		47:35	75	76	
23		49:40	27	26	
24		50:50	6	6	

Station:	<u>2</u>	Cast:	<u>2</u>
Latitude:	<u>22° 45.7663'</u>	Longitude:	<u>158 0.1135'</u>
Date:	<u>4/18/18</u>	Time (GMT):	<u>01:33</u>
Operator:	<u>KR</u>		

$\delta\theta$	$\sigma\theta$	Depth
700	20.76	
650	21.28	
600	21.80	
550	22.33	
500	22.85	
450	23.37	
400	23.90	<u>26</u>
350	24.42	<u>125</u>
300	24.95	<u>195</u>
250	25.47	<u>247</u>
200	26.00	<u>335</u>
180	26.21	<u>385</u>
160	26.42	<u>429</u>
140	26.63	<u>483</u>
130	26.73	<u>525</u>
120	26.84	<u>561</u>
110	26.94	<u>611</u>
100	27.05	<u>676</u>
90	27.16	<u>773</u>
80	27.26	<u>854</u>
70	27.37	<u>987</u>

S _{max}	<u>482</u>
S _{min}	<u>98</u>
S _{max}	
S _{min}	

O _{max}	<u>44</u>
O _{min}	<u>795</u>
O _{max}	
O _{min}	
O _{max}	

F _{max}	<u>120</u>
F _{min}	<u>200</u>
F _{max}	
F _{min}	
F _{max}	

Bottle	Depth
1	<u>1020</u>
2	<u>987</u>
3	<u>921</u>
4	<u>887</u>
5	<u>854</u>
6	<u>814</u>
7	<u>773</u>
8	<u>725</u>
9	<u>676</u>
10	<u>611</u>
11	<u>561</u>
12	<u>525</u>
13	<u>483</u>
14	<u>429</u>
15	<u>385</u>
16	<u>335</u>
17	<u>291</u>
18	<u>247</u>
19	<u>195</u>
20	<u>160</u>
21	<u>125</u>
22	<u>76</u>
23	<u>26</u>
24	<u>6</u>

Hawaii Ocean Time Series			Station #: 2	Cast #: 2	Box #: 5
Salinity Sample Log Sheet			Cruise #: HOT-301	Sampler:	
Niskin #	Depth	Serial #	Comments		
1	1020	97			
2	987	98			
3	921	99			
4	887	100			
5	854	101			
6	814	102			
7	773	103			
8	725	104			
9	676	105			
10	611	106			
11	561	107			
12	525	108			
13	483	109			
14	429	110			
15	385	111			
16	335	112			
17	291	113			
18	247	114			
19	195	115			
20	160	116			
21	125	117			
22	76	118			
23	26	119			
24	6	120			

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
GL000CPS	12L	23.60	KR

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

MLD: 35
 5-min
 14 salts

Station: 2	Cast: 3
Latitude start: 22° 46.945'	Longitude start: 158° 0.045'
end: 22° 47.630'	end: 158 0.254'
Depth of water: 47/4 meters	Date (GMT): 4/18/18
Pressure on Deck	Time:
Begin: -0.30	Start Log: 03:54
End: -0.22	In Water: 04:03
Max cast pressure: 1021 dbar	Out of Water: 05:02

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1	04:28:45	04:29:10	1021	1020	
2		39:30	516	515	5-min
3		43:40	350	350	
4		43:50	350	350	
5		46:40	249	250	
6		48:40	202	200	
7		50:10	174	175	
8		51:20	148	150	
9		52:40	126	125	
10		53:50	109	110	DCM
11		54:00	109	110	DCM
12		54:10	109	110	DCM
13		55:00	98	100	
14		56:10	73	75	
15		56:20	74	75	
16		57:50	47	45	
17		58:00	47	45	
18		59:10	24	25	
19		59:20	24	25	
20		05:01:00	6	5	
21		01:10	6	5	
22		01:20	6	5	
23		01:30	6	5	
24		01:40	4	5	

Hawaii Ocean Time Series			Station #: 2	Cast #: 3	Box #: 6
Salinity Sample Log Sheet			Cruise #: HOT- 301	Sampler: <i>KK/FSM</i>	
Niskin #	Depth	Serial #	Comments		
1	1020	121			
2	515	122			
3	380	123			
4	380	124			
5	250	125			
6	200	126			
7	175	127			
8	150	128			
9	125	129			
10	—	—			
11	—	—			
12	—	—			
13	100	130			
14	75	131			
15	—	—			
16	45	132			
17	—	—			
18	25	133			
19	—	—			
20	5	134			
21	—	—	NOTE: Bottles 135 to 144 not used, skipped to box 7		
22	—	—			
23	—	—			
24	—	—			

Hawaii Ocean Time-Series CONSOLE LOG

Cast type G1000GPS	Bottle type 12L	SST 23.59	Operator KCR
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- Pinger
- Altimeter
- Transmissometer
- BEACH Sea Tech Fluorometer
- OTG Seapoint Fluorometer
- ISUS
- CPO Fluorometer
-

BEACH

MLD : 100
SMIN : 510

Station: 2	Cast: 4
Latitude start: 22° 48.420'	Longitude start: 157° 59.226'
Latitude end: 22° 48.916'	Longitude end: 157° 59.664'
Depth of water: 4633 meters	Date (GMT): 4 118 118
Pressure on Deck	Time:
Begin: -0.32	Start Log: 06:02
End: -0.25	In Water: 06:11
Max cast pressure: 1023 dbar	Out of Water: 07:14

Trip/Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		6:38:50	1023	1020	
2		44:10	790	785	O ₂ Min
3		48:30	599	600	5-min (Deep PCM)
4		56:20	199	200	
5		57:30	175	175	
6		58:30	164	165	
7		59:30	149	150	
8		07:00:50	129	130	
9		01:40	123	125	
10		02:35	114	115	
11		03:20	109	110	
12		04:20	99	100	
13		05:20	90	90	
14		06:10	85	85	
15		07:00	74	75	
16		08:00	59	60	
17		09:00	45	45	
18		10:00	34	35	
19		10:50	25	25	
20		11:00	25	25	
21		12:00	15	15	
22		13:00	4	5	
23		:10	4	5	
24		:20	5	5	

Hawaii Ocean Time Series			Station #: 2	Cast #: 4	Box #: 7
Salinity Sample Log Sheet			Cruise #: HOT-301	Sampler: KR, FSM	
Niskin #	Depth	Serial #	Comments		
1	1000	145			
2	788	146	O ₂ MIN		
3	600	147	Deep Flu High		
4	200	148			
5	175	149			
6	165	150			
7	150	151			
8	130	152			
9	125	153			
10	115	154			
11	110	155			
12	100	156			
13	90	157			
14	85	158			
15	75	159			
16	60	160			
17	45	161			
18	35	162			
19	25	163			
20	25	164			
21	15	165			
22	5	166			
23	5	167			
24	5	168			

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G1000GPS	12L	23.49	ICR

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

MLD: 40
SMM: 500

Station: 2	Cast: 5
Latitude start: 22° 47.609'	Longitude start: 157° 57.791'
end: 22° 48.192'	end: 157° 57.618'
Depth of water: 4690 meters	Date (GMT): 9/18/18
Pressure on Deck	Time:
Begin: -0.32	Start Log: 09:13
End: -0.23	In Water: 09:22
Max cast pressure: 1020 dbar	Out of Water: 10:27

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1	09:51:16	09:51:40	1019	1020	
2		51:50	1018	1020	
3		52:00	1018	1020	
4		58:00	766	765	O ₂ MIN
5		:40	766	765	O ₂ MIN
6		:20	766	765	O ₂ MIN
7		10:02:20	599	500	500 Deep Flm Max
8		07:30	350	350	
9		07:40	350	350	
10		10:30	251	250	
11		12:30	198	200	
12		13:50	176	175	
13		14:00	177	175	
14		15:30	151	150	
15		15:40	150	150	
16		16:50	125	125	
17		17:00	126	125	
18		18:30	100	100	
19		18:40	101	100	
20		19:45	75	75	
21		21:10	45	45	
22		21:30	26	25	
23		21:40	25	25	
24		10:26:40	5	5	

Hawaii Ocean Time Series			Station #: 2	Cast #: 5	Box #: 8
Salinity Sample Log Sheet			Cruise #: HOT-301	Sampler:	
Niskin #	Depth	Serial #	Comments		
1	1020	169			
2	—	—			
3	—	—			
4	—	—			
5	—	—			
6	—	—			
7	608	170	5-min		
8	350	171			
9	350	172			
10	250	173			
11	200	174			
12	175	175			
13	—	—			
14	150	176			
15	—	—			
16	125	177			
17	—	—			
18	100	178			
19	—	—			
20	75	179			
21	45	180			
22	25	181			
23	—	—			
24	5	182			

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G/600xg/s	12L	23.41	KR

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

PP

MLD 40
Smin 500

Station: 2	Cast: 6
Latitude start: 22° 45.239'	Longitude start: 157° 58.108'
Latitude end: 22° 45.358'	Longitude end: 157° 58.605'
Depth of water: 4708 meters	Date (GMT): 4/18/18
Pressure on Deck	Time:
Begin: -0.32	Start Log: 11:52
End: -0.25	In Water: 12:04
Max cast pressure: 1020 dbar	Out of Water: 13:04

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		12:31:54	1020	1020	
2		38:30	699	700	
3		43:10	500	500	S-min
4		49:50	176	175	
5		51:10	149	150	
6	✓	52:35	125	125	}
7	✓	:40	126	125	
8	✓	:45	127	125	
9	✓	54:40	100	100	}
10	✓	:45	100	100	
11	✓	:50	100	100	}
12	✓	56:55	73	75	
13	✓	57:00	73	75	}
14	✓	57:05	74	75	
15	✓	59:20	46	45	}
16	✓	:25	45	45	
17	✓	:30	46	45	}
18	✓	01:10	25	25	
19	✓	01:20	25	25	}
20	✓	01:25	25	25	
21	✓	03:00	5	5	}
22	✓	03:05	4	5	
23	✓	03:10	4	5	}
24	✓	03:15	5	5	

Hawaii Ocean Time Series			Station #: 2	Cast #: 6	Box #: 8, 9
Salinity Sample Log Sheet			Cruise #: HOT-321	Sampler:	
Niskin #	Depth	Serial #	Comments		
1	1000	183			
2	700	184			
3	500	185	S-min		
4	175	186			
5	150	187			
6	125	188			
7	125	189			
8	125	190			
9	100	191			
10	100	192			
11	100	193			
12	75	194			
13	75	195			
14	75	196			
15	45	197			
16	45	198			
17	45	199			
18	25	200			
19	25	201			
20	25	202			
21	5	203			
22	5	204			
23	5	205			
24	5	206			

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G1000 GPS	12L	23.45	SN

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

MLD: ≈ 35 m
S-min: ≈ 540 m

OPEN

Station: 2	Cast: 7
Latitude start: $22^{\circ} 45.3279$ end: $22^{\circ} 45.2312$	Longitude start: $158^{\circ} 00.4155$ end: $158^{\circ} 00.9198$
Depth of water: 4722 meters	Date (GMT): 04 18 2018
Pressure on Deck	Time:
Begin: -0.29 End: -0.26	Start Log: 15:52 In Water: 15:56 Out of Water: 16:54
Max cast pressure: 1022 dbar	

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		16:21:45	1022	1020	
2		21:50	104	1020	
3		31:30	540	540	S-min
4		37:00	279	275	
5		38:00	249	250	
6		40:30	222	225	
7		41:45	198	200	
8		43:00	174	175	
9		44:15	149	150	
10		45:20	123	125	
11		46:20	120	120	DCM
12		47:20	99	100	
13		48:45	75	75	
14		50:00	47	45	
15		51:10	26	25	
16		51:15	24	25	
17		52:30	5	5	
18		55	4	5	
19		40	3	5	
20					
21					
22					
23					
24					

Hawaii Ocean Time Series		Station #: 2	Cast #: 7	Box #: 9
Salinity Sample Log Sheet		Cruise #: HOT-301	Sampler: SN, M.	
Niskin #	Depth	Serial #	Comments	
1	1020	207		
2	—	—		
3	540	208	S-min	
4	—	—		
5	—	—		
6	—	—		
7	—	—		
8	—	—		
9	—	—		
10	—	—		
11	—	—		
12	—	—		
13	—	—		
14	—	—		
15	—	—		
16	—	—		
17	5	209		
18	—	—		
19	—	—		
20			_____	
21				
22				
23				
24				

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G1000 GPS	12L	23.49	SN

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

MLD: ≈ 30 m PSC
 S-min: 550

Station: 2	Cast: 8
Latitude start: $22^{\circ} 45.7915$ end: $22^{\circ} 45.8322$	Longitude start: $158^{\circ} 00.5108$ end: $158^{\circ} 00.6310$
Depth of water: 4714 meters	Date (GMT): 04 / 18 / 2018
Pressure on Deck	Time:
Begin: -0.36 End: -0.28	Start Log: 17:55 In Water: 18:02 Out of Water: 19:04
Max cast pressure: 1021 dbar	

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		18:30:30	1021	1020	
2		39:00	553	550	S-min
3		42:40	399	400	
4		44:20	349	350	
5		46:00	299	300	
6		48:00	250	250	
7		49:20	200	200	
8		50:35	179	175	
9		51:40	149	150	
10		:45	149	150	
11		53:05	123	125	
12		:10	123	125	
13		54:30	100	100	
14		:35	100	100	
15		56:05	73	75	
16		:10	74	75	
17		57:35	44	45	
18		:40	44	45	
19		58:35	38	40	
20			✓	35	
21		19:01:30	29	25	
22		:35	29	25	
23		03:00	5	5	
24		:05	5	5	

Hawaii Ocean Time Series		Station #: 2	Cast #: 8	Box #: 9
Salinity Sample Log Sheet		Cruise #: HOT-301	Sampler: SN, M.	
Niskin #	Depth	Serial #	Comments	
1	1020	210		
2	* 550	211	S-mix.	
3	—			
4	—			
5	—			
6	—			
7	—			
8	—			
9	—			
10	—			
11	—			
12	—			
13	—			
14	—			
15	—			
16	—			
17	—			
18	—			
19	—			
20	—			
21	—			
22	—			
23	—			
24	5	v212		

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G1000 GPS	12L	23.51	SN

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

OPEN
 MLD: \approx 25 m
 S-min: 500 m

Station: 2	Cast: 9
Latitude start: 22° 46.8945	Longitude start: 157° 58.9865
Latitude end: 22° 47.2600	Longitude end: 157° 58.8744
Depth of water: 4707 meters	Date (GMT): 04 / 18 / 2018
Pressure on Deck	Time:
Begin: -0.29	Start Log: 21:05
End: -0.23	In Water: 21:12
Max cast pressure: 1020 dbar	Out of Water: 21:59

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		21:37:40	1020	1020	
2		:47:20	500	500	S-min
3		:55:25	122	120	20CM
4		58:00	25	25	
5		59:20	4	5	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

Hawaii Ocean Time Series		Station #: 2	Cast #: 9	Box #: 9
Salinity Sample Log Sheet		Cruise #: HOT- 301	Sampler: SM, M, JS R	
Niskin #	Depth	Serial #	Comments	
1	1020	213		
2	500	214	S-min	
3	—	—		
4	—	—		
5	5	215		
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G1000 GPS	12L	23.61	SN/KR

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

ATP

MLD: 20m
S-min: 500m

11 salts

Station: 2	Cast: 10
Latitude start: 22° 47.0356 end: 22° 47.500'	Longitude start: 158° 02.7986 end: 158° 3.503'
Depth of water: 4726 meters	Date (GMT): 04 / 19 / 2018
Pressure on Deck	Time:
Begin: -0.27	Start Log: 00:02
End: -0.26	In Water: 00:09
Max cast pressure: 1020 dbar	Out of Water: 01:12

Trip/Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		00:38:35	1020	*1020	
2		43:55	770	770	
3		49:50	501	500	
4		50:00	502	*500	S-min
5		53:20	399	400	
6		55:10	350	*350	
7		57:10	301	300	
8		59:10	252	250	
9		01:02:15	148	150	
10		03:40	127	125	
11		05:15	100	100	
12		06:30	74	75	
13		08:00	44	45	
14		09:30	24	25	
15		09:40	25	25	
16		09:50	26	-25	
17		10:00	26	-25	
18		11:20	5	*5	
19		11:30	6	5	
20					
21					
22					
23					
24					

Hawaii Ocean Time Series		Station #: 2	Cast #: 10	Box #: 9, 10
Salinity Sample Log Sheet		Cruise #: HOT- 301	Sampler: FSM, KR, R, K	
Niskin #	Depth	Serial #	Comments	
1	1020	216 [☆]		
2	—	—		
3	—	—		
4	500	217	S-min	
5	—	—		
6	350	218		
7	—	—		
8	250	219		
9	150	220		
10	125	221		
11	100	222		
12	75	223		
13	45	224		
14	25	225		
15	—	—		
16	—	—		
17	—	—		
18	5	226		
19	—	—		
20				
21				
22				
23				
24				

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
Flowcaps	12L	23.55	ICK

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

open

of salts

MLD: 30 m dbar
 SMin: 500 dbar
 DCM: 120 dbar

Station: 2	Cast: 11
Latitude start: 22° 44.758' end: 22° 45.164'	Longitude start: 158° 5.722' end: 158° 6.144'
Depth of water: 4746 meters	Date (GMT): 4119118
Pressure on Deck	Time:
Begin: -0.33	Start Log: 02:13
End: -0.26	In Water: 02:22
Max cast pressure: 1023 dbar	Out of Water: 03:24

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1	02:47:40	02:48:10	1023	1020	
2		53:50	804	800	
3		55:40	769	770	
4		03:00:40	601	600	
5		03:30	500	500	S-min
6		06:10	400	400	
7		07:50	349	350	
8		09:20	297	300	
9		11:10	250	250	
10		13:45	174	175	
11		15:00	150	150	
12		16:30	125	125	
13		17:45	99	100	
14		18:55	76	75	
15		20:20	46	45	
16		21:50	24	25	
17		22:00	24	25	
18		22:10	24	25	
19		22:20	25	25	
20		22:30	24	25	
21		22:40	24	25	
22		24:00	4	5	
23					
24					

Hawaii Ocean Time Series		Station #: 2	Cast #: 11	Box #: 10
Salinity Sample Log Sheet		Cruise #: HOT- 301		Sampler:
Niskin #	Depth	Serial #	Comments	
1	1020	227		
2				
3				
4				
⑤	500	228	S-MIN	
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
⑫	5	229		
23				
24				

Hawaii Ocean Time-Series CONSOLE LOG

Cast type GJ0004B	Bottle type 12L	SST 23.45	Operator KR
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Station: 2	Cast: 12
Latitude start: 22° 44.981'	Longitude start: 158° 0.029'
Latitude end: 22° 46.5790	Longitude end: 158° 00.0568
Depth of water: 4791(?) meters	Date (GMT): 4119 118
Pressure on Deck	Time:
Begin: -0.29	Start Log: 09:07
End: -0.54	In Water: 09:13
Max cast pressure: 4803 dbar	Out of Water: 12:57

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

MCD : 35
 DCM : 140
 S-min : 500

Trip/ Niskin	Time stopped	Confirm tripped	Pressure	Target Depth	Comments
1		11:24:50	4000	4000	6m off
2		36:10	3499	3500	
3		36:20	3500	3500	
4		36:30	3499	3500	
5		36:40	3499	3500	
6		36:50	3499	3500	
7		37:00	3498	3500	
8		37:10	3500	3500	
9		37:20	3499	3500	
10		47:20	3000	3000	
11		12:05:50	1999	2000	
12		24:50	1000	1000	
13		40:50	176	175	
14		42:40	149	150	
15		43:20	135	135	
16		45:40	124	125	
17		46:40	111	115	
18		50:05	99	100	
19		49:20	84	85	
20		50:40	76	75	
21		51:45	60	60	
22		53:00	44	45	
23		54:30	26	25	
24		56:10	4	5	

Hawaii Ocean Time Series			Station #: 2	Cast #: 12	Box #: 10, 11
Salinity Sample Log Sheet			Cruise #: HOT-301		Sampler:
Niskin #	Depth	Serial #	Comments		
1	4000				
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13	175	230			
14	150	231			
15	135	232			
16	125	233			
17	115	234			
18	100	235			
19	85	236			
20	75	237			
21	60	238			
22	45	239			
23	25	240			
24	5	241			

Hawaii Ocean Time-Series CONSOLE LOG

Cast type	Bottle type	SST	Operator
G200 GPS	12L	23.75	SN/KR

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

MLD: 30 dbar
 SMM: N/A
 DCM: 120 dbar

Station: 52	Cast: 1
Latitude start: 22° 39.836'	Longitude start: 157° 59.665'
Latitude end: 22° 40.090'	Longitude end: 157° 59.735'
Depth of water: 4731 meters	Date (GMT): 04/19/2018
Pressure on Deck	Time:
Begin: -0.27	Start Log: 00:38
End: -0.21	In Water: 00:46
Max cast pressure: 303 dbar	Out of Water: 01:11

Trip/ Niskin	Time	Confirm	Pressure	Target Depth	Comments
	stopped	tripped			
1	01:08:50	01:09:10	5.4	5	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

Hawaii Ocean Time Series			Station #: 52	Cast #: 1	Box #: —
Salinity Sample Log Sheet			Cruise #: HOT- 301	Sampler: —	
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 - 301

KOK 1801

CTD Configuration

CTD: 850

Deck Unit: 112060 (secondary)

Pressure: 1430

Carousel: 518

T₁: 1416T₂: 2907C₁: 4687C₂: 2959O₁: 1601O₂: 43982Pump₁: 968Pump₂: 494

Fluorometer: SCF 3831

Altimeter: 7769

Bucket Thermometer: 3622

Transmissometer: 1366

Cruise Participants:

Dan Sadler - Chief Scientist

Karin Björkman

Carolina Funkey

Blake Watkins

Kendra Brooks (UH, Research Associate)

Eric Shimabukuro

Fernando Santiago-Mandujano

Kellen Rosburg

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Sara Ferrón-Smith

Macarena Burgos (Scientist, U Cádiz)

Rachel Chu (Volunteer, UH) Undergrad

Maximiliano Lee (Volunteer, UH) //

Kayla Palmer (Volunteer, UH) //

Trevor Young (OTG)

Jeff Koch (OTG)

4/13/18 Loading

KOK SPOOLED 200 M OFF
RED CONDUCTOR 209 Ω
7107 METERS ON CABLE

Weight cast:

- dry weight: 330 lb

- wet weight: 355 lb

Weight of Rossette:

- dry:

- wet:

Xmiss calcs:

Full low: 0.0317

Full high: 4.269

Need more

black printer
inks.

HOT-301

16-April 2018

18:02 Depart from Pier 35. Transit to KAHE.

18:30 Emergency and abandon ship drill.

18:45 Safety & Sci briefing.

21:10 Arrive at KAHE.

21:16 Start weight cast. Descend to 500m.

21:45 End weight cast.

22:05 Start Hyperpro

22:45 End Hyperpro

23:07 Start STATION 1 CAST 1

The rosette got out of the water when it was being brought up to just below the surface. The pumps went off. The rosette was then taken back to 10 db. Subsequently, the rosette was lifted to just below the surface for the second time before the descent to 1020 db.

17 APRIL 2018

00:22 End STATION 1 CAST 1

00:25 TRANSIT TO ALDHA Station.

HOT-301 17 April 2018

0635 Lost ship's power during transit.
Ship stopped.

0655 Power restored. Transit to ALOHA
at 3.6 Kt.

0820 Lost ship's power again. Restored
immediately after.
Intermittent outages

19:35 Arrived at the center of station
ALOHA.

19:50 Start Station 2 Cast 1 (65000 G_{PS})

20:16 Modulo error between 720-750 db.
Pumps went off. The descent was
halted. The descent was resumed
once the pumps went back on
(within 2 minutes)

23:51 End Station 2 Cast 1 65000 G_{PS}

18 - April 2018

One mark missing and one
wrong mark

dT, dC offset between 2900 and
3400 dbar downcast.

01:33 Begin Station 2 Cast 2 - 61000 G_{PS}.

HOT-301

18 April 2018

Secondary fluorescence maxima at
220, 380 and 690 dbar downcast.

02:56 End Station 2 Cast 2 - 24 Marks OK.

03:54 Begin Station 2 Cast 3 - G1000 GPS.

05:04 End Station 2 Cast 3 - 24 Marks OK.

06:02 Begin Station 2 Cast 4 - G1000 GPS.

Secondary Fluorescence max at
325 dbar downcast.

Broad secondary Fluorescence max
between 520 and 650 dbar
downcast. Max not present in the
upcast.

07:16 End Station 2 cast 4. 24 Marks OK.

08:06 Begin Net Tow 1 @ 22° 47.252' N, 157° 58.916' W

08:32 End Net tow #1

08:39 Begin net tow 2.

09:07 End Net tow 2.

09:14 Begin Station 2 Cast 5 - G1000 GPS.

Secondary Flu. max between 500 & 600 dbar,
on down cast.

HOT-301

18 April 2018

Winch passed 05 dbar stop, package out of water, pumps off. Returned to 10 dbar for pumps on, then to 5 dbar for sample.

10:30 End Station 2 cast 5. 24 marks OK.

11:52 Begin Station 2 cast 6. - G1000 GPS.
(PP)

Fluor secondary max at 230, 460 and 540 dbar. Max at 460 coincides w/ Max glitch in Salinity and min in O₂

13:04 End Station 2 cast 6 - G1000 GPS.
24 marks OK.

14:55 Deploy PP Array
22° 46.1860 157° 00.0639

15:56 Start Station 2 cast 7: G1000 GPS.
(OPEN)

16:54 End Station 2 cast 7.
19 marks OK.

18:02 Start Station 2 cast 8 - G1000 GPS.
(PSI)

Fluor peaks at 875 db and 975 db. The features were not present on upcast. Offset on upcast.

19:04 End Station 2 cast 8.
24 marks OK.

HOT - 301

18 April, 2018.

20:03 Begin NET TOW.
 $22^{\circ} 46.3175$ $157^{\circ} 59.5298$

20:30 END NET TOW.
 $22^{\circ} 46.5551$ $157^{\circ} 59.2878$

22:33 Begin NET TOW.
 $22^{\circ} 46.6615$ $157^{\circ} 59.1221$

21:00 END NET TOW.
 $22^{\circ} 46.8550$ $157^{\circ} 58.9130$

21:11 START STATION 2 CAST 9: 61000 GPS
 (open)

Chlorophyll feature (max) at ≈ 420 db
 on downcast. The feature ^(vertically) smeared
 but still present on upcast.

Modulo error just as Rosette
 touched down on deck.

21:59 End station 2 cast 9
 5 marks OK.

22:15 START NET TOW.
 $22^{\circ} 47.6506$ $157^{\circ} 58.7848$

22:40 End NET TOW.
 $22^{\circ} 47.7286$ $157^{\circ} 58.8515$

HOT-301

April 18, 2018

22:40 Raining on Station

23:25 BEGIN HYPERPROBE
22° 46.7676 158° 02.518923:59 END HYPERPROBE.
22° 47.0165 158 02.7875

HOT-301

APRIL 19, 2018

00:02 Start station 2 cast 10
G1000 GPS (ATP).

00:36 Raining on Station.

Fluor. feature at 900 db
on downcast. Feature
disappeared on upcast.01:15 End Station 2 Cast 10. 19 Marks OK.
modulo error as package brought aboard.

02:13 Begin Station 2 Cast 11 - G1000 GPS.

03:26 End Station 2 Cast 11. 22 Marks OK.

03:30 Transit to PP array.

0400 Removed 1505 from rosette.

4:40 Recovering PP array
22° 44.70' N, 158 12.90' W

HOT-301 19 April 2018

- 0508 Completed recovery
transit to center of ALOHA Sta
- 0905 Arrived at ALOHA center
- 09:07 Begin Station 2 Cast 12 - 6500 GPS.
- 0924 Module error at 187 dbar
downcast, pumps still on
Glitches in O₂ and maybe Cl during
module error.
- 1100 Noisy primary O₂ below 4700 dbar
downcast.
- 1107 At ~ 6 m off the bottom
22°45.936'N, 158°0.505'W
- 12:57 END STATION 2 CAST 12
6500 GPS. 24 MARKS OK.
- 13:05 TRANSIT TO GET SEDIMENT TRAPS.
- 14:15 DEPLOY OPTICS
22°48.70 157°57.58
- 15:30 END OPTICS
TRANSIT TO DEEP TRAPS
- 16:45 ARRIVE AT DEEP TRAPS
22°51.98 157°53.19
Shipboard ADCP turned off

@ Ship 21:06:00

Ths/dock: 21:06:12

Clock drift = +12sec.

HOT-301

19 April 2018

18:00 GLASS BALLS ON SURFACE
START RECOVERY

18:30 TRAP LINE CAUGHT UNDER
SHIP

20:50 Sed traps on board

21:24 RELEASES ON BOARD
FINISH RECOVERY

TRANSIT TO WHOTS 20 APRIL 2018

00:15 ADCP WAS OFF DURING TRAP RECOVERY
TURNED BACK ON AFTER 00:00 MET OBS

00:20 ARRIVE AT WHOTS.

00:38 START STATION 52 CAST 1.
(G200 GPS; yoyo)

01:15 End Station 52 Cast 1. / Marks OK.

Inspection of WHOTS-14 buoy shows
port side anemometer missing.

01:40 Transit to Pier 35.

22:17 thermal clock 13 sec fast.

21 APRIL 2018

00:00 ARRIVE PIER 35