

AREAL AND VERTICAL DISTRIBUTIONS OF HYDROGRAPHY AND PLANKTON
IN THE AMMEN ROCK AREA OF THE GULF OF MAINE:

RESULTS OF R/V SEWARD JOHNSON CRUISE

AUGUST 12-15, 1988

BY

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I. INTRODUCTION

This report presents the results of an oceanographic research cruise in the Gulf of Maine aboard the Research Vessel Seward Johnson, August 12 to 15, 1988. Our purpose was to examine oceanography of the waters in the immediate vicinity of the Ammen Rock area of Cashes Ledge as part of a study headed by J. Witman of Northeastern University investigating the factors controlling the vertical zonation of suspension feeding invertebrates on the sides of the submerged rock pinnacles. In particular we wanted to describe the summer stratified season with respect to vertical hydrographic structure around the pinnacles and the vertical and areal distributions of phytoplankton chlorophyll and microzooplankton. The stations sampled were repeats of those sampled earlier in the same summer aboard the R/V Seaward Explorer (Morrison and Townsend, 1988).

II. MATERIALS AND METHODS

Physical data were acquired using a Neil Brown Smart CTD (conductivity, temperature, depth profiler). The CTD acquired conductivity, temperature and pressure data at a rate of five scans per second and stored in the CTD's internal solid state memory. Attached to the CTD were a Sea Tech in situ fluorometer and 25 cm transmissometer with the data also logged internally. Water samples for phytoplankton pigments were collected on a separate hydrocast using 1.7 liter Niskin bottles.

Chlorophyll a and phaeopigment concentrations were determined by filtering 100 ml of water were filtered from each sample depth onto a 0.45 μm Millipore HA filter. The filter was then placed in Pyrex test tubes with 10 ml of 85% acetone and placed in a freezer (-18°C) for at least 6 hours prior to analyses. The samples were analyzed fluorometrically using a Turner model 111 fluorometer calibrated against pure chlorophyll from Sigma Chemical Co. The equations used to calculate chlorophyll a and phaeopigments are from Holm-Hansen et al. (1965) as given in Parsens et al. (1984) and are given below along with the calibration values.

$$\text{Chl. } \underline{a} \text{ } (\mu\text{g/L}) = F_d \times 2.16(F_b - F_a) \times v/V \times \text{dilution factor}$$

$$\text{Phaeopigments } (\mu\text{g/L}) = F_d \times 2.16(1.86F_a - F_b) \times v/V \times \text{dilution factor}$$

Where:

F_d = the fluorometer door factor = 0.016

F_b = fluorescence before acidification

F_a = fluorescence after acidification

v = volume extracted (acetone volume (10ml))

V = volume sea water filtered (usually 100ml)

The Acid Ratio for pure chlorophyll = 1.86, and

$$2.16 = (F_b/F_a)/(F_b/F_a - 1)$$

III. ACKNOWLEDGEMENTS

The portion of research reported here was supported by a subcontract from J. Witman of Northeastern University on NSF grant No. OCE-8800640.

IV. LITERATURE CITED

Morrison, M.A. and D.W. Townsend. 1988. Hydrography and vertical plankton distributions in relation to submerged rock pinnacles in the Gulf of Maine: June 1988. Bigelow Laboratory for Ocean Sciences Tech. Rep. No. 66. 76 p.

Parsons, T.R., Y. Maita, and C.M. Lalli. 1984. A manual of chemical and biological methods for seawater analysis. Pergamon Press, N.Y. 173 pp.

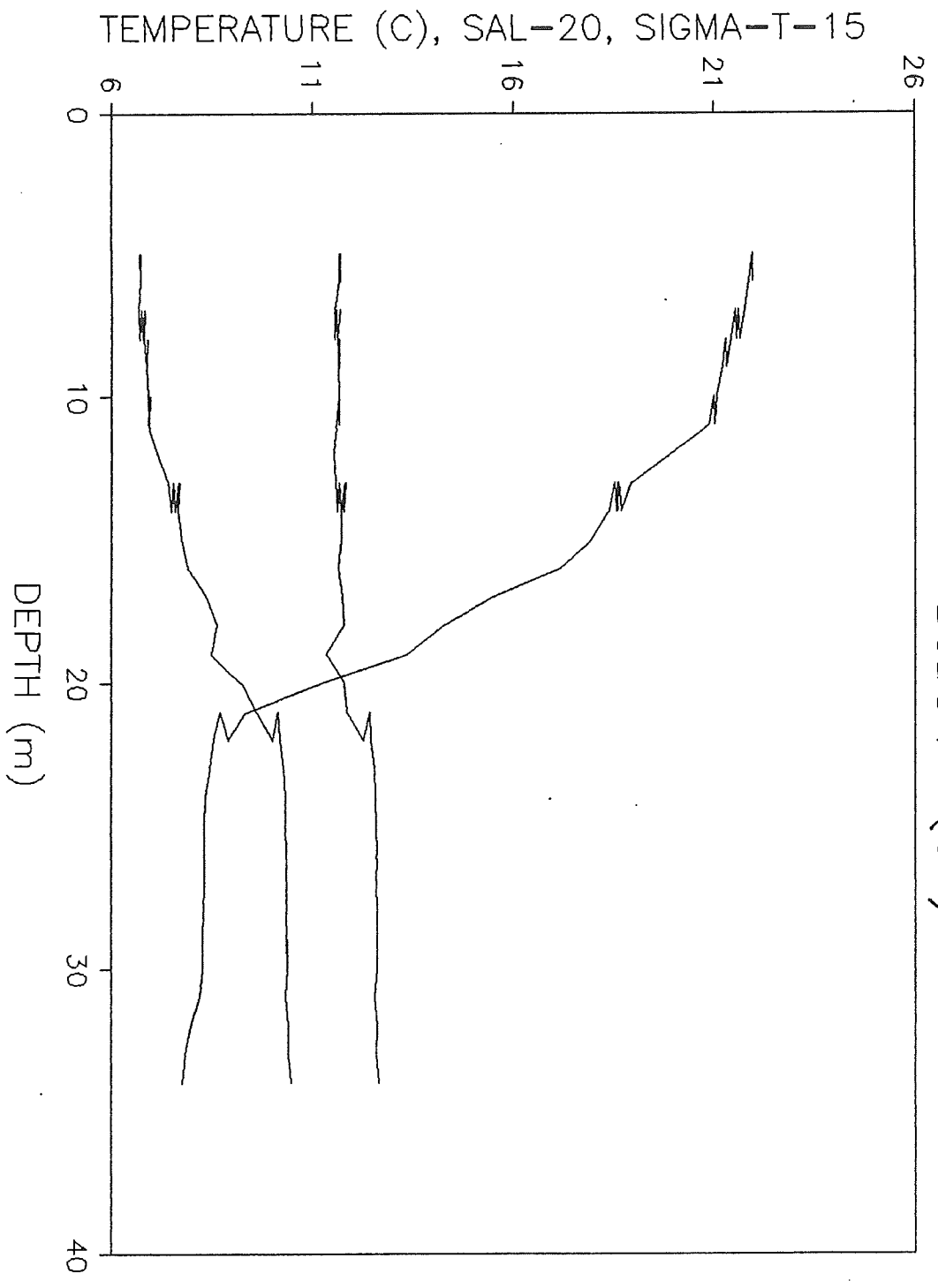
R/V Seward Johnson, August 1988

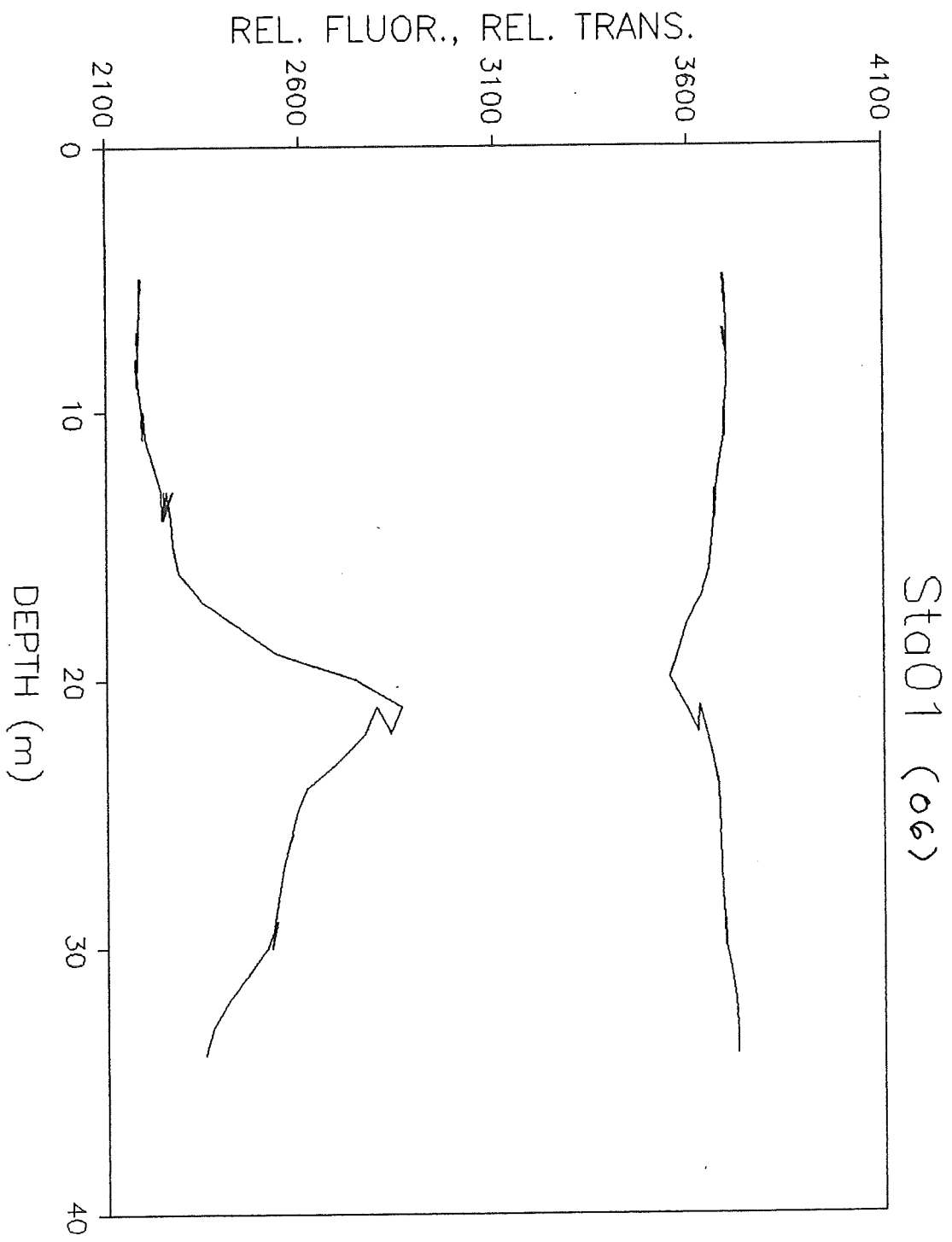
Position		Station	Depth (Mfs)	total pigment		Raw	Raw	
Latitude	Longitude			mg chloro/m3	mg phaeo/m3	mg/m3	Transmission	Fluorescence
42 51.0	68 57.0	sta6-5	5	.87	.48	1.35	3690	2187
		sta6-4	10	1.39	1.06	2.46	3692	2190
		sta6-3	15	1.22	.49	1.71	3657	2272
		sta6-2	20	.64	.16	.81	3550	2742
		sta6-1	25	.38	.13	.51	3677	2588
42 52.1	69 01.5	sta7-5	5	.52	1.10	1.62	3728	2248
		sta7-4	15	5.57	1.32	6.89	3580	2732
		sta7-3	25	.30	.21	.51	3533	3437
		sta7-2	40	.14	.25	.39	3789	2206
		sta7-1	60	.10	.17	.27	3796	2121
42 48.3	68 57.9	sta8-5	5	.49	.00	.49	3423	2237
		sta8-4	15	1.32	.77	2.10	3621	2490
		sta8-3	25	.35	.33	.67	3681	2908
		sta8-2	40	.10	.20	.30	3787	2262
42 48.1	68 52.7	sta9-5	5	.37	.13	.49	3755	2177
		sta9-4	15	1.05	.75	1.80	3740	2191
		sta9-3	25	.16	.22	.37	3643	2685
		sta9-2	40	.14	.22	.36	3795	2178
		sta9-1	60	.07	.17	.24	3801	2106
42 50.9	69 52.4	sta10-5	5	.26	.05	.31	3730	2173
		sta10-4	15	1.99	.74	2.73	3679	2289
		sta10-3	25	.94	.45	1.39	3614	2691
		sta10-2	40	.42	.33	.75	3776	2466
		sta10-1	60	.10	.17	.27	3786	2117
42 54.6	68 55.0	sta11-5	5	.24	.21	.45	3748	2165
		sta11-4	15	2.02	.98	3.00	3739	2188
		sta11-3	25	.33	.28	.61	3678	2381
		sta11-2	40	.16	.26	.42	3743	2659
		sta11-1	60	.09	.18	.27	3791	2122
42 54.6	68 59.5	sta14-5	5	.40	.11	.51	3597	2155
		sta14-4	15	.84	.63	1.47	3684	2289
		sta14-3	25	.16	.26	.42	3669	2800
		sta14-2	40	.03	.29	.33	3780	2199
		sta14-1	60	.03	.23	.27	3790	2108
42 58.1	69 02.5	sta15-3	5	.38	.10	.48	3746	2188
		sta15-2	15	1.06	.50	1.56	3741	2198
		sta15-1	25	1.25	.60	1.86	3661	3567
42 58.2	68 55.3	sta12-5	5	.42	.09	.51	3726	2190
		sta12-4	15	2.26	1.33	3.60	3682	2252
		sta12-3	25	.33	.25	.58	3626	2844
		sta12-2	40	.17	.28	.45	3780	2263
		sta12-1	60	2.44	.62	3.06	3787	2150
42 55.1	68 57.6	sta13-5	5	.38	.10	.48	3504	2184

R/V Seward Johnson, August 1988

Position		Station	Depth (Mfs)	total pigment			Raw	Raw
Latitude	Longitude			mg chloro/m3	mg phaeo/m3	mg/m3	Transmission	Fluorescence
		sta13-4	15	1.01	.53	1.54	3610	2531
		sta13-3	25	.42	.39	.81	3571	3129
		sta13-2	40	.26	.50	.76	3745	2435
		sta13-1	60	.17	.17	.34	3774	2205

Sta01 - (06)





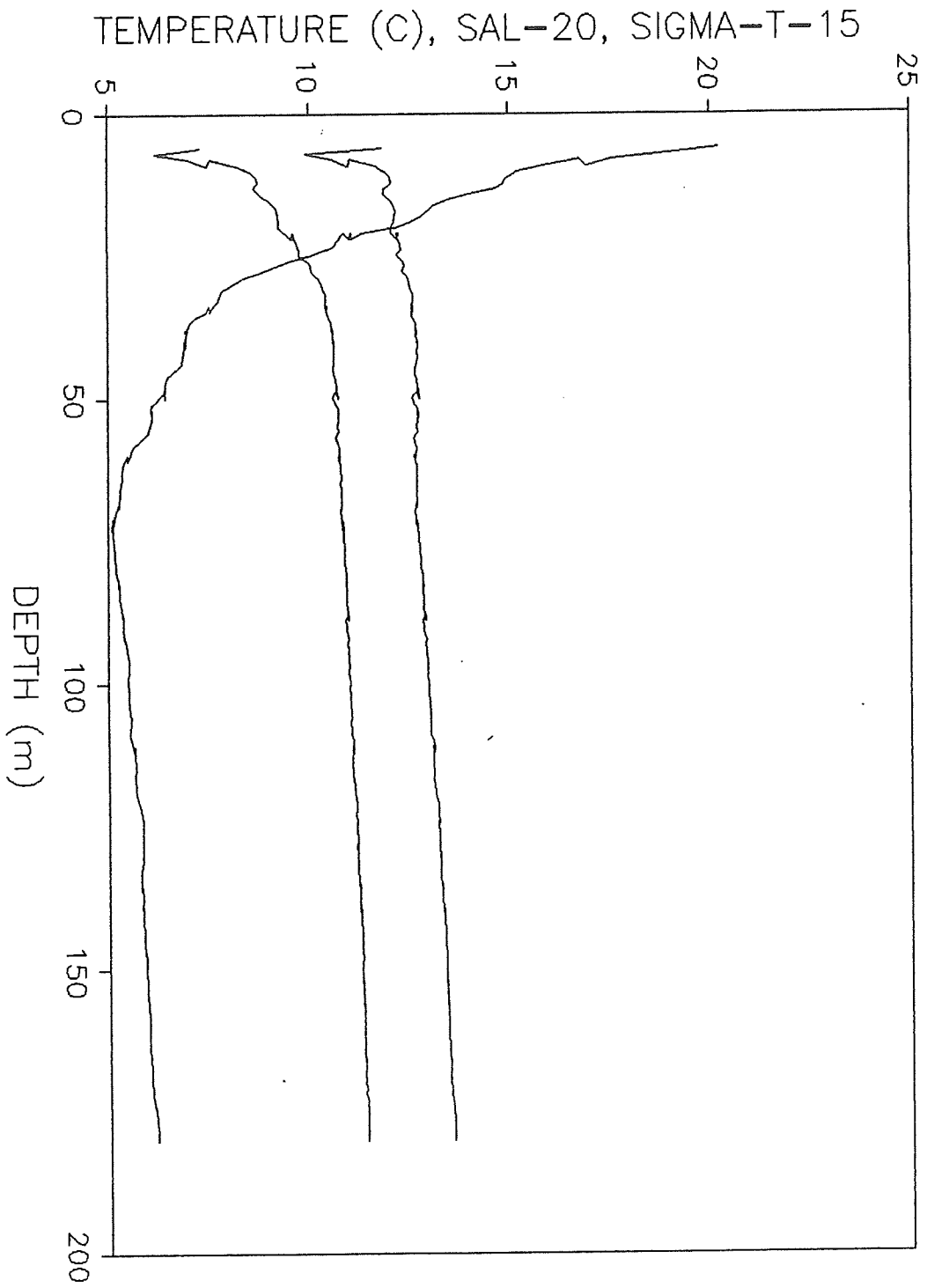
STATION: Sta01 (06)
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
5	21.95	31.689	21.719	3688	2187
6	21.94	31.692	21.724	3692	2187
5	21.94	31.674	21.711	3691	2189
6	21.859	31.671	21.73	3694	2186
7	21.762	31.571	21.681	3696	2183
8	21.639	31.553	21.701	3698	2182
7	21.595	31.596	21.746	3691	2180
8	21.546	31.638	21.791	3698	2182
7	21.519	31.696	21.843	3685	2180
8	21.417	31.635	21.824	3698	2182
9	21.298	31.68	21.89	3698	2179
8	21.274	31.685	21.9	3697	2178
9	21.198	31.645	21.891	3697	2181
10	21.069	31.665	21.94	3692	2190
11	21.015	31.673	21.96	3692	2194
10	21.006	31.681	21.969	3691	2195
11	20.885	31.596	21.937	3690	2200
12	19.927	31.541	22.146	3679	2220
13	18.958	31.591	22.429	3669	2241
14	18.715	31.625	22.515	3667	2245
13	18.638	31.665	22.565	3665	2272
14	18.607	31.72	22.614	3667	2249
13	18.606	31.835	22.703	3665	2249
14	18.584	31.789	22.673	3665	2249
13	18.55	31.823	22.708	3668	2256
14	18.411	31.73	22.67	3664	2268
15	17.967	31.729	22.777	3657	2272
16	17.132	31.657	22.92	3651	2285
17	15.473	31.75	23.367	3629	2342
18	14.268	31.781	23.646	3593	2441
19	13.332	31.348	23.501	3573	2537
20	11.206	31.783	24.236	3550	2742
21	9.359	31.869	24.611	3588	2862
22	8.917	32.288	25.008	3622	2832
21	8.718	32.437	25.156	3625	2795
22	8.555	32.46	25.198	3644	2766
23	8.455	32.553	25.286	3661	2699
24	8.354	32.586	25.327	3674	2617
25	8.329	32.6	25.341	3677	2588
26	8.33	32.617	25.355	3679	2572
27	8.311	32.602	25.346	3681	2554
28	8.3	32.618	25.36	3683	2542
29	8.273	32.618	25.364	3688	2531
30	8.27	32.634	25.376	3689	2524
29	8.27	32.634	25.377	3689	2537
30	8.263	32.626	25.372	3693	2512
31	8.195	32.561	25.331	3707	2464
32	7.997	32.627	25.412	3715	2412

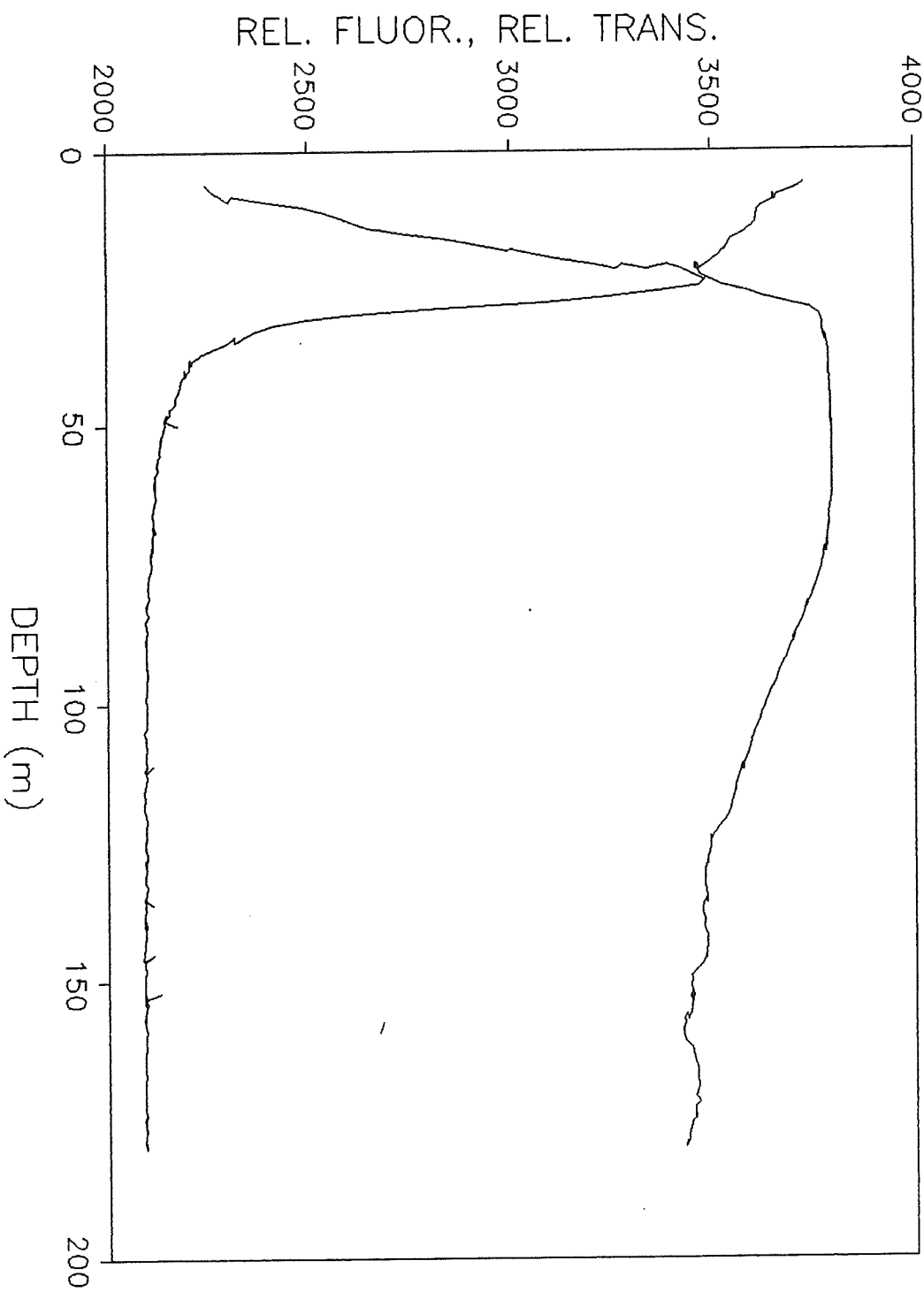
STATION: Sta01
R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
33	7.867	32.606	25.414	3720	2372
34	7.779	32.667	25.474	3721	2354

Sta02 (07)



Sta02 (07)



STATION: Sta02 (07)
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
6	20.231	31.824	22.283	3728	2248
7	18.929	29.938	21.176	3706	2263
8	17.53	30.616	22.03	3667	2285
9	16.947	30.989	22.451	3659	2305
8	16.765	31.053	22.542	3655	2315
9	15.857	31.682	23.229	3655	2394
10	15.216	31.913	23.548	3627	2491
11	15.011	32.026	23.679	3615	2545
12	14.9	32.052	23.722	3613	2586
13	14.676	31.875	23.633	3611	2620
14	14.027	31.875	23.768	3596	2656
15	13.466	32.012	23.988	3580	2732
16	13.125	32.115	24.135	3552	2839
17	12.964	32.182	24.219	3544	2912
18	12.807	32.166	24.236	3536	2985
19	12.517	32.14	24.272	3525	3050
20	12.167	32.053	24.27	3507	3121
21	11.327	32.067	24.435	3489	3210
22	11.08	32.214	24.593	3469	3263
21	11.075	32.238	24.613	3464	3281
22	11.028	32.235	24.619	3460	3339
21	10.883	32.191	24.61	3461	3391
22	10.782	32.233	24.66	3465	3428
23	10.666	32.29	24.724	3472	3453
24	10.425	32.31	24.781	3501	3485
25	10.039	32.202	24.762	3533	3473
26	9.515	32.342	24.956	3591	3369
27	9.151	32.377	25.041	3630	3244
28	8.785	32.352	25.079	3683	3085
29	8.348	32.455	25.225	3743	2824
30	8.104	32.5	25.296	3761	2618
31	7.876	32.535	25.356	3769	2497
32	7.793	32.596	25.416	3773	2413
33	7.742	32.592	25.421	3773	2372
34	7.612	32.572	25.423	3776	2343
35	7.523	32.594	25.453	3780	2321
34	7.517	32.601	25.459	3779	2319
35	7.447	32.574	25.448	3781	2302
36	7.156	32.582	25.494	3787	2268
37	7.02	32.656	25.57	3789	2236
38	6.963	32.665	25.585	3789	2219
39	6.94	32.68	25.6	3790	2211
38	6.93	32.689	25.608	3788	2209
39	6.94	32.676	25.597	3788	2206
40	6.92	32.696	25.615	3789	2206
41	6.917	32.703	25.621	3790	2198
40	6.915	32.705	25.623	3790	2196
41	6.907	32.7	25.62	3790	2195

STATION: Sta02
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
42	6.878	32.699	25.623	3791	2186
43	6.857	32.702	25.629	3791	2184
44	6.83	32.694	25.626	3792	2180
45	6.668	32.637	25.601	3793	2172
46	6.518	32.652	25.633	3794	2172
47	6.446	32.692	25.673	3794	2157
48	6.422	32.71	25.691	3794	2159
49	6.413	32.713	25.694	3794	2149
48	6.41	32.714	25.695	3794	2150
49	6.405	32.724	25.704	3794	2147
50	6.408	32.766	25.737	3794	2176
49	6.402	32.695	25.682	3794	2145
50	6.25	32.582	25.611	3795	2146
51	6.093	32.63	25.669	3795	2142
52	6.072	32.717	25.74	3796	2138
53	6.084	32.721	25.742	3795	2135
52	6.088	32.718	25.739	3795	2136
53	6.093	32.732	25.749	3795	2134
54	6.103	32.721	25.74	3796	2133
55	6.053	32.687	25.719	3796	2133
56	5.997	32.706	25.74	3796	2128
57	5.867	32.611	25.682	3796	2126
58	5.7	32.641	25.725	3797	2127
59	5.614	32.679	25.765	3797	2120
60	5.564	32.666	25.761	3796	2121
61	5.501	32.631	25.74	3797	2118
60	5.483	32.627	25.74	3796	2118
61	5.425	32.649	25.764	3796	2122
62	5.372	32.678	25.793	3795	2121
63	5.356	32.686	25.801	3795	2123
64	5.343	32.687	25.804	3793	2119
65	5.333	32.684	25.802	3792	2116
66	5.319	32.684	25.804	3790	2115
67	5.305	32.686	25.807	3790	2116
68	5.29	32.686	25.809	3788	2117
69	5.277	32.689	25.812	3787	2122
68	5.277	32.693	25.816	3787	2113
69	5.261	32.675	25.803	3786	2117
70	5.202	32.642	25.784	3785	2115
71	5.163	32.667	25.808	3784	2114
72	5.149	32.663	25.806	3785	2111
71	5.134	32.671	25.815	3783	2113
72	5.116	32.697	25.837	3781	2115
73	5.111	32.705	25.844	3780	2112
72	5.111	32.705	25.844	3780	2113
73	5.112	32.702	25.841	3781	2112
72	5.112	32.704	25.843	3778	2112
73	5.113	32.719	25.855	3776	2110

STATION: Sta02
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
74	5.126	32.735	25.866	3776	2110
75	5.145	32.741	25.868	3771	2111
76	5.154	32.75	25.874	3768	2109
77	5.158	32.758	25.88	3763	2104
78	5.17	32.772	25.89	3760	2103
79	5.184	32.777	25.893	3754	2103
80	5.193	32.789	25.901	3748	2102
81	5.224	32.83	25.93	3744	2105
82	5.256	32.834	25.93	3739	2100
83	5.265	32.839	25.932	3734	2097
82	5.269	32.836	25.93	3734	2097
83	5.274	32.835	25.928	3731	2099
84	5.279	32.836	25.928	3727	2102
85	5.288	32.841	25.931	3721	2096
86	5.301	32.853	25.94	3714	2098
87	5.32	32.859	25.942	3709	2100
88	5.36	32.871	25.947	3704	2099
89	5.381	32.901	25.968	3699	2096
88	5.388	32.898	25.965	3698	2096
89	5.384	32.838	25.918	3698	2098
90	5.375	32.856	25.933	3691	2099
91	5.372	32.856	25.934	3686	2098
92	5.403	32.914	25.976	3682	2097
93	5.454	32.901	25.96	3674	2099
94	5.471	32.91	25.965	3666	2100
95	5.493	32.928	25.976	3661	2100
96	5.507	32.94	25.985	3657	2099
97	5.524	32.949	25.99	3649	2098
98	5.518	32.936	25.98	3643	2098
99	5.499	32.946	25.99	3638	2095
100	5.499	32.972	26.011	3632	2098
101	5.505	32.971	26.009	3627	2097
102	5.508	32.976	26.013	3621	2097
103	5.512	32.993	26.026	3618	2097
104	5.524	33	26.03	3611	2097
105	5.539	33.017	26.042	3605	2092
106	5.552	33.013	26.037	3600	2095
107	5.559	33.01	26.033	3595	2096
108	5.548	33.008	26.034	3592	2097
109	5.538	33.023	26.046	3588	2095
110	5.569	33.088	26.094	3582	2095
111	5.62	33.104	26.101	3577	2098
112	5.642	33.098	26.093	3575	2095
111	5.644	33.092	26.088	3573	2111
112	5.646	33.074	26.074	3574	2095
111	5.651	33.063	26.064	3572	2095
112	5.659	33.085	26.081	3568	2094
113	5.666	33.08	26.077	3565	2098

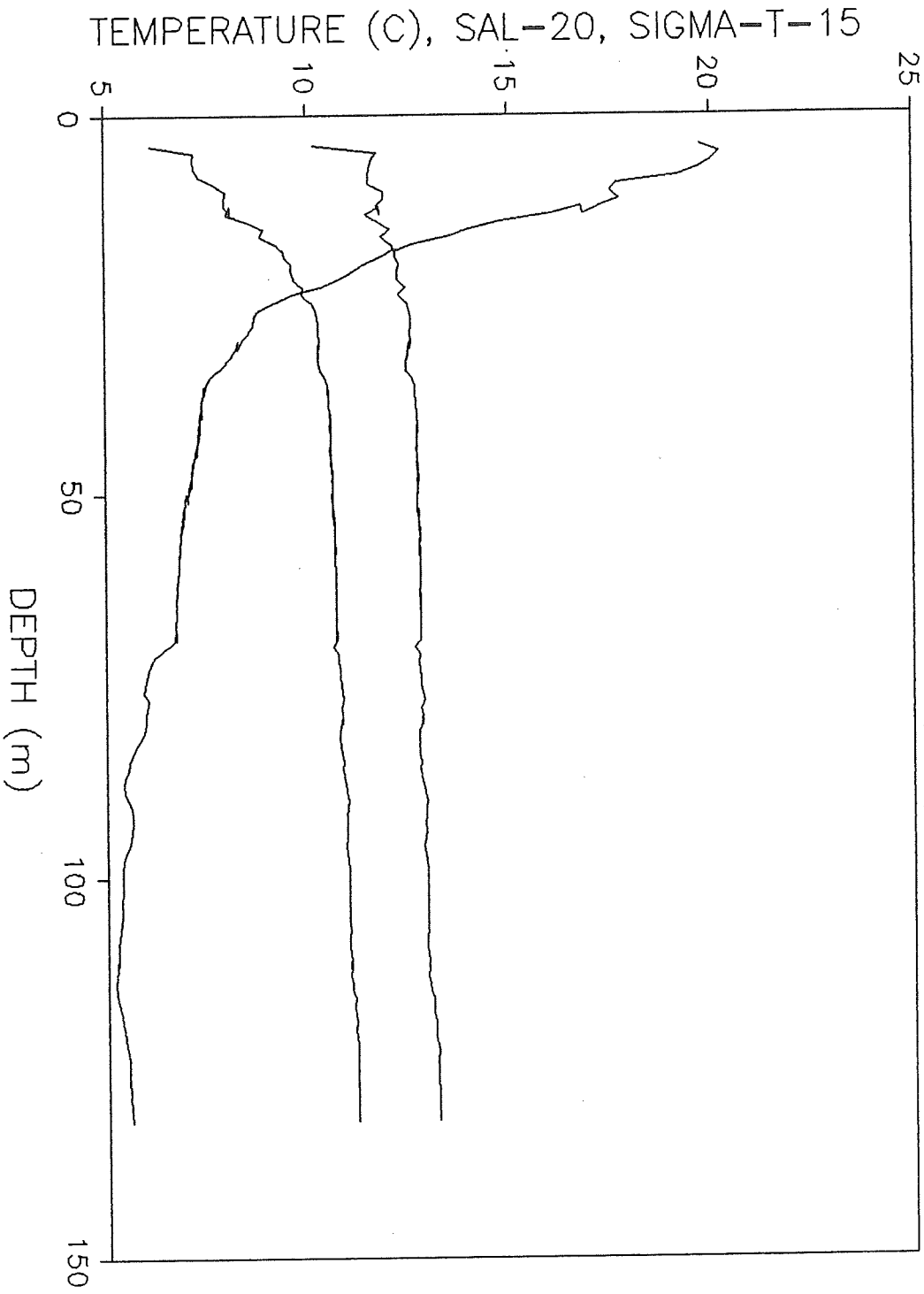
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 R/V Seward Johnson, 12-15 August, 1988

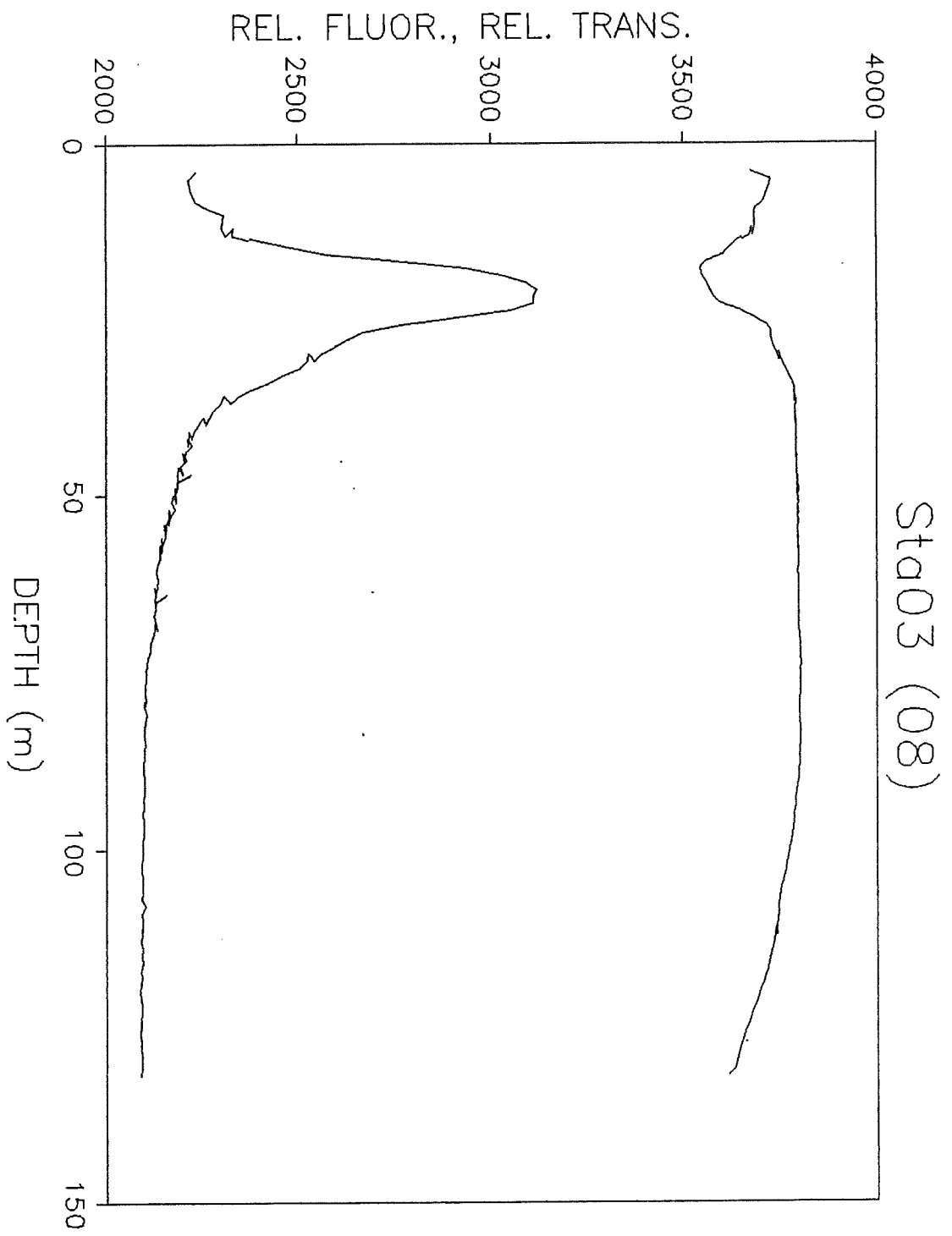
DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
114	5.67	33.081	26.077	3560	2096
115	5.67	33.079	26.075	3556	2094
116	5.666	33.079	26.076	3555	2092
117	5.66	33.086	26.081	3551	2093
118	5.667	33.115	26.104	3546	2092
119	5.676	33.132	26.117	3543	2092
120	5.699	33.151	26.129	3538	2095
121	5.746	33.193	26.156	3529	2098
122	5.797	33.2	26.156	3518	2095
123	5.816	33.191	26.146	3510	2095
124	5.84	33.212	26.16	3500	2095
125	5.85	33.208	26.155	3493	2093
124	5.85	33.208	26.155	3492	2097
125	5.845	33.203	26.152	3492	2093
126	5.839	33.221	26.167	3492	2093
127	5.843	33.229	26.173	3490	2097
128	5.845	33.229	26.173	3486	2097
129	5.844	33.228	26.172	3486	2093
128	5.844	33.23	26.173	3485	2093
129	5.845	33.23	26.173	3487	2093
128	5.845	33.23	26.173	3485	2099
129	5.845	33.228	26.172	3485	2093
128	5.846	33.228	26.172	3485	2094
129	5.843	33.23	26.174	3483	2096
130	5.842	33.233	26.176	3480	2095
131	5.837	33.235	26.178	3479	2094
132	5.827	33.235	26.18	3480	2093
133	5.805	33.233	26.181	3480	2097
134	5.795	33.254	26.199	3481	2095
135	5.797	33.27	26.211	3483	2093
136	5.8	33.292	26.228	3483	2112
135	5.805	33.3	26.233	3484	2091
136	5.823	33.296	26.228	3477	2093
137	5.83	33.298	26.229	3473	2093
138	5.829	33.3	26.231	3471	2092
139	5.828	33.313	26.241	3476	2090
140	5.829	33.312	26.24	3477	2091
139	5.829	33.313	26.241	3478	2093
140	5.832	33.328	26.252	3476	2096
141	5.838	33.338	26.26	3477	2093
142	5.845	33.343	26.263	3483	2093
143	5.852	33.359	26.275	3484	2090
144	5.861	33.361	26.275	3483	2090
145	5.865	33.358	26.272	3481	2088
146	5.865	33.356	26.27	3482	2087
145	5.867	33.359	26.272	3482	2111
146	5.868	33.363	26.275	3479	2092
147	5.882	33.373	26.282	3472	2090

STATION: Sta02
R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
148	5.899	33.386	26.29	3457	2093
149	5.917	33.383	26.286	3443	2092
150	5.919	33.382	26.284	3445	2090
151	5.92	33.385	26.287	3442	2091
152	5.922	33.387	26.288	3444	2091
153	5.925	33.397	26.296	3444	2096
152	5.927	33.397	26.296	3446	2091
153	5.929	33.398	26.295	3448	2091
152	5.931	33.399	26.296	3446	2128
153	5.933	33.398	26.295	3440	2090
154	5.933	33.398	26.295	3446	2090
153	5.934	33.397	26.294	3447	2090
154	5.937	33.402	26.298	3444	2098
155	5.942	33.405	26.3	3445	2093
156	5.948	33.414	26.306	3442	2090
157	5.954	33.422	26.312	3436	2089
156	5.955	33.425	26.314	3433	2090
157	5.962	33.425	26.313	3425	2091
158	5.97	33.428	26.314	3428	2090
159	5.974	33.43	26.315	3424	2095
160	5.977	33.428	26.314	3424	2094
161	5.98	33.437	26.32	3429	2094
162	5.982	33.436	26.32	3443	2093
163	5.983	33.442	26.324	3447	2092
164	5.984	33.445	26.326	3449	2090
165	5.996	33.456	26.334	3453	2091
166	6.009	33.468	26.341	3459	2090
167	6.016	33.472	26.343	3457	2093
168	6.023	33.473	26.343	3459	2092
169	6.027	33.471	26.342	3460	2092
170	6.03	33.482	26.35	3458	2092
171	6.041	33.496	26.359	3454	2090
172	6.053	33.495	26.357	3463	2090
173	6.068	33.527	26.381	3451	2090
174	6.101	33.549	26.393	3451	2093
175	6.114	33.543	26.387	3454	2089
174	6.115	33.544	26.388	3454	2095
175	6.124	33.55	26.392	3451	2091
176	6.14	33.559	26.397	3441	2091
177	6.149	33.557	26.394	3439	2093
178	6.153	33.557	26.394	3436	2091
179	6.155	33.558	26.394	3436	2089
180	6.157	33.56	26.395	3429	2094
179	6.157	33.56	26.395	3431	2093

Sta03 (08)





STATION: Sta03 (08)
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
4	19.764	30.194	21.162	3674	2237
5	20.256	31.76	22.227	3723	2216
6	20.078	31.658	22.195	3722	2220
7	19.692	31.584	22.238	3715	2225
8	19.199	31.557	22.343	3708	2235
9	17.713	31.561	22.71	3684	2267
10	17.541	31.918	23.024	3682	2308
11	17.784	31.923	22.97	3683	2307
12	17.293	31.755	22.958	3682	2304
13	16.868	31.823	23.109	3677	2314
12	16.819	31.811	23.111	3676	2335
13	16.086	31.482	23.025	3671	2331
14	14.814	31.791	23.539	3639	2402
15	14.07	32.098	23.932	3621	2490
16	13.54	31.862	23.857	3603	2576
17	12.588	32.11	24.235	3560	2755
18	12.132	32.201	24.392	3544	2936
19	11.816	32.199	24.449	3545	3028
20	11.399	32.301	24.604	3557	3093
21	11.116	32.254	24.618	3566	3120
22	10.777	32.244	24.67	3575	3110
23	10.334	32.467	24.919	3595	3112
24	9.581	32.273	24.892	3645	3048
25	9.172	32.476	25.116	3681	2908
26	8.793	32.529	25.216	3713	2765
27	8.687	32.57	25.264	3724	2665
28	8.652	32.582	25.279	3724	2625
29	8.545	32.559	25.277	3729	2597
30	8.385	32.571	25.31	3739	2564
31	8.301	32.559	25.313	3745	2543
30	8.286	32.55	25.309	3746	2529
31	8.255	32.504	25.277	3749	2525
32	8.137	32.503	25.293	3760	2508
33	7.968	32.458	25.283	3767	2462
34	7.74	32.463	25.32	3778	2427
35	7.567	32.585	25.44	3784	2381
36	7.489	32.658	25.508	3785	2347
37	7.462	32.669	25.52	3785	2325
36	7.44	32.667	25.522	3785	2309
37	7.431	32.675	25.529	3788	2302
38	7.4	32.691	25.546	3787	2282
40	7.381	32.705	25.56	3787	2262
39	7.369	32.709	25.565	3787	2256
40	7.352	32.718	25.574	3788	2244
41	7.343	32.725	25.581	3788	2233
42	7.333	32.726	25.583	3788	2225
41	7.325	32.709	25.57	3788	2218
43	7.318	32.711	25.573	3789	2215

STATION: Sta03 (08)
 R/V Seward Johnson, 12-15 August, 1988

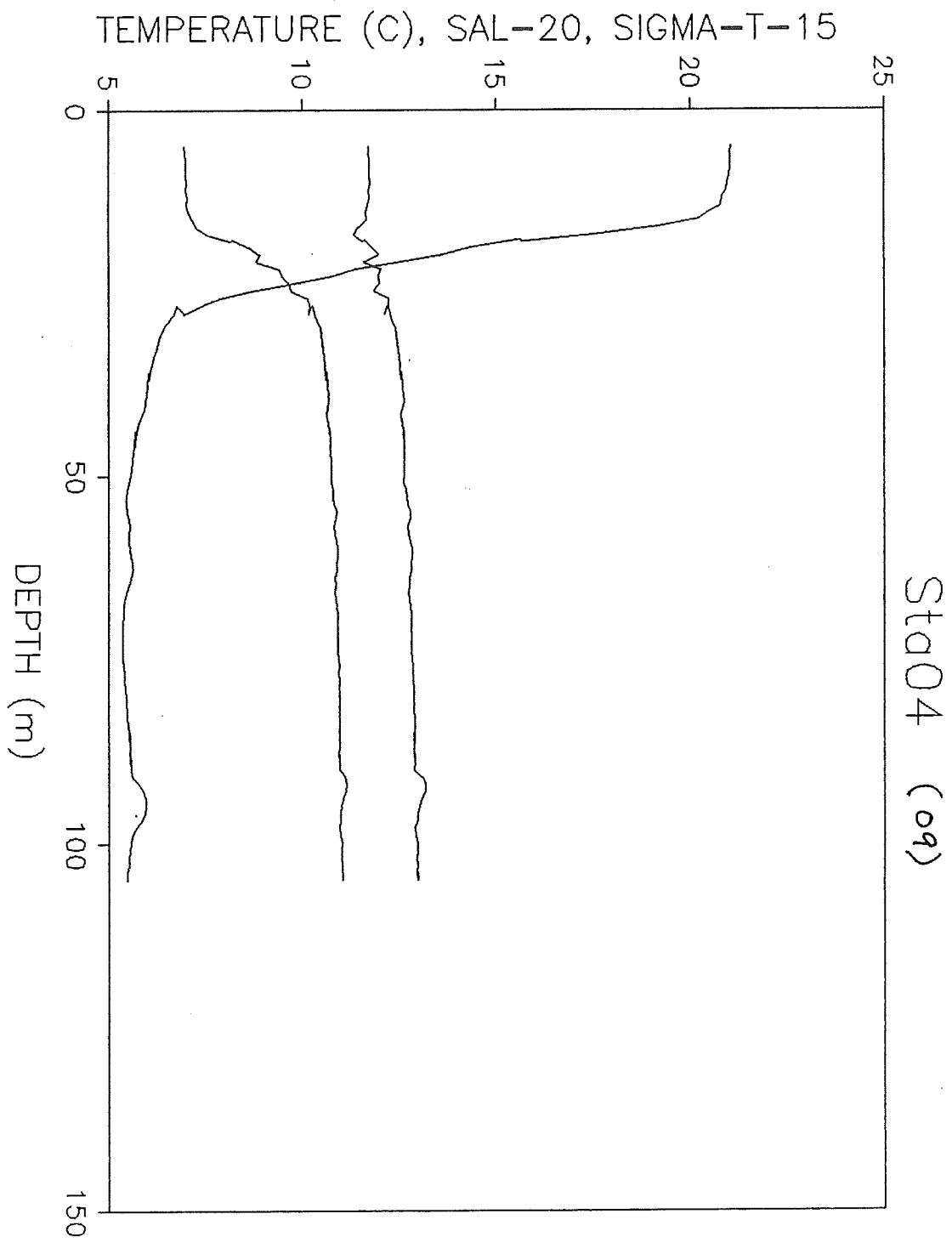
DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
42	7.304	32.714	25.577	3789	2213
43	7.295	32.713	25.578	3789	2224
44	7.277	32.717	25.583	3789	2209
45	7.274	32.701	25.571	3789	2205
44	7.241	32.69	25.567	3790	2201
45	7.22	32.702	25.58	3791	2212
46	7.188	32.709	25.589	3791	2195
47	7.165	32.722	25.602	3792	2203
46	7.157	32.726	25.607	3791	2191
47	7.149	32.733	25.614	3791	2189
48	7.137	32.742	25.622	3792	2188
47	7.139	32.745	25.624	3791	2222
48	7.13	32.748	25.628	3793	2186
49	7.133	32.739	25.62	3791	2186
48	7.117	32.714	25.603	3793	2186
49	7.087	32.732	25.621	3793	2187
50	7.073	32.737	25.627	3792	2182
49	7.056	32.734	25.626	3795	2181
51	7.033	32.714	25.614	3793	2183
50	6.997	32.718	25.622	3793	2177
51	6.973	32.721	25.628	3795	2173
52	6.962	32.72	25.628	3793	2182
53	6.941	32.731	25.64	3794	2169
52	6.925	32.747	25.654	3795	2166
54	6.916	32.755	25.662	3794	2164
53	6.91	32.762	25.668	3794	2167
54	6.893	32.764	25.672	3795	2158
55	6.88	32.769	25.678	3794	2158
54	6.888	32.76	25.67	3793	2154
56	6.866	32.769	25.68	3794	2155
57	6.844	32.764	25.679	3794	2149
56	6.853	32.755	25.67	3795	2147
57	6.833	32.768	25.683	3794	2146
58	6.835	32.767	25.683	3795	2146
57	6.824	32.773	25.689	3794	2143
59	6.819	32.77	25.686	3795	2141
60	6.806	32.772	25.69	3795	2136
61	6.789	32.779	25.697	3794	2132
62	6.775	32.769	25.692	3795	2138
63	6.765	32.767	25.692	3795	2134
64	6.751	32.776	25.7	3795	2130
63	6.748	32.783	25.706	3795	2129
64	6.746	32.783	25.707	3795	2130
65	6.745	32.777	25.702	3796	2129
64	6.753	32.773	25.698	3797	2159
65	6.743	32.786	25.709	3795	2130
66	6.735	32.784	25.709	3796	2130
67	6.729	32.785	25.71	3796	2126

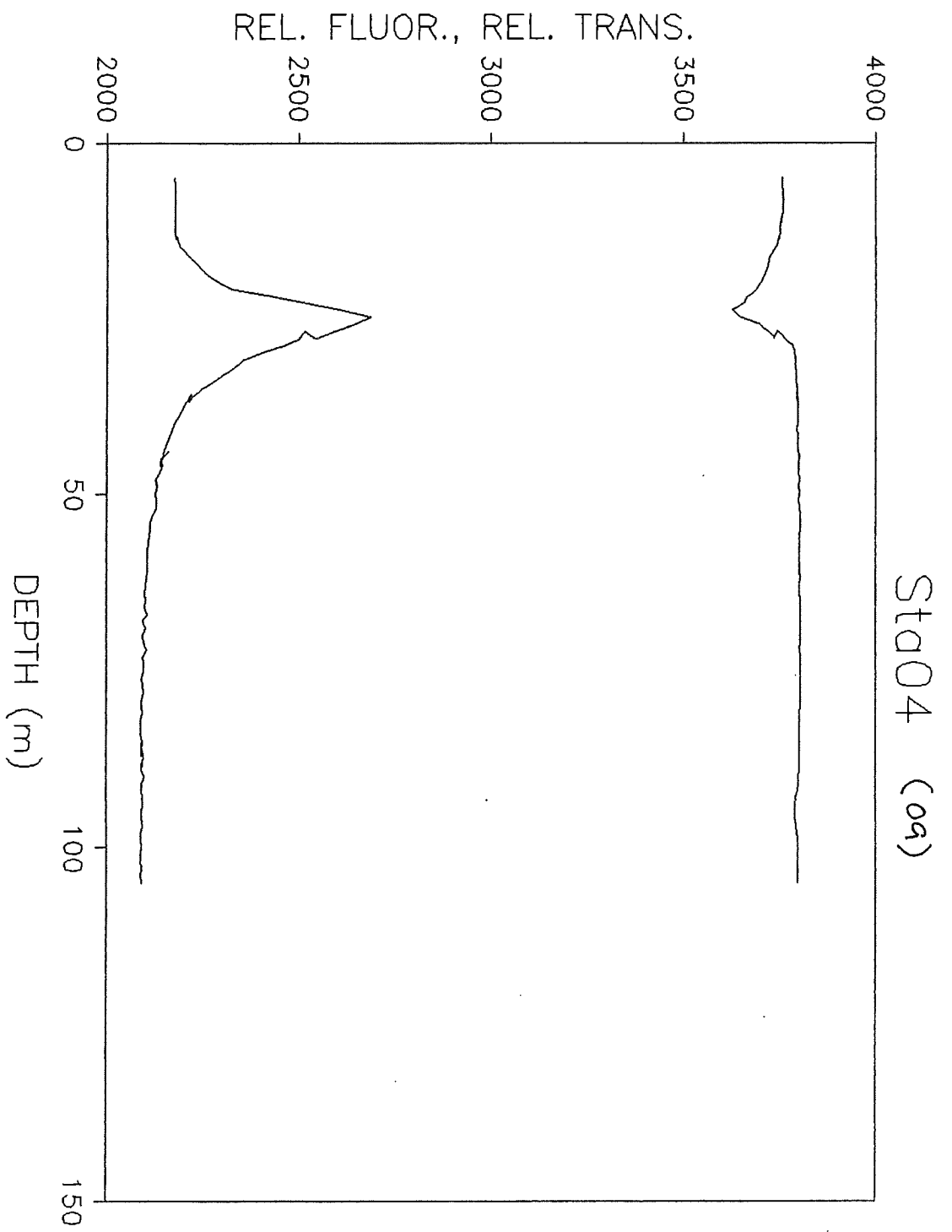
STATION: Sta03 (08)
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
69	6.731	32.769	25.697	3796	2136
68	6.718	32.786	25.713	3796	2128
69	6.697	32.786	25.715	3797	2127
70	6.457	32.647	25.636	3798	2123
71	6.229	32.75	25.747	3800	2116
72	6.127	32.738	25.75	3801	2116
73	6.039	32.763	25.781	3801	2110
74	6.005	32.771	25.791	3802	2107
75	5.962	32.78	25.804	3801	2105
76	5.943	32.825	25.841	3800	2105
77	6.046	32.869	25.863	3800	2103
78	6.011	32.787	25.803	3800	2102
79	5.981	32.826	25.838	3799	2104
80	5.974	32.828	25.84	3798	2101
79	5.98	32.811	25.826	3798	2101
80	5.971	32.809	25.825	3799	2100
81	5.923	32.737	25.774	3799	2107
82	5.833	32.726	25.777	3799	2102
83	5.723	32.724	25.788	3800	2101
84	5.633	32.739	25.811	3800	2101
85	5.569	32.786	25.855	3800	2102
86	5.539	32.762	25.84	3799	2101
87	5.45	32.772	25.858	3799	2100
88	5.419	32.828	25.906	3798	2097
89	5.458	32.875	25.939	3796	2099
90	5.53	32.922	25.968	3795	2101
91	5.601	32.9	25.942	3791	2101
92	5.629	32.897	25.936	3789	2100
93	5.625	32.875	25.919	3787	2098
94	5.615	32.894	25.936	3786	2097
95	5.585	32.882	25.929	3783	2096
96	5.528	32.836	25.9	3781	2098
97	5.445	32.872	25.938	3779	2098
98	5.397	32.887	25.956	3777	2098
99	5.377	32.909	25.975	3774	2095
100	5.375	32.921	25.985	3771	2095
101	5.376	32.921	25.984	3767	2096
102	5.372	32.918	25.983	3764	2093
103	5.364	32.92	25.985	3761	2093
104	5.36	32.92	25.986	3756	2095
105	5.349	32.917	25.985	3753	2096
106	5.33	32.915	25.985	3748	2096
107	5.304	32.916	25.989	3745	2094
108	5.285	32.904	25.981	3743	2103
109	5.266	32.899	25.98	3742	2094
110	5.251	32.919	25.997	3740	2096
111	5.251	32.937	26.012	3738	2096
112	5.249	32.932	26.008	3738	2093

STATION: Sta03 (08)
R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
111	5.247	32.931	26.008	3736	2093
112	5.24	32.938	26.013	3734	2094
113	5.216	32.924	26.006	3731	2092
114	5.201	32.963	26.038	3727	2095
115	5.207	32.98	26.051	3722	2094
116	5.244	33.053	26.105	3717	2095
117	5.294	33.055	26.1	3714	2092
118	5.328	33.064	26.104	3709	2093
119	5.358	33.104	26.132	3703	2091
120	5.391	33.099	26.124	3695	2089
121	5.418	33.109	26.128	3690	2091
122	5.44	33.14	26.15	3683	2093
123	5.488	33.166	26.165	3674	2093
124	5.507	33.15	26.151	3669	2091
125	5.514	33.151	26.15	3662	2092
126	5.519	33.157	26.155	3655	2089
127	5.527	33.161	26.157	3650	2090
128	5.541	33.172	26.164	3643	2092
129	5.55	33.17	26.161	3639	2094
130	5.556	33.177	26.166	3634	2093
131	5.572	33.184	26.17	3629	2093
132	5.591	33.183	26.167	3614	2092





STATION: Sta04 (09)
 R/V Seward Johnson, 12-15 August, 1988

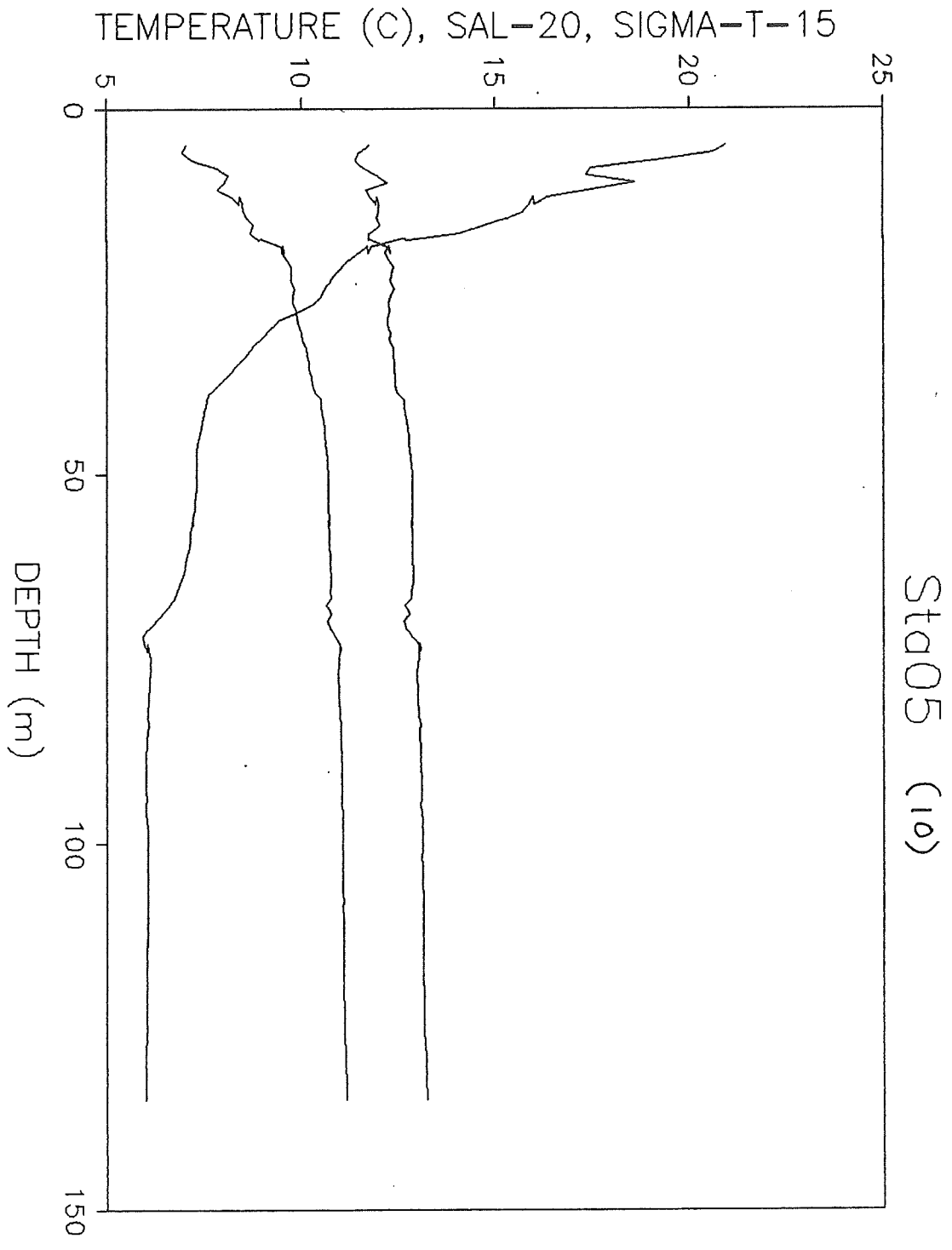
DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
5	21.034	31.71	21.983	3755	2177
6	21.017	31.722	21.998	3755	2178
7	21.018	31.745	22.015	3757	2179
8	21.007	31.748	22.019	3757	2180
9	20.991	31.729	22.009	3757	2179
10	20.939	31.752	22.04	3756	2180
11	20.921	31.712	22.016	3753	2179
12	20.812	31.745	22.07	3749	2178
13	20.787	31.704	22.045	3750	2180
14	20.44	31.653	22.098	3744	2184
15	20.164	31.679	22.189	3740	2191
16	19.164	31.451	22.271	3729	2206
17	17.518	31.344	22.59	3720	2225
18	15.508	31.615	23.255	3717	2244
19	14.319	31.811	23.659	3711	2261
20	13.608	31.963	23.922	3700	2293
21	12.546	31.582	23.834	3689	2326
22	11.338	32.035	24.408	3666	2430
23	10.74	31.981	24.471	3656	2511
24	9.748	32.001	24.652	3625	2606
25	8.684	31.856	24.705	3643	2685
26	7.866	32.226	25.115	3694	2643
27	7.386	32.227	25.183	3718	2590
28	6.976	32.131	25.163	3734	2545
27	6.78	32.213	25.253	3742	2517
28	6.724	32.271	25.306	3758	2503
29	6.587	32.324	25.366	3779	2466
30	6.444	32.418	25.458	3787	2406
31	6.358	32.445	25.49	3789	2360
32	6.295	32.466	25.515	3789	2336
33	6.247	32.48	25.531	3792	2307
34	6.194	32.507	25.559	3792	2281
35	6.147	32.535	25.587	3793	2250
36	6.102	32.532	25.591	3793	2229
37	6.061	32.553	25.612	3795	2215
36	6.042	32.569	25.627	3793	2220
38	6.018	32.585	25.643	3795	2200
39	5.994	32.614	25.669	3795	2190
40	5.979	32.632	25.684	3795	2178
41	5.951	32.598	25.661	3794	2172
42	5.865	32.553	25.636	3796	2165
43	5.786	32.589	25.674	3797	2157
44	5.739	32.616	25.701	3796	2150
45	5.721	32.629	25.713	3800	2146
44	5.711	32.642	25.725	3799	2163
45	5.705	32.642	25.726	3799	2144
46	5.704	32.639	25.723	3799	2142
45	5.685	32.643	25.729	3799	2141

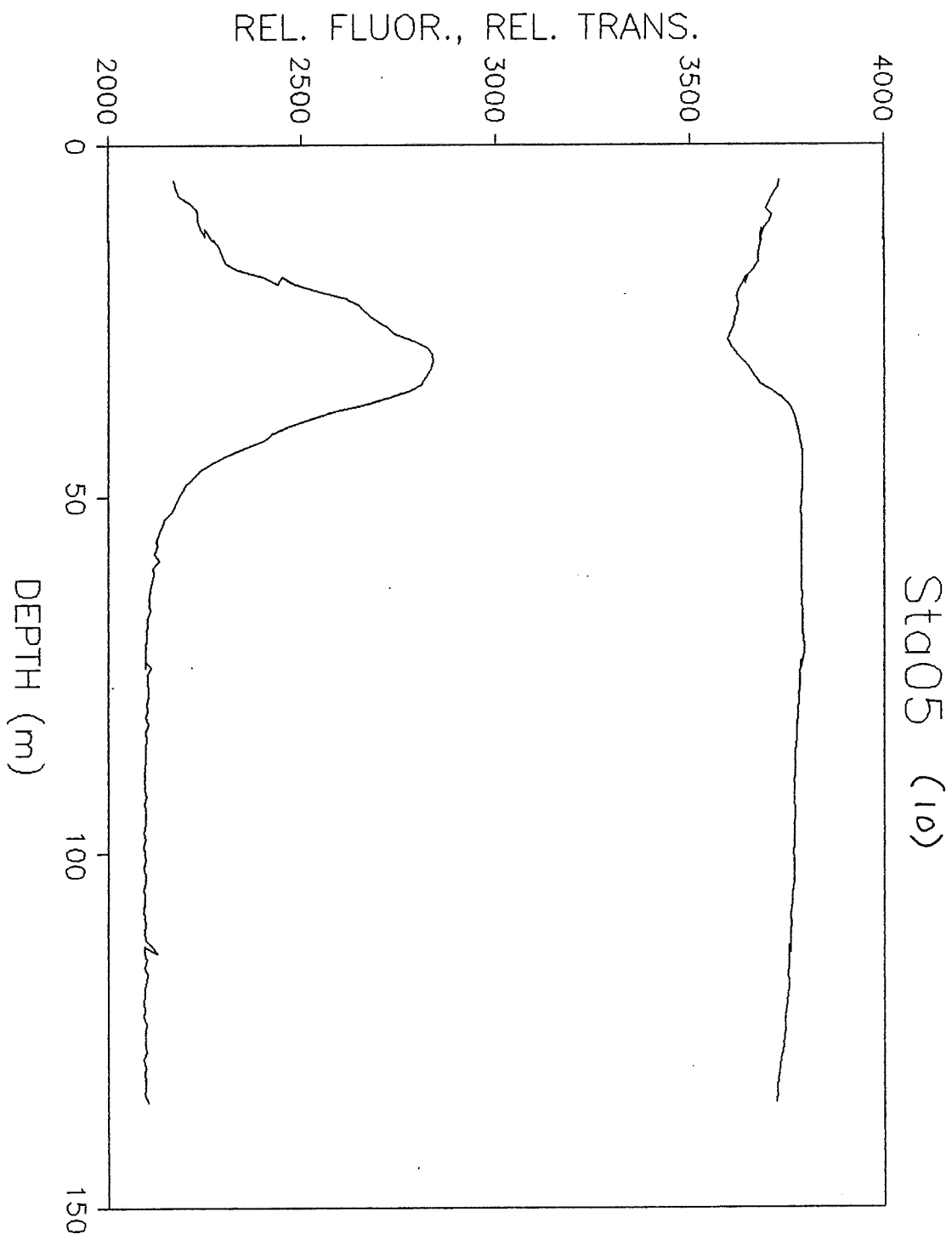
STATION: Sta04
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
46	5.678	32.648	25.733	3799	2146
47	5.653	32.635	25.726	3799	2140
48	5.621	32.653	25.744	3800	2129
49	5.609	32.651	25.744	3799	2133
50	5.593	32.64	25.737	3800	2128
51	5.55	32.63	25.734	3799	2131
52	5.499	32.682	25.781	3801	2130
53	5.478	32.704	25.801	3802	2121
54	5.468	32.723	25.818	3802	2115
55	5.503	32.814	25.886	3802	2115
56	5.548	32.803	25.871	3801	2112
57	5.552	32.745	25.825	3801	2109
58	5.534	32.754	25.834	3801	2106
59	5.533	32.806	25.875	3801	2108
60	5.552	32.841	25.901	3801	2106
61	5.585	32.858	25.91	3801	2107
62	5.621	32.837	25.889	3802	2105
63	5.63	32.826	25.88	3801	2103
64	5.593	32.77	25.84	3801	2101
65	5.539	32.773	25.849	3802	2102
66	5.475	32.76	25.846	3802	2100
67	5.423	32.775	25.864	3803	2107
68	5.399	32.81	25.894	3802	2096
69	5.394	32.82	25.902	3802	2103
70	5.389	32.824	25.906	3802	2095
71	5.388	32.823	25.906	3802	2098
72	5.386	32.82	25.903	3801	2105
73	5.384	32.821	25.904	3803	2095
74	5.384	32.829	25.911	3802	2097
75	5.386	32.839	25.919	3802	2097
76	5.402	32.88	25.95	3802	2094
77	5.423	32.873	25.941	3802	2095
78	5.434	32.875	25.942	3802	2099
79	5.447	32.886	25.949	3802	2093
80	5.462	32.897	25.955	3802	2093
81	5.47	32.896	25.954	3801	2095
82	5.488	32.9	25.955	3801	2092
83	5.502	32.908	25.96	3801	2092
84	5.523	32.91	25.959	3801	2092
85	5.541	32.918	25.963	3800	2096
86	5.55	32.915	25.96	3800	2093
85	5.556	32.901	25.948	3800	2093
87	5.554	32.902	25.949	3801	2094
86	5.56	32.913	25.957	3801	2094
87	5.564	32.896	25.943	3800	2098
88	5.558	32.889	25.938	3800	2096
89	5.562	32.91	25.954	3800	2093
88	5.565	32.92	25.962	3800	2093

STATION: Sta04
R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
89	5.575	32.917	25.958	3800	2093
90	5.581	32.907	25.949	3799	2101
91	5.636	33.104	26.099	3798	2094
92	5.796	33.183	26.142	3795	2093
93	5.899	33.166	26.116	3792	2096
94	5.976	33.084	26.042	3789	2095
95	5.988	33.03	25.998	3788	2093
96	5.948	32.996	25.975	3790	2094
97	5.855	32.979	25.974	3792	2096
98	5.725	32.919	25.942	3794	2092
99	5.609	32.954	25.984	3796	2091
100	5.58	32.984	26.011	3797	2094
101	5.564	32.981	26.01	3797	2091
102	5.542	32.974	26.007	3796	2091
103	5.529	32.978	26.012	3797	2094
104	5.502	32.973	26.011	3796	2090
105	5.489	32.989	26.025	3795	2094
104	5.497	32.986	26.022	3795	2092





STATION: Sta05 (10)
 R/V Seward Johnson, 12-15 August, 1988

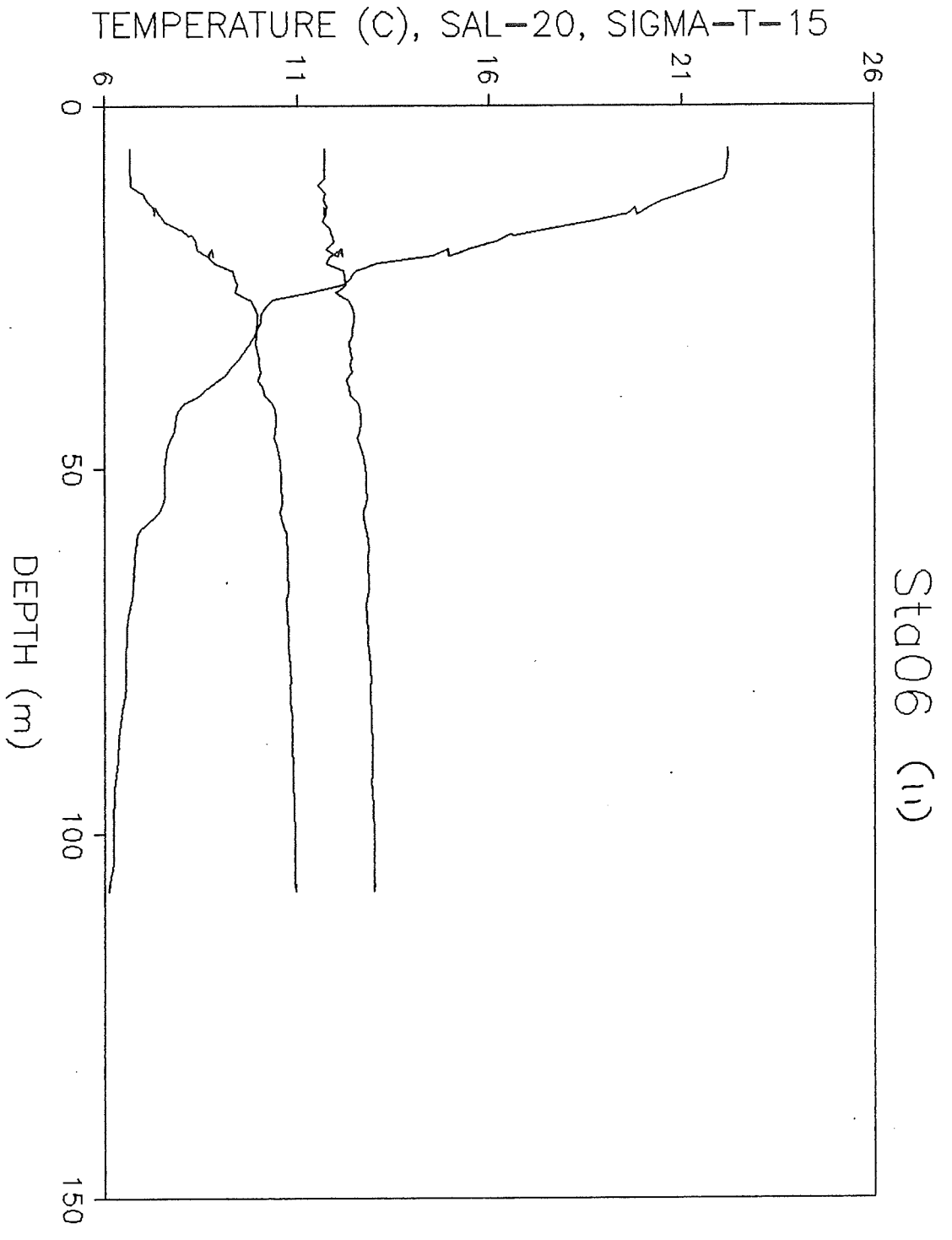
DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
5	20.925	31.754	22.046	3730	2173
6	20.607	31.516	21.949	3729	2177
7	19.094	31.413	22.26	3718	2183
8	17.468	31.654	22.839	3706	2212
9	17.36	31.972	23.108	3696	2232
10	18.588	32.252	23.026	3713	2234
11	17.499	31.687	22.857	3706	2235
12	16.336	31.775	23.194	3692	2242
13	16.016	31.944	23.395	3685	2253
12	15.992	31.961	23.414	3685	2253
13	15.901	32.021	23.48	3683	2265
14	15.738	32.006	23.505	3682	2275
15	15.304	31.982	23.582	3679	2289
16	14.707	32.031	23.747	3676	2298
17	14.05	31.765	23.679	3676	2304
18	12.585	31.758	23.963	3663	2336
19	11.835	32.212	24.456	3647	2402
20	11.743	32.31	24.549	3640	2440
19	11.708	32.271	24.525	3643	2453
20	11.462	32.187	24.504	3635	2483
21	11.202	32.263	24.61	3622	2545
22	11.034	32.38	24.731	3618	2617
23	10.868	32.348	24.735	3623	2647
24	10.748	32.316	24.731	3619	2668
25	10.613	32.399	24.819	3614	2691
26	10.512	32.324	24.777	3611	2721
27	10.301	32.269	24.771	3601	2740
28	9.891	32.3	24.863	3595	2789
29	9.453	32.237	24.885	3605	2823
30	9.243	32.247	24.926	3618	2835
31	9.071	32.313	25.004	3636	2839
32	8.862	32.306	25.031	3653	2833
33	8.705	32.376	25.109	3665	2821
34	8.561	32.377	25.132	3679	2811
35	8.384	32.412	25.186	3711	2778
36	8.23	32.401	25.2	3734	2727
37	8.03	32.426	25.249	3751	2665
38	7.836	32.445	25.291	3763	2580
39	7.617	32.483	25.353	3771	2521
40	7.548	32.669	25.508	3776	2466
41	7.53	32.661	25.504	3779	2424
42	7.48	32.686	25.531	3782	2404
43	7.442	32.741	25.579	3787	2356
44	7.405	32.768	25.606	3788	2313
45	7.363	32.771	25.614	3790	2273
46	7.326	32.786	25.631	3790	2243
47	7.304	32.811	25.653	3790	2226
48	7.299	32.828	25.668	3789	2205

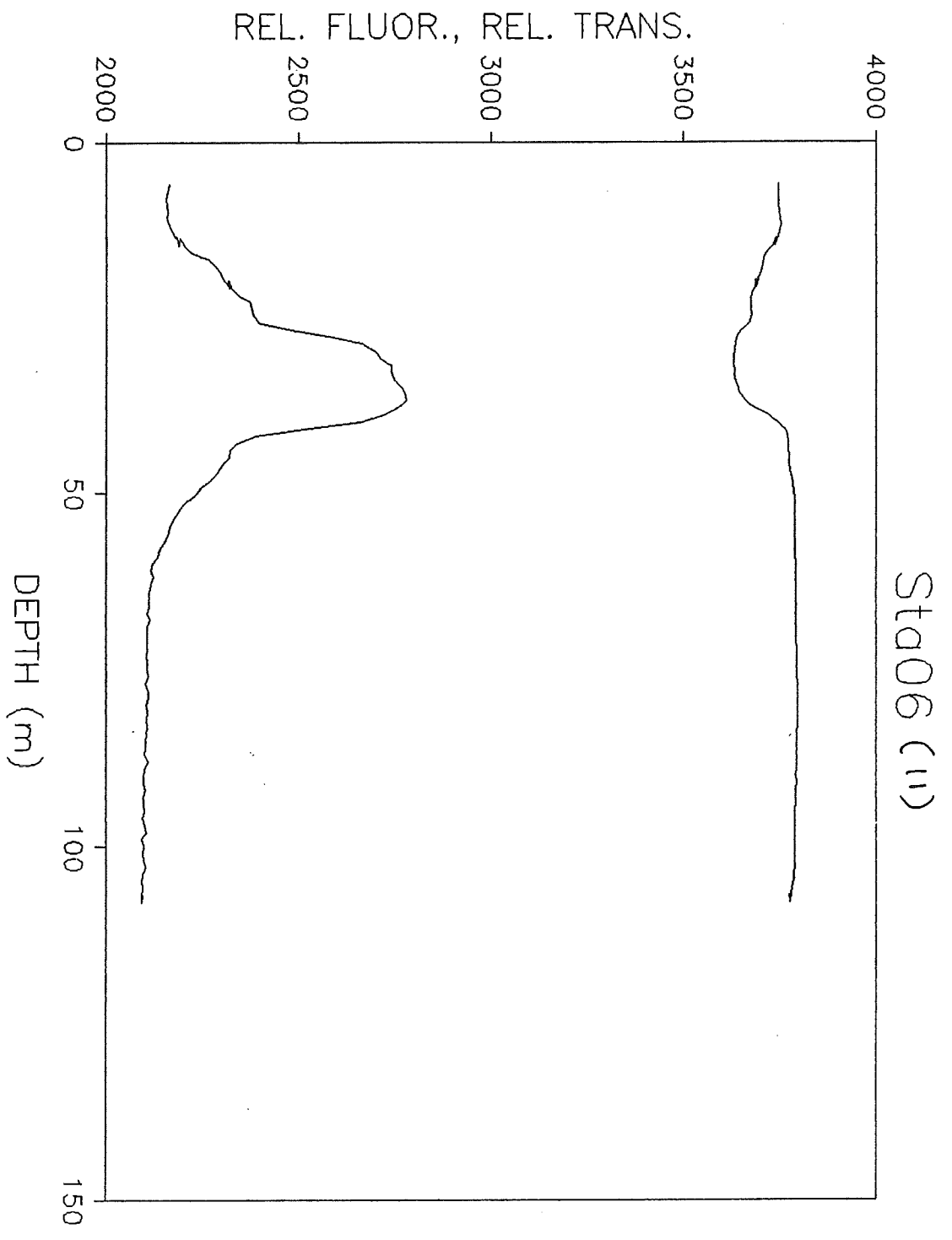
STATION: Sta05
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
49	7.296	32.846	25.682	3788	2198
50	7.294	32.867	25.699	3786	2186
51	7.292	32.875	25.706	3786	2176
52	7.287	32.877	25.708	3784	2167
53	7.273	32.869	25.704	3786	2149
54	7.259	32.874	25.709	3786	2143
55	7.241	32.867	25.706	3786	2134
56	7.216	32.871	25.713	3786	2129
57	7.205	32.87	25.714	3786	2127
56	7.2	32.869	25.713	3786	2125
57	7.18	32.853	25.704	3787	2127
58	7.147	32.864	25.716	3787	2121
59	7.129	32.881	25.733	3786	2133
60	7.108	32.874	25.73	3786	2117
61	7.066	32.879	25.739	3786	2118
62	7.026	32.88	25.746	3786	2115
63	6.987	32.887	25.756	3786	2109
64	6.941	32.892	25.767	3788	2108
65	6.891	32.886	25.768	3787	2108
66	6.819	32.844	25.745	3788	2110
67	6.748	32.854	25.762	3788	2102
68	6.593	32.699	25.66	3789	2103
69	6.416	32.812	25.772	3790	2100
70	6.255	32.675	25.685	3791	2101
71	6.039	32.706	25.736	3793	2099
72	5.936	32.845	25.858	3793	2097
73	5.958	33.009	25.985	3790	2097
74	6.027	33.074	26.028	3786	2097
73	6.058	33.048	26.003	3785	2097
74	6.079	33.046	25.999	3785	2111
75	6.107	33.031	25.984	3782	2102
76	6.123	33.016	25.97	3781	2102
77	6.117	33	25.958	3781	2104
78	6.099	33	25.96	3780	2105
79	6.085	33.012	25.971	3779	2100
80	6.076	33.018	25.977	3777	2102
81	6.065	33.018	25.978	3777	2098
82	6.057	33.031	25.99	3775	2104
83	6.057	33.04	25.997	3776	2098
84	6.066	33.077	26.025	3774	2101
85	6.052	33.057	26.011	3773	2099
86	6.028	33.063	26.019	3771	2098
87	6.014	33.073	26.028	3770	2097
88	6.008	33.083	26.037	3770	2095
89	6.004	33.088	26.042	3770	2096
90	6.002	33.09	26.043	3769	2095
91	6.004	33.096	26.048	3769	2096
92	6.007	33.099	26.05	3769	2100

STATION: Sta05
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
93	6.008	33.098	26.049	3769	2096
94	6.014	33.107	26.056	3770	2098
95	6.01	33.084	26.038	3770	2097
96	6.013	33.116	26.062	3769	2097
97	6.033	33.133	26.074	3769	2094
98	6.043	33.127	26.068	3767	2098
99	6.047	33.124	26.064	3767	2094
100	6.051	33.122	26.062	3765	2096
101	6.052	33.119	26.06	3767	2097
102	6.051	33.116	26.058	3767	2093
103	6.048	33.12	26.062	3767	2097
104	6.045	33.12	26.062	3767	2097
105	6.043	33.123	26.065	3765	2094
106	6.041	33.129	26.07	3764	2095
107	6.041	33.141	26.079	3763	2095
108	6.039	33.149	26.086	3761	2094
109	6.043	33.141	26.079	3759	2095
110	6.04	33.148	26.085	3761	2097
111	6.041	33.149	26.085	3759	2096
112	6.039	33.15	26.086	3759	2099
114	6.04	33.145	26.082	3758	2127
113	6.036	33.149	26.086	3755	2095
114	6.035	33.153	26.089	3754	2095
115	6.034	33.155	26.091	3754	2101
116	6.034	33.157	26.092	3754	2095
117	6.035	33.158	26.093	3753	2103
118	6.036	33.16	26.095	3754	2100
119	6.036	33.161	26.095	3754	2096
120	6.033	33.164	26.098	3751	2095
121	6.03	33.167	26.101	3749	2093
122	6.026	33.17	26.104	3748	2095
123	6.025	33.172	26.105	3746	2093
124	6.024	33.172	26.105	3745	2100
125	6.021	33.176	26.109	3744	2097
126	6.018	33.178	26.111	3742	2097
127	6.015	33.189	26.12	3741	2097
128	6.011	33.203	26.131	3737	2101
129	6.012	33.212	26.138	3734	2094
130	6.011	33.221	26.145	3732	2097
131	6.013	33.22	26.145	3729	2095
132	6.012	33.228	26.151	3727	2097
133	6.01	33.231	26.154	3725	2097
134	6.01	33.232	26.155	3723	2095
135	6.011	33.244	26.164	3721	2105





STATION: Sta06 (11)
 R/V Seward Johnson, 12-15 August, 1988

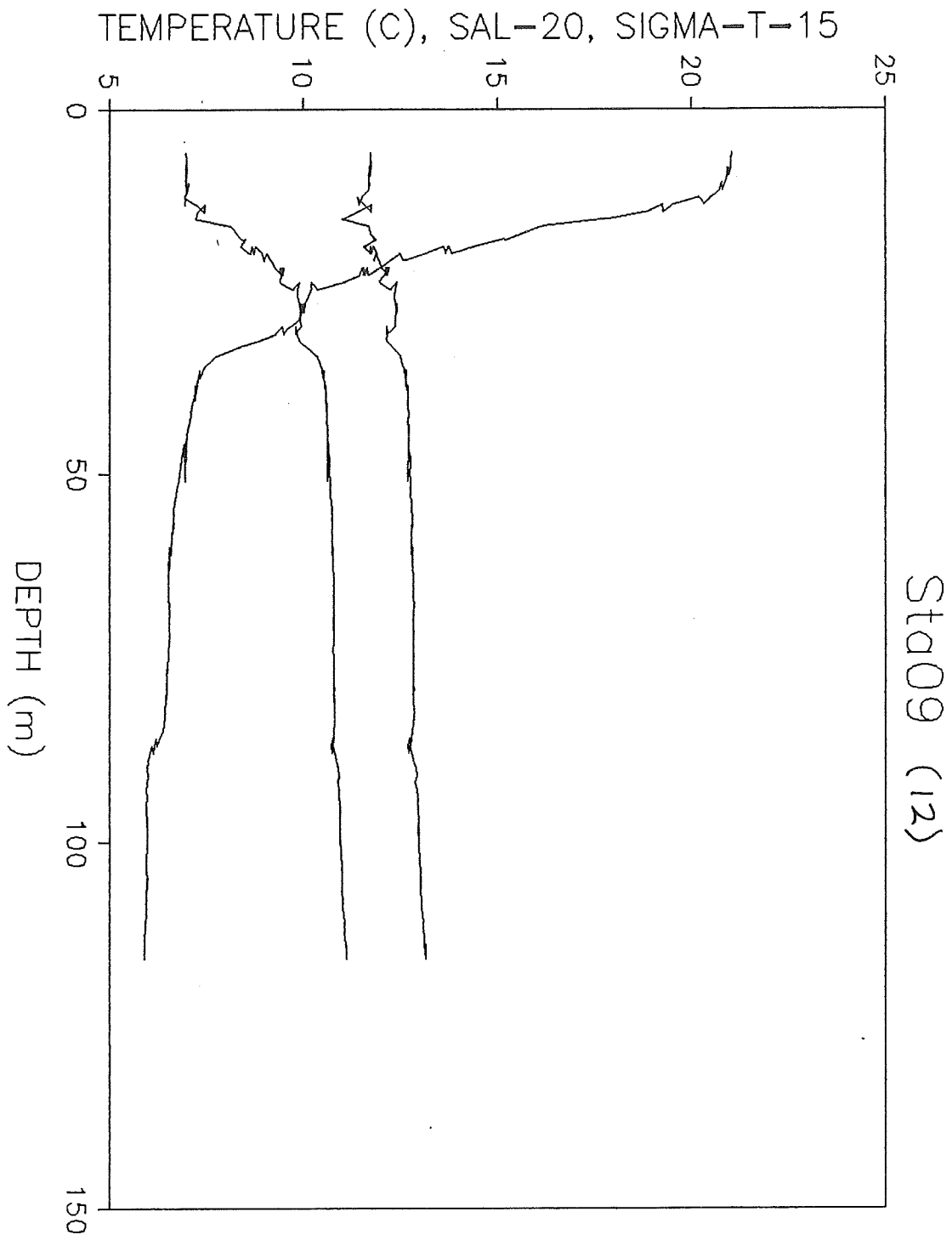
DEPTH. (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
6	22.201	31.729	21.681	3748	2165
7	22.198	31.728	21.681	3748	2160
8	22.183	31.726	21.683	3748	2156
9	22.173	31.724	21.685	3748	2157
10	22.113	31.713	21.693	3749	2160
11	21.621	31.549	21.703	3752	2159
12	21.074	31.754	22.007	3754	2166
13	20.513	31.689	22.106	3750	2174
14	20.132	31.794	22.285	3745	2183
15	19.821	31.711	22.302	3739	2188
14	19.772	31.712	22.316	3740	2191
15	19.531	31.769	22.421	3734	2201
16	18.658	31.664	22.56	3718	2222
17	17.486	31.851	22.986	3707	2263
18	16.544	31.899	23.242	3705	2280
19	16.131	31.945	23.37	3701	2294
20	15.467	31.775	23.386	3695	2304
21	14.994	32.063	23.71	3689	2317
20	14.956	32.16	23.793	3688	2315
21	14.952	32.174	23.805	3689	2322
20	14.944	32.141	23.781	3689	2315
21	14.499	31.861	23.66	3687	2323
22	13.073	31.772	23.88	3678	2340
23	12.532	32.207	24.321	3675	2370
24	12.398	32.242	24.373	3675	2376
25	12.139	32.25	24.429	3678	2381
26	11.32	32.004	24.387	3674	2393
27	10.354	32.295	24.782	3653	2485
28	10.175	32.412	24.903	3642	2591
29	10.064	32.452	24.953	3637	2666
30	10.049	32.457	24.959	3634	2697
31	9.962	32.407	24.934	3631	2711
32	9.883	32.41	24.95	3631	2740
33	9.787	32.348	24.917	3633	2741
34	9.632	32.365	24.956	3635	2749
35	9.49	32.406	25.011	3640	2767
36	9.319	32.369	25.009	3646	2776
37	9.17	32.41	25.064	3659	2781
38	8.906	32.273	24.998	3682	2757
39	8.649	32.347	25.095	3719	2718
40	8.429	32.371	25.147	3743	2659
41	8.087	32.559	25.345	3764	2512
42	7.919	32.621	25.418	3771	2384
43	7.859	32.65	25.449	3773	2338
44	7.836	32.641	25.445	3773	2319
45	7.805	32.619	25.433	3774	2317
46	7.726	32.553	25.392	3775	2301
47	7.642	32.635	25.469	3777	2291

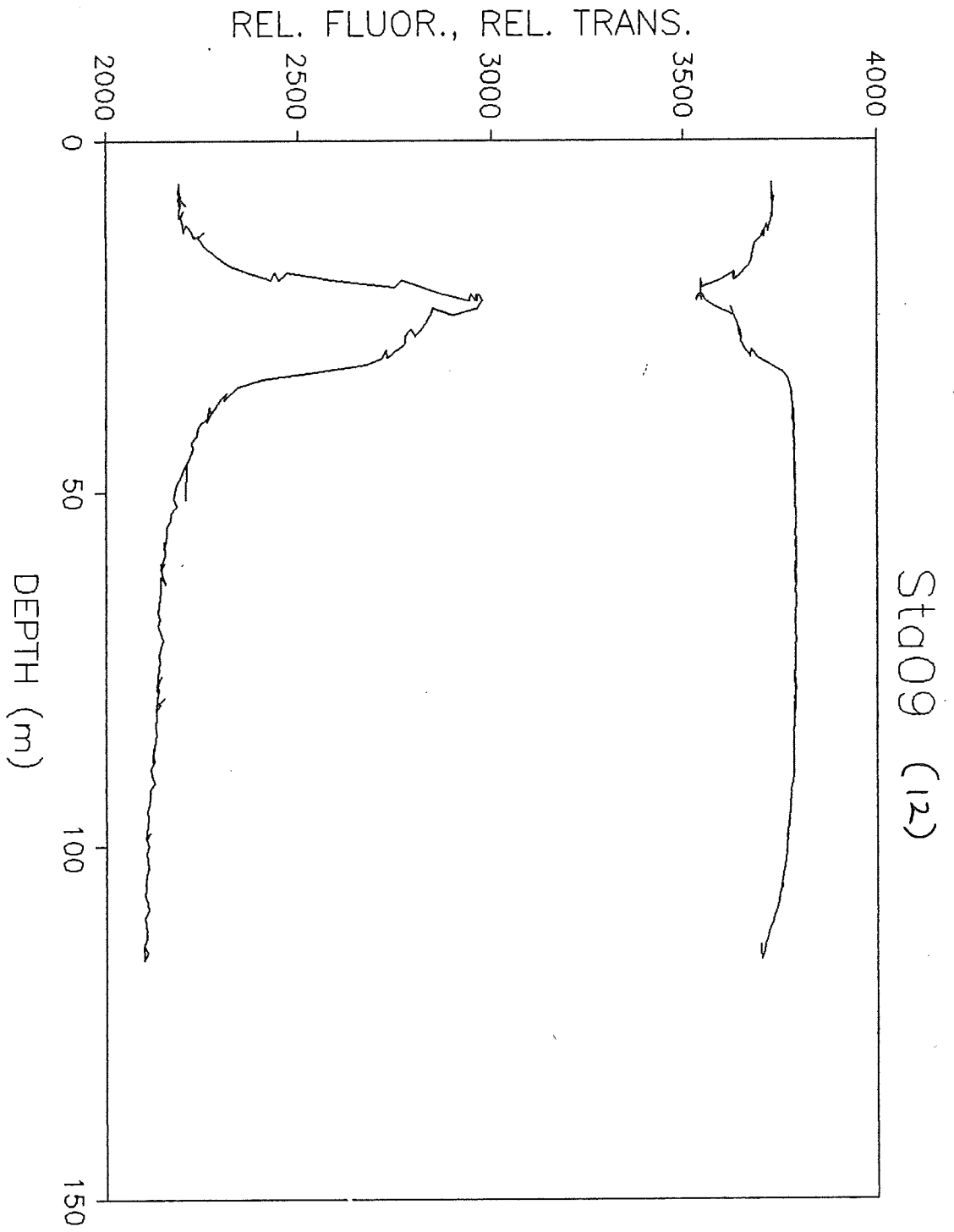
STATION: Sta06
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
48	7.601	32.703	25.528	3781	2271
49	7.579	32.737	25.558	3785	2251
50	7.564	32.755	25.573	3787	2236
51	7.556	32.776	25.591	3788	2211
52	7.556	32.783	25.596	3788	2196
53	7.557	32.785	25.598	3789	2184
54	7.547	32.804	25.614	3789	2171
55	7.514	32.789	25.607	3789	2164
56	7.41	32.72	25.567	3789	2160
57	7.218	32.715	25.59	3789	2151
58	6.98	32.768	25.664	3790	2139
59	6.865	32.816	25.717	3790	2134
60	6.835	32.834	25.735	3791	2122
61	6.824	32.857	25.755	3791	2116
62	6.804	32.835	25.74	3791	2123
63	6.784	32.83	25.739	3791	2116
64	6.768	32.84	25.749	3792	2111
65	6.76	32.849	25.756	3791	2111
66	6.758	32.856	25.763	3791	2112
67	6.758	32.861	25.767	3792	2107
68	6.73	32.798	25.72	3791	2113
69	6.668	32.789	25.722	3792	2106
70	6.628	32.809	25.743	3792	2106
71	6.604	32.815	25.75	3792	2106
72	6.587	32.83	25.764	3793	2106
73	6.583	32.839	25.772	3793	2105
74	6.575	32.842	25.775	3793	2106
75	6.567	32.847	25.78	3793	2106
76	6.564	32.869	25.798	3794	2110
77	6.563	32.894	25.818	3796	2103
78	6.559	32.897	25.821	3795	2109
79	6.56	32.919	25.838	3796	2109
80	6.556	32.902	25.825	3796	2105
81	6.537	32.893	25.821	3796	2107
82	6.515	32.897	25.827	3796	2104
83	6.477	32.915	25.846	3796	2106
84	6.445	32.926	25.859	3794	2105
85	6.421	32.93	25.864	3794	2102
86	6.4	32.933	25.87	3794	2102
87	6.387	32.937	25.874	3793	2100
88	6.378	32.937	25.876	3793	2109
89	6.361	32.937	25.877	3793	2100
90	6.344	32.94	25.882	3792	2099
91	6.328	32.943	25.887	3793	2099
92	6.313	32.938	25.885	3792	2103
93	6.29	32.936	25.886	3791	2097
94	6.27	32.949	25.898	3791	2099
95	6.258	32.957	25.907	3790	2101

STATION: Sta06
R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
96	6.252	32.965	25.913	3790	2096
97	6.244	32.967	25.916	3789	2100
98	6.234	32.971	25.92	3789	2105
99	6.23	32.984	25.931	3789	2094
100	6.231	32.996	25.94	3789	2097
101	6.236	32.989	25.935	3789	2095
102	6.233	32.994	25.939	3788	2097
103	6.233	32.997	25.941	3788	2102
104	6.232	32.996	25.941	3787	2095
105	6.206	32.986	25.936	3786	2094
106	6.177	32.994	25.946	3783	2095
107	6.147	32.99	25.946	3780	2094
108	6.129	33.003	25.959	3778	2094
107	6.127	33.01	25.965	3776	2095





STATION: Sta09 (12)
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
6	21.034	31.735	22.003	3726	2191
7	21.011	31.744	22.016	3727	2190
8	21.009	31.757	22.026	3728	2196
7	21.012	31.762	22.029	3727	2189
8	21.005	31.725	22.003	3727	2191
9	20.971	31.707	21.998	3729	2208
8	20.96	31.718	22.009	3728	2188
9	20.938	31.734	22.028	3728	2190
8	20.928	31.73	22.027	3734	2188
9	20.924	31.688	21.996	3729	2194
10	20.877	31.683	22.005	3728	2191
11	20.81	31.687	22.026	3728	2191
10	20.774	31.713	22.055	3729	2202
11	20.732	31.688	22.047	3727	2196
12	20.505	31.525	21.983	3721	2199
13	20.32	31.443	21.969	3718	2203
12	20.185	31.399	21.971	3714	2208
13	19.538	31.586	22.28	3708	2223
14	19.276	31.772	22.488	3706	2229
13	19.266	31.772	22.49	3706	2255
14	18.889	31.397	22.299	3699	2238
15	17.871	31.006	22.248	3682	2252
16	16.159	31.683	23.163	3679	2276
17	15.608	31.738	23.327	3676	2295
18	15.136	31.882	23.541	3669	2322
19	14.428	31.547	23.433	3652	2370
20	13.827	31.725	23.694	3630	2430
19	13.752	31.729	23.712	3630	2440
20	13.685	31.77	23.757	3628	2449
19	13.623	31.81	23.801	3627	2472
20	13.144	31.893	23.959	3594	2589
21	12.604	31.827	24.013	3547	2750
20	12.501	31.877	24.071	3544	2768
22	11.966	32.024	24.285	3543	2877
23	11.668	32.178	24.459	3545	2945
22	11.649	32.14	24.434	3546	2948
23	11.606	32.151	24.45	3547	2958
22	11.561	32.172	24.474	3538	2963
23	11.544	32.188	24.49	3532	2964
22	11.527	32.22	24.518	3547	2967
23	11.46	32.12	24.452	3555	2977
24	11.024	31.972	24.415	3585	2966
25	10.36	32.267	24.759	3627	2900
24	10.208	32.437	24.917	3621	2849
25	10.221	32.388	24.877	3626	2844
26	10.151	32.363	24.869	3636	2833
27	10.058	32.395	24.909	3642	2819
28	10.019	32.424	24.938	3644	2803

STATION: Sta09

R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
27	10.001	32.44	24.954	3643	2793
28	9.982	32.417	24.939	3647	2778
29	9.918	32.395	24.932	3648	2777
30	9.666	32.389	24.969	3657	2752
31	9.513	32.159	24.814	3671	2729
30	9.482	32.158	24.818	3674	2728
31	9.317	32.17	24.854	3686	2718
32	8.853	32.151	24.911	3719	2675
33	8.24	32.341	25.152	3752	2542
34	7.783	32.524	25.361	3766	2403
35	7.564	32.55	25.412	3773	2344
36	7.427	32.615	25.482	3776	2324
37	7.361	32.647	25.517	3777	2306
36	7.346	32.659	25.528	3778	2314
37	7.324	32.663	25.535	3778	2296
38	7.273	32.676	25.552	3779	2285
39	7.24	32.701	25.576	3780	2272
38	7.23	32.714	25.588	3780	2268
39	7.227	32.713	25.587	3781	2265
40	7.224	32.713	25.588	3780	2263
39	7.219	32.719	25.593	3780	2271
40	7.193	32.709	25.589	3781	2251
41	7.142	32.713	25.599	3784	2239
42	7.115	32.73	25.616	3783	2236
43	7.083	32.721	25.613	3785	2223
44	7.05	32.738	25.631	3785	2225
45	7.029	32.741	25.636	3785	2218
46	7.002	32.727	25.629	3785	2208
51	6.977	32.716	25.623	3787	2206
46	6.962	32.742	25.646	3786	2208
47	6.93	32.745	25.652	3787	2199
48	6.887	32.77	25.678	3787	2192
49	6.864	32.776	25.685	3786	2184
50	6.837	32.767	25.682	3787	2180
51	6.806	32.774	25.692	3787	2176
52	6.776	32.777	25.698	3787	2184
53	6.74	32.781	25.706	3788	2170
54	6.705	32.801	25.726	3788	2167
55	6.684	32.813	25.738	3788	2157
56	6.673	32.825	25.749	3787	2158
57	6.67	32.821	25.747	3788	2155
58	6.658	32.812	25.741	3788	2150
57	6.649	32.811	25.741	3787	2150
59	6.626	32.803	25.738	3788	2154
60	6.602	32.806	25.744	3788	2147
61	6.593	32.8	25.74	3789	2145
60	6.582	32.813	25.751	3787	2150
61	6.569	32.818	25.757	3787	2144

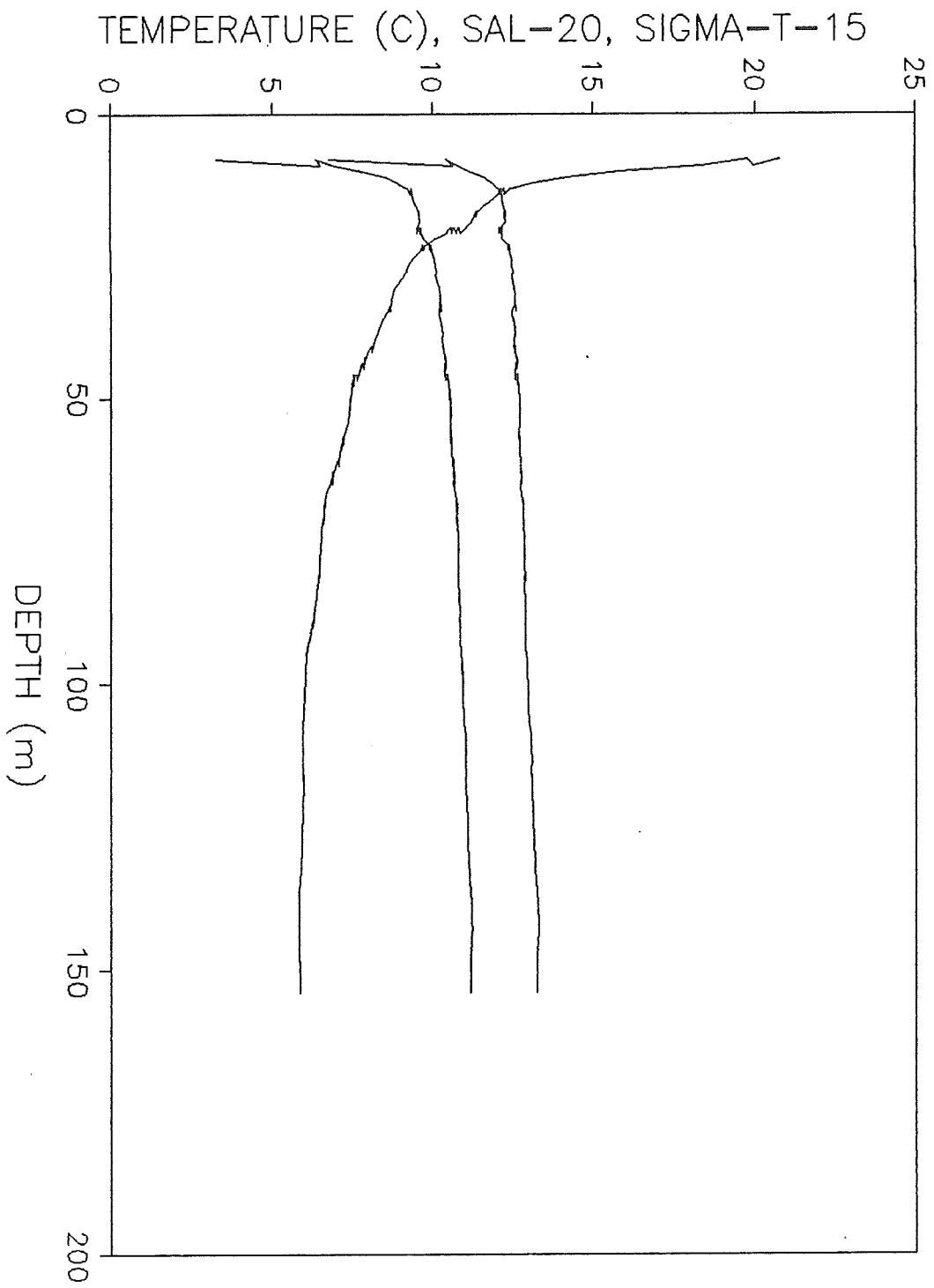
STATION: Sta09
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
60	6.556	32.831	25.769	3790	2143
61	6.557	32.826	25.765	3787	2143
63	6.557	32.818	25.759	3787	2153
62	6.543	32.83	25.77	3788	2141
63	6.539	32.836	25.775	3789	2141
64	6.534	32.848	25.786	3787	2141
65	6.535	32.854	25.79	3788	2139
66	6.539	32.855	25.79	3788	2137
67	6.54	32.861	25.795	3787	2134
68	6.549	32.863	25.795	3786	2140
69	6.553	32.859	25.792	3787	2135
70	6.556	32.856	25.789	3787	2141
71	6.557	32.854	25.787	3788	2149
72	6.556	32.853	25.786	3787	2143
73	6.553	32.847	25.782	3787	2137
74	6.539	32.839	25.777	3786	2139
75	6.525	32.845	25.784	3787	2138
76	6.515	32.846	25.786	3785	2135
77	6.503	32.845	25.787	3784	2134
76	6.501	32.847	25.789	3785	2144
77	6.496	32.851	25.792	3786	2134
78	6.492	32.857	25.798	3788	2133
77	6.491	32.855	25.796	3787	2132
78	6.491	32.854	25.796	3786	2138
79	6.485	32.861	25.802	3786	2132
80	6.481	32.857	25.8	3787	2132
79	6.477	32.864	25.805	3785	2151
80	6.482	32.858	25.8	3786	2131
81	6.475	32.851	25.795	3786	2131
80	6.463	32.853	25.798	3785	2141
81	6.458	32.859	25.804	3785	2130
82	6.449	32.862	25.807	3785	2131
83	6.439	32.863	25.809	3784	2129
84	6.424	32.858	25.808	3783	2130
85	6.386	32.828	25.789	3783	2128
86	6.306	32.808	25.783	3782	2126
87	6.24	32.774	25.764	3782	2124
86	6.213	32.763	25.759	3781	2123
87	6.167	32.715	25.727	3782	2123
88	6.139	32.724	25.737	3782	2122
87	6.094	32.764	25.775	3782	2121
88	6.037	32.797	25.808	3782	2125
89	5.991	32.847	25.853	3782	2117
90	5.969	32.917	25.911	3782	2119
91	6	32.95	25.933	3779	2125
92	5.985	32.904	25.899	3775	2113
93	5.967	32.934	25.925	3776	2114
94	5.969	32.955	25.941	3773	2111

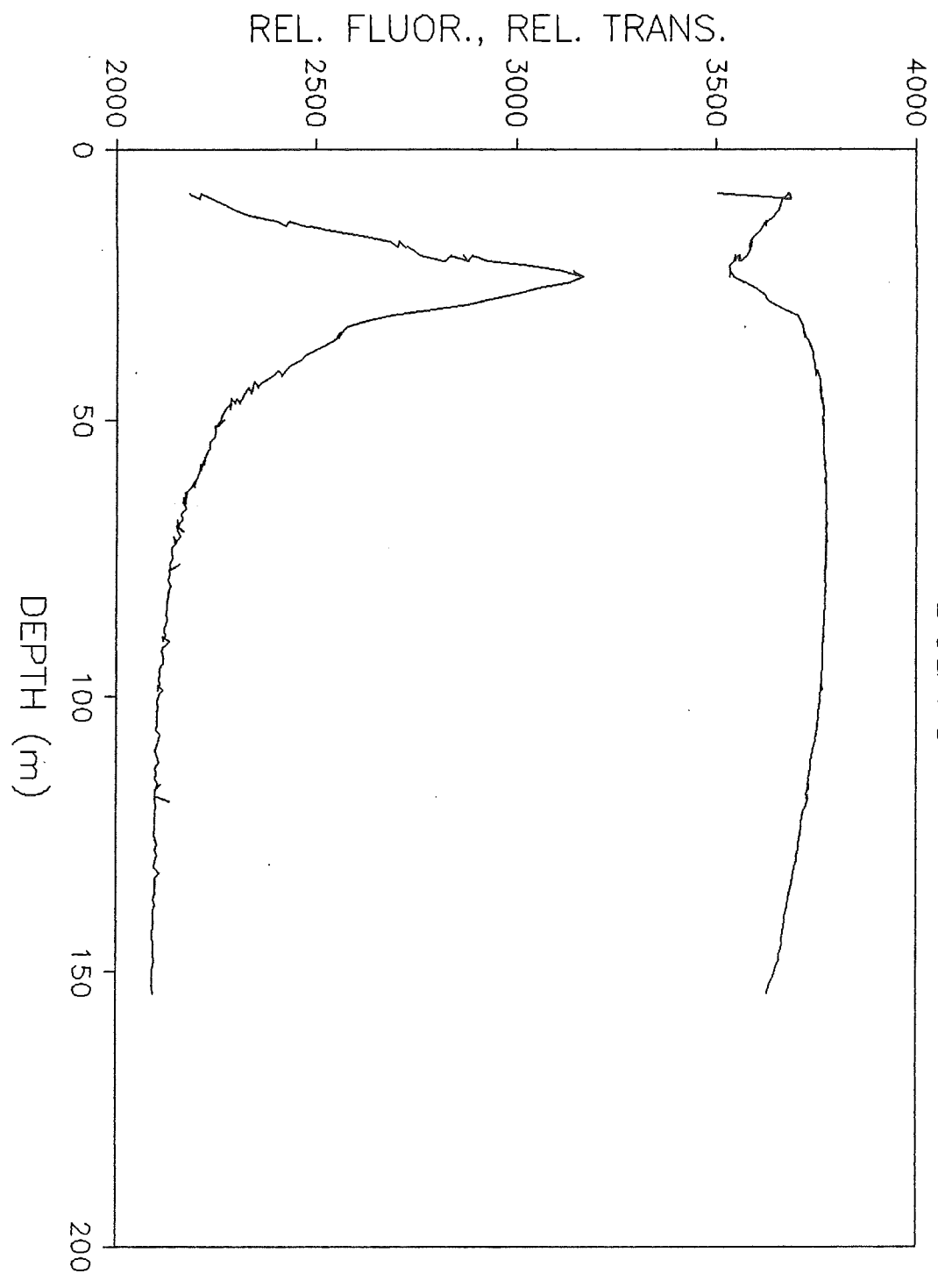
STATION: Sta09
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
95	5.964	32.957	25.943	3772	2108
96	5.966	32.973	25.955	3770	2109
97	5.973	32.981	25.961	3768	2108
98	5.977	32.985	25.964	3766	2104
99	5.982	32.977	25.956	3764	2103
98	5.983	32.976	25.956	3766	2115
99	5.977	32.979	25.959	3765	2105
100	5.975	32.98	25.96	3764	2109
101	5.968	32.985	25.965	3763	2104
102	5.964	33.001	25.978	3761	2106
103	5.965	33.016	25.99	3759	2109
104	5.966	33.027	25.998	3754	2104
105	5.973	33.026	25.997	3753	2102
106	5.968	33.03	26	3752	2102
105	5.971	33.038	26.006	3753	2103
106	5.971	33.04	26.008	3749	2102
107	5.967	33.04	26.008	3746	2101
108	5.964	33.053	26.019	3742	2106
109	5.958	33.062	26.027	3738	2110
110	5.948	33.079	26.041	3732	2100
111	5.931	33.1	26.06	3726	2102
112	5.922	33.107	26.067	3718	2105
113	5.914	33.12	26.078	3716	2104
114	5.913	33.131	26.087	3709	2099
115	5.909	33.16	26.11	3705	2106
116	5.91	33.166	26.115	3699	2098
115	5.91	33.165	26.114	3696	2097
114	5.911	33.164	26.113	3697	2097

Sta10 (13)



Sta10 (13)



STATION: Sta10 (13)
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
8	20.78	26.773	18.302	3504	2184
9	19.92	30.656	21.474	3688	2210
8	19.753	30.453	21.362	3682	2212
9	18.347	30.82	21.991	3667	2238
10	15.807	31.167	22.845	3661	2272
11	14.182	31.646	23.56	3658	2296
12	13.168	31.851	23.922	3645	2334
13	12.442	32.062	24.226	3627	2402
14	12.271	32.139	24.318	3624	2427
13	12.239	32.155	24.336	3625	2433
14	12.081	32.187	24.39	3618	2470
15	11.879	32.177	24.42	3610	2531
16	11.632	32.221	24.5	3596	2616
17	11.437	32.279	24.58	3588	2686
18	11.378	32.297	24.605	3587	2706
17	11.372	32.294	24.604	3586	2708
18	11.319	32.275	24.598	3584	2722
19	11.233	32.302	24.635	3582	2743
20	11.077	32.197	24.581	3575	2763
21	10.868	32.105	24.546	3561	2819
20	10.813	32.104	24.554	3557	2835
21	10.762	32.1	24.56	3555	2879
20	10.687	32.137	24.602	3554	2867
21	10.631	32.165	24.633	3549	2879
20	10.594	32.183	24.654	3547	2888
21	10.475	32.18	24.671	3543	2928
22	10.095	32.188	24.742	3531	3036
23	9.804	32.399	24.954	3531	3116
24	9.749	32.427	24.985	3533	3167
23	9.739	32.428	24.988	3533	3142
24	9.696	32.385	24.961	3541	3163
25	9.514	32.411	25.01	3571	3129
26	9.365	32.47	25.08	3596	3052
27	9.265	32.472	25.098	3616	2997
28	9.193	32.499	25.13	3625	2930
29	9.093	32.46	25.115	3646	2874
30	8.964	32.508	25.173	3673	2774
31	8.835	32.525	25.207	3700	2687
32	8.765	32.555	25.24	3709	2623
33	8.72	32.563	25.254	3715	2576
35	8.699	32.577	25.268	3719	2557
34	8.68	32.554	25.253	3717	2561
35	8.619	32.479	25.203	3721	2551
36	8.5	32.472	25.216	3731	2529
37	8.402	32.522	25.27	3736	2502
38	8.326	32.555	25.306	3740	2474
39	8.274	32.567	25.324	3741	2463
40	8.191	32.528	25.306	3745	2435

STATION: Sta10
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
42	8.109	32.566	25.347	3748	2412
41	8.068	32.515	25.313	3750	2403
42	8	32.549	25.35	3755	2388
43	7.928	32.599	25.399	3758	2365
44	7.886	32.633	25.432	3759	2352
43	7.865	32.617	25.422	3760	2342
45	7.845	32.615	25.424	3759	2336
44	7.802	32.575	25.399	3762	2329
46	7.71	32.56	25.4	3762	2314
47	7.647	32.567	25.414	3763	2305
46	7.621	32.584	25.431	3765	2300
47	7.57	32.615	25.463	3765	2294
46	7.533	32.634	25.483	3765	2286
48	7.515	32.647	25.496	3765	2283
47	7.5	32.66	25.508	3766	2285
48	7.479	32.668	25.517	3767	2271
49	7.457	32.684	25.533	3767	2264
50	7.435	32.69	25.541	3766	2259
51	7.419	32.702	25.552	3766	2250
50	7.413	32.705	25.555	3767	2267
51	7.411	32.708	25.558	3767	2247
52	7.405	32.71	25.56	3768	2245
51	7.403	32.703	25.555	3768	2244
52	7.392	32.702	25.556	3767	2245
53	7.374	32.705	25.56	3768	2244
54	7.355	32.709	25.566	3769	2232
55	7.333	32.699	25.562	3769	2232
56	7.275	32.684	25.557	3769	2225
57	7.221	32.678	25.56	3770	2220
58	7.2	32.697	25.578	3772	2219
57	7.182	32.704	25.586	3771	2220
58	7.169	32.703	25.587	3772	2213
59	7.153	32.7	25.587	3772	2211
58	7.143	32.706	25.593	3771	2210
59	7.124	32.717	25.604	3773	2208
60	7.091	32.716	25.607	3774	2205
61	7.063	32.727	25.62	3773	2198
62	7.051	32.733	25.627	3775	2196
61	7.026	32.745	25.639	3775	2194
62	6.984	32.738	25.64	3775	2188
63	6.917	32.732	25.644	3775	2176
64	6.877	32.748	25.662	3775	2174
63	6.858	32.757	25.671	3776	2171
65	6.855	32.753	25.669	3775	2171
64	6.834	32.759	25.676	3775	2168
65	6.798	32.734	25.661	3776	2168
66	6.721	32.744	25.679	3777	2175
67	6.674	32.771	25.706	3776	2162

STATION: Sta10
 R/V Seward Johnson, 12-15 August, 1988

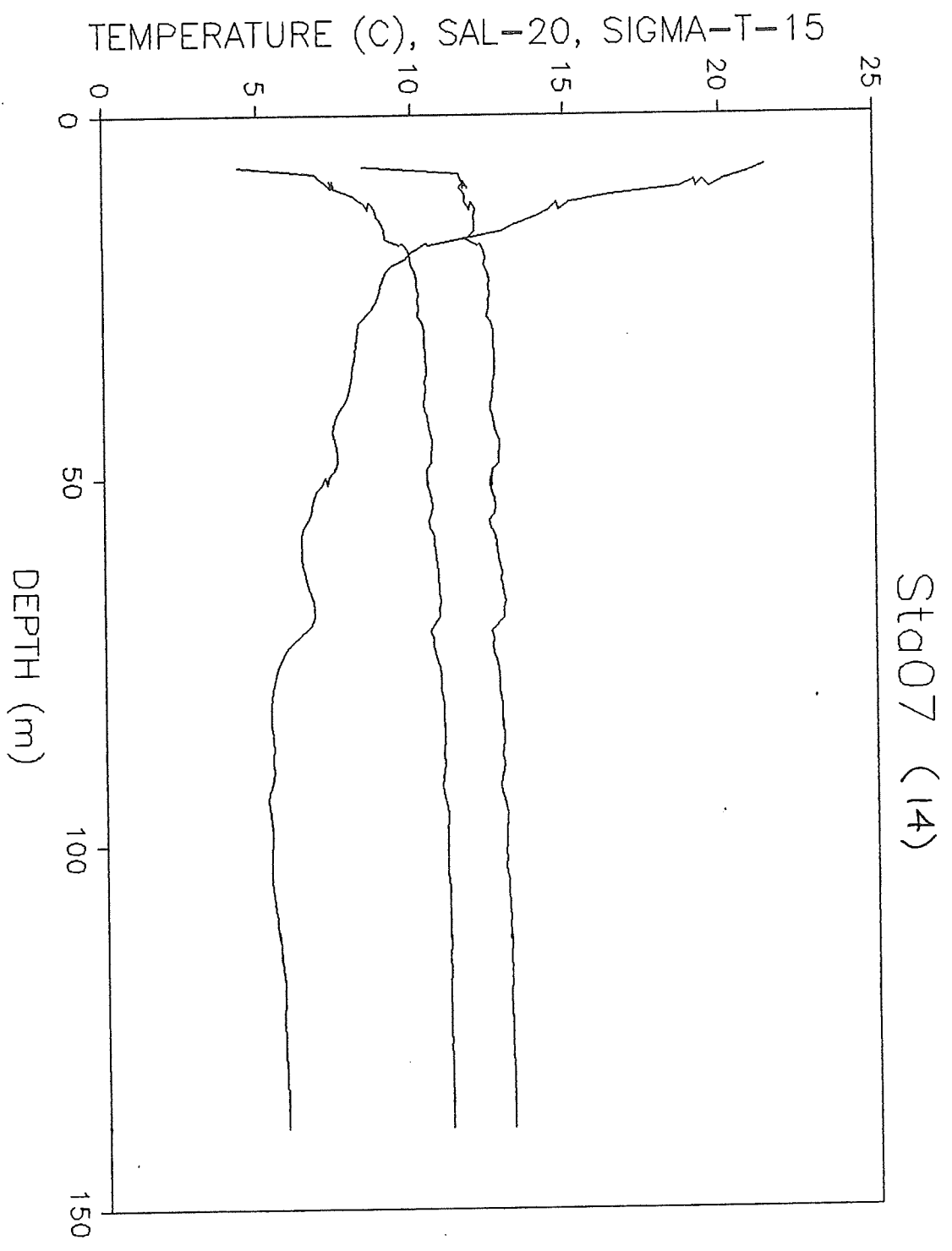
DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
68	6.644	32.801	25.734	3776	2165
69	6.633	32.808	25.741	3777	2156
68	6.625	32.815	25.748	3776	2154
69	6.614	32.82	25.753	3777	2153
70	6.617	32.816	25.749	3776	2167
69	6.611	32.826	25.758	3776	2152
70	6.603	32.828	25.761	3776	2153
71	6.597	32.811	25.748	3777	2160
72	6.587	32.811	25.75	3777	2146
71	6.577	32.822	25.759	3776	2145
72	6.556	32.818	25.759	3776	2151
73	6.53	32.83	25.771	3776	2140
74	6.512	32.839	25.781	3775	2140
75	6.502	32.847	25.789	3775	2142
76	6.49	32.836	25.782	3775	2135
77	6.48	32.851	25.795	3774	2134
76	6.477	32.86	25.802	3775	2159
77	6.476	32.853	25.797	3773	2133
78	6.466	32.857	25.801	3773	2134
79	6.455	32.862	25.807	3773	2131
80	6.454	32.858	25.803	3774	2137
81	6.445	32.863	25.809	3773	2132
82	6.44	32.863	25.809	3772	2130
81	6.439	32.854	25.802	3774	2130
82	6.424	32.837	25.791	3773	2130
83	6.399	32.856	25.809	3772	2129
84	6.377	32.861	25.816	3772	2127
85	6.357	32.869	25.825	3771	2126
86	6.335	32.874	25.831	3771	2128
87	6.313	32.885	25.843	3770	2126
88	6.296	32.891	25.85	3769	2121
89	6.28	32.873	25.837	3769	2124
90	6.258	32.875	25.842	3768	2119
89	6.242	32.884	25.851	3770	2117
90	6.233	32.878	25.847	3767	2135
91	6.206	32.879	25.851	3766	2118
92	6.161	32.871	25.851	3766	2115
93	6.12	32.876	25.86	3765	2119
94	6.084	32.886	25.872	3765	2119
95	6.057	32.905	25.891	3765	2110
96	6.039	32.925	25.908	3764	2110
97	6.034	32.93	25.914	3764	2107
98	6.028	32.936	25.918	3763	2110
99	6.022	32.947	25.928	3765	2105
98	6.026	32.948	25.928	3762	2104
99	6.024	32.947	25.928	3762	2116
100	6.017	32.956	25.935	3760	2106
101	6.007	32.96	25.94	3759	2103

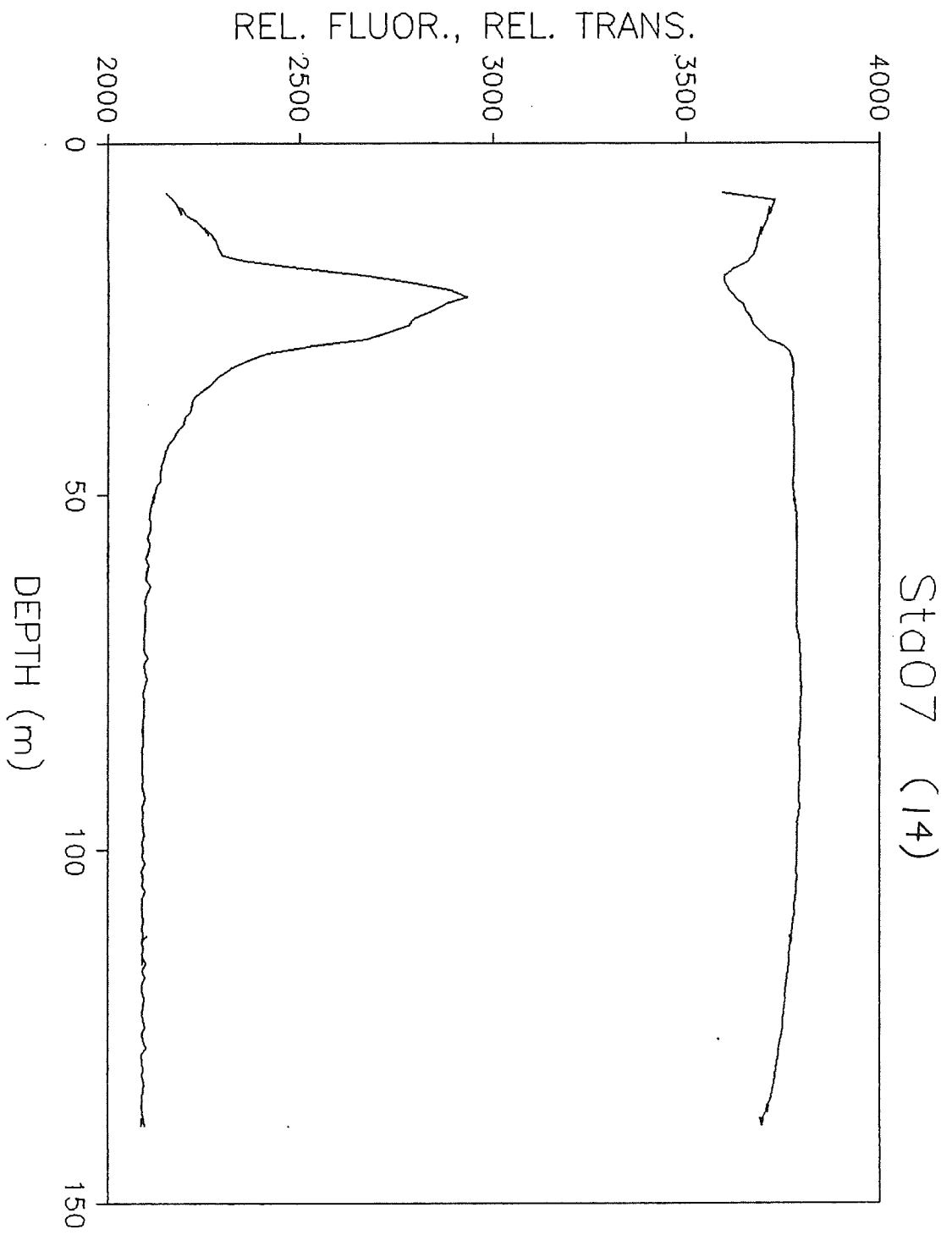
STATION: Sta10
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
102	6.003	32.962	25.942	3757	2105
103	5.989	32.963	25.945	3755	2103
104	5.973	32.967	25.95	3754	2103
105	5.961	32.978	25.96	3753	2102
106	5.952	32.992	25.972	3751	2101
107	5.943	32.999	25.979	3750	2110
108	5.934	33.013	25.991	3747	2106
109	5.933	33.046	26.018	3744	2102
110	5.935	33.051	26.021	3740	2099
111	5.934	33.055	26.024	3737	2102
112	5.935	33.06	26.028	3735	2108
113	5.94	33.071	26.036	3735	2099
114	5.944	33.067	26.032	3733	2101
115	5.947	33.065	26.031	3732	2098
116	5.947	33.063	26.029	3730	2105
117	5.946	33.07	26.034	3732	2099
116	5.953	33.076	26.039	3729	2111
117	5.954	33.073	26.036	3729	2099
118	5.958	33.072	26.035	3725	2099
119	5.963	33.067	26.03	3728	2134
118	5.962	33.077	26.038	3728	2099
119	5.961	33.069	26.032	3728	2099
120	5.948	33.092	26.051	3723	2100
121	5.943	33.105	26.063	3718	2097
122	5.936	33.113	26.069	3714	2099
123	5.931	33.116	26.073	3713	2099
124	5.927	33.118	26.075	3712	2097
125	5.918	33.122	26.079	3710	2096
126	5.908	33.133	26.089	3708	2098
127	5.905	33.138	26.094	3705	2102
128	5.903	33.141	26.096	3705	2097
129	5.903	33.143	26.098	3702	2102
130	5.9	33.152	26.105	3701	2099
131	5.89	33.163	26.115	3696	2096
132	5.882	33.172	26.123	3693	2109
133	5.877	33.178	26.128	3691	2097
134	5.864	33.19	26.14	3689	2099
135	5.848	33.208	26.155	3686	2099
136	5.834	33.214	26.162	3683	2098
137	5.822	33.234	26.179	3681	2094
138	5.819	33.243	26.187	3678	2099
139	5.817	33.25	26.192	3676	2094
140	5.819	33.267	26.206	3672	2093
141	5.822	33.268	26.206	3671	2094
142	5.824	33.274	26.211	3669	2094
143	5.828	33.282	26.216	3666	2092
144	5.831	33.278	26.213	3664	2091
145	5.832	33.265	26.203	3663	2093

STATION: Sta10
R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
146	5.833	33.251	26.191	3662	2094
147	5.834	33.233	26.177	3658	2093
148	5.835	33.224	26.17	3656	2095
149	5.839	33.216	26.163	3650	2093
150	5.843	33.215	26.162	3647	2092
151	5.85	33.214	26.16	3643	2091
152	5.854	33.212	26.158	3636	2091
153	5.856	33.211	26.157	3631	2092
154	5.859	33.224	26.167	3626	2093





STATION: Sta07 (14)
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
7	21.47	28.452	19.395	3597	2155
8	20.886	31.539	21.893	3733	2174
9	20.101	31.634	22.172	3726	2185
10	19.667	31.822	22.427	3722	2192
9	19.452	31.674	22.369	3720	2191
10	19.231	31.691	22.437	3719	2196
9	19.185	31.719	22.47	3719	2196
10	18.655	31.577	22.494	3717	2205
11	16.467	31.75	23.145	3713	2232
12	15.162	31.758	23.44	3704	2250
13	14.814	31.882	23.61	3697	2265
12	14.759	31.939	23.665	3696	2256
13	14.523	32.096	23.836	3693	2273
14	14.037	32.039	23.893	3688	2282
15	13.413	32.078	24.049	3684	2289
16	12.953	32.075	24.137	3679	2300
17	11.607	31.787	24.167	3663	2356
18	10.41	32.236	24.726	3624	2500
19	10.05	32.365	24.887	3600	2664
20	9.832	32.401	24.951	3599	2789
21	9.383	32.367	24.997	3611	2888
22	9.18	32.463	25.104	3628	2933
23	9.092	32.521	25.163	3647	2877
24	9.014	32.506	25.164	3654	2843
25	8.931	32.541	25.204	3669	2800
26	8.868	32.502	25.183	3676	2784
27	8.71	32.508	25.212	3695	2730
28	8.483	32.447	25.198	3712	2672
29	8.283	32.593	25.343	3754	2532
30	8.242	32.64	25.386	3771	2412
31	8.219	32.647	25.395	3777	2365
32	8.188	32.639	25.393	3779	2323
33	8.155	32.665	25.418	3779	2295
34	8.125	32.666	25.423	3777	2275
35	8.087	32.681	25.441	3778	2252
36	8.047	32.677	25.443	3779	2229
37	8.009	32.619	25.403	3779	2220
38	7.956	32.617	25.409	3780	2218
39	7.893	32.597	25.402	3780	2201
40	7.783	32.525	25.362	3780	2199
41	7.626	32.533	25.39	3781	2184
42	7.496	32.613	25.472	3783	2175
43	7.455	32.643	25.501	3783	2161
44	7.422	32.709	25.557	3782	2154
45	7.48	32.819	25.636	3781	2148
46	7.523	32.812	25.624	3782	2141
47	7.546	32.791	25.605	3781	2139
48	7.548	32.785	25.6	3780	2139

STATION: Sta07
 R/V Seward Johnson, 12-15 August, 1988

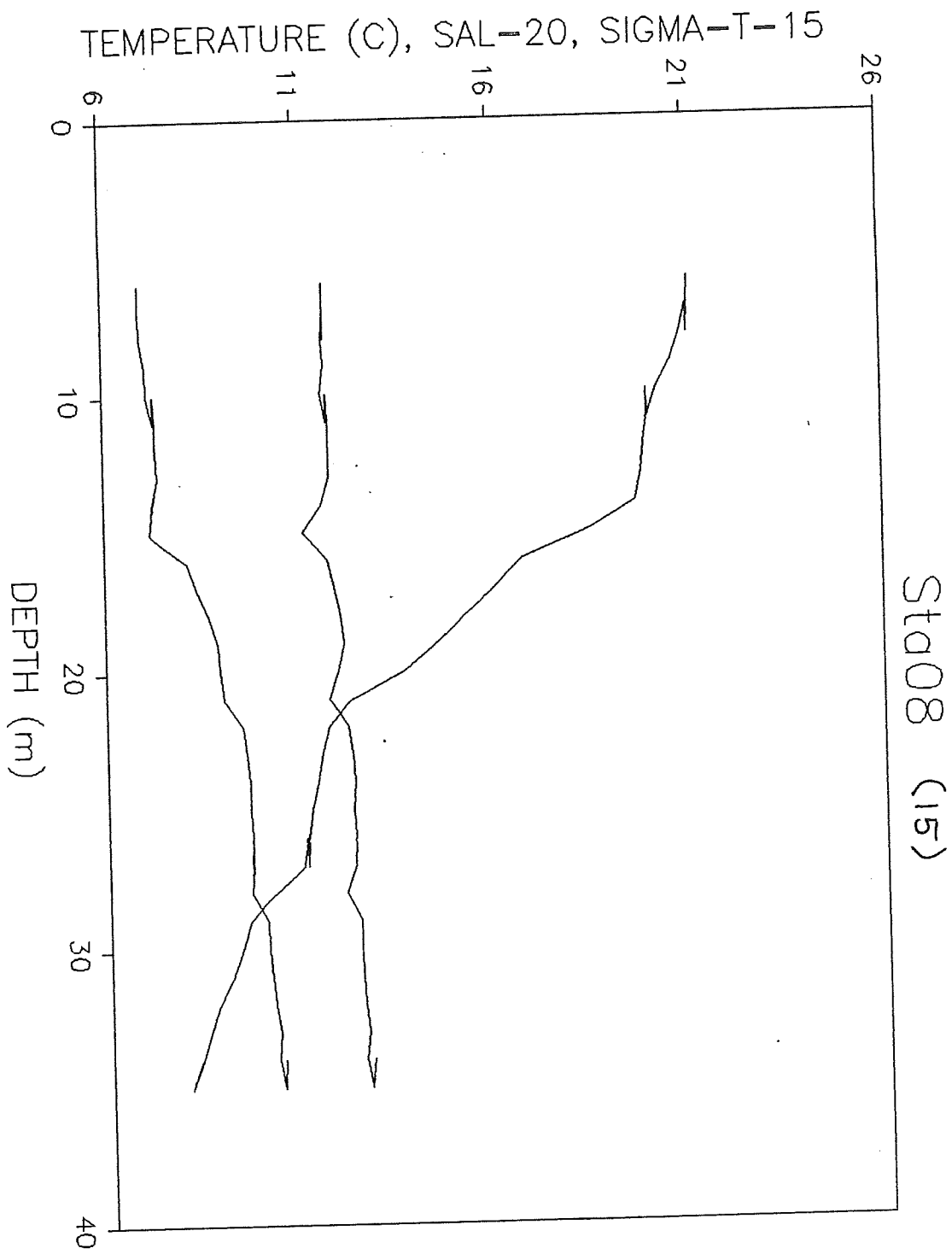
DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
49	7.472	32.597	25.462	3779	2127
50	7.286	32.549	25.45	3781	2124
51	7.228	32.564	25.47	3782	2121
50	7.184	32.54	25.457	3782	2120
51	7.058	32.499	25.442	3784	2117
52	6.871	32.569	25.522	3787	2112
53	6.768	32.639	25.59	3789	2109
54	6.718	32.669	25.62	3788	2111
55	6.684	32.644	25.605	3789	2111
56	6.584	32.486	25.494	3789	2105
57	6.43	32.526	25.545	3790	2109
58	6.38	32.689	25.68	3790	2106
59	6.361	32.698	25.689	3789	2101
60	6.357	32.73	25.715	3790	2108
61	6.369	32.756	25.734	3789	2103
62	6.403	32.811	25.773	3790	2100
63	6.454	32.863	25.808	3789	2111
64	6.51	32.857	25.795	3789	2102
65	6.571	32.908	25.828	3788	2099
66	6.647	32.923	25.83	3788	2100
67	6.751	32.99	25.869	3788	2099
68	6.773	32.936	25.823	3788	2097
69	6.774	32.949	25.834	3790	2097
70	6.687	32.74	25.68	3793	2096
71	6.441	32.533	25.549	3795	2096
72	6.178	32.583	25.621	3797	2095
73	5.942	32.548	25.622	3798	2105
74	5.804	32.591	25.673	3798	2096
75	5.671	32.67	25.751	3799	2098
76	5.573	32.739	25.818	3799	2102
77	5.513	32.765	25.846	3800	2097
78	5.453	32.751	25.842	3800	2093
79	5.378	32.75	25.849	3799	2096
80	5.35	32.823	25.91	3799	2096
81	5.335	32.843	25.927	3798	2096
82	5.328	32.842	25.928	3798	2094
84	5.326	32.858	25.941	3797	2093
83	5.332	32.869	25.949	3798	2092
84	5.343	32.889	25.963	3797	2094
85	5.377	32.919	25.983	3793	2094
86	5.402	32.899	25.965	3796	2091
87	5.406	32.864	25.936	3795	2092
88	5.389	32.862	25.937	3795	2091
89	5.4	32.911	25.974	3795	2092
90	5.406	32.872	25.943	3795	2093
91	5.38	32.827	25.909	3794	2090
92	5.317	32.776	25.877	3794	2096
93	5.236	32.805	25.909	3794	2098

STATION: Sta07
 R/V Seward Johnson, 12-15 August, 1988

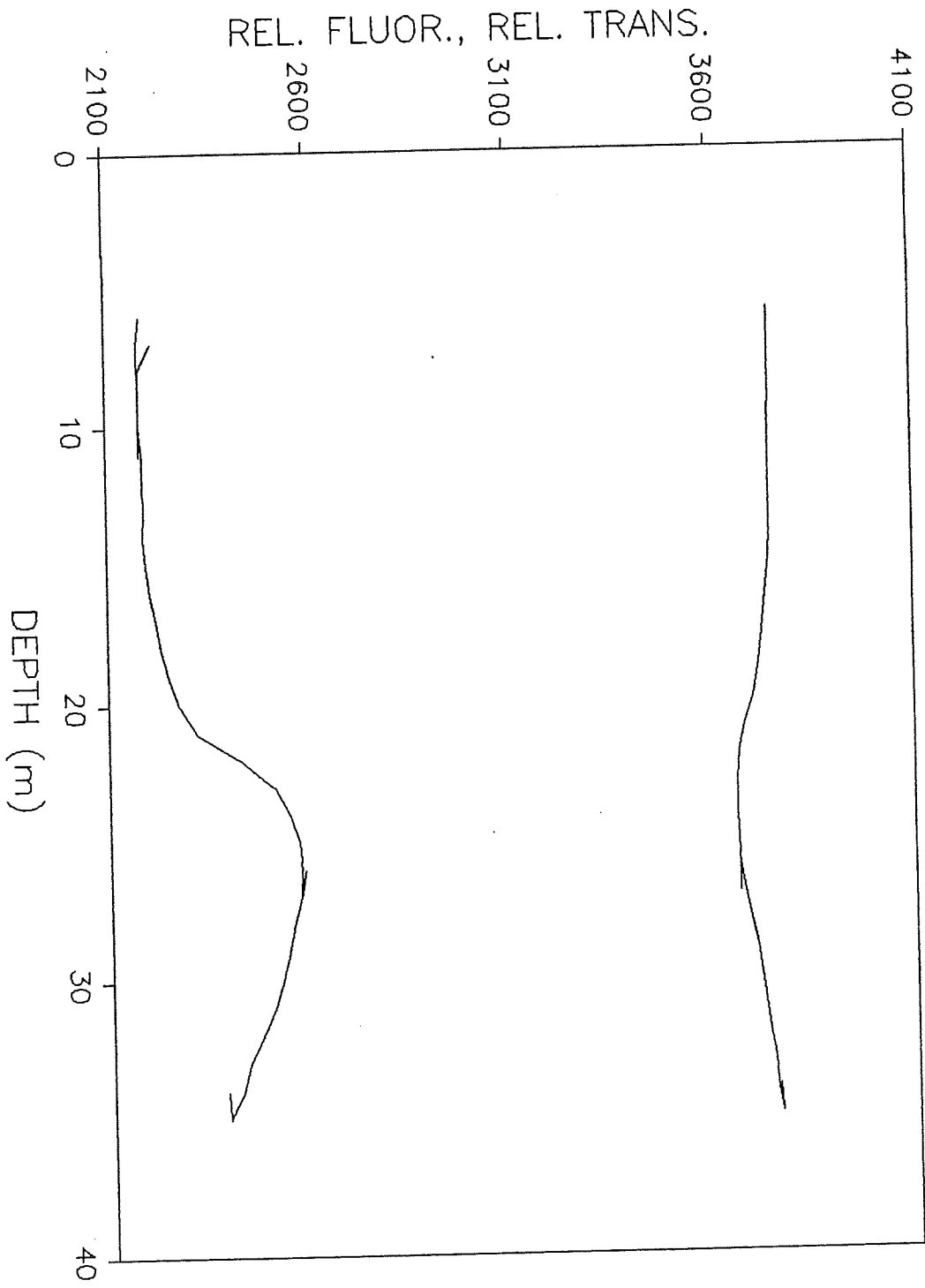
DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
94	5.216	32.894	25.982	3795	2091
95	5.238	32.959	26.031	3793	2094
96	5.279	33.003	26.06	3792	2091
97	5.314	33.005	26.058	3790	2094
98	5.33	32.973	26.031	3790	2096
99	5.332	32.97	26.028	3789	2090
100	5.328	32.952	26.015	3788	2093
101	5.315	32.949	26.014	3789	2092
102	5.304	32.956	26.02	3789	2099
103	5.296	32.946	26.014	3787	2089
104	5.291	32.962	26.027	3788	2093
105	5.303	33.014	26.066	3787	2090
106	5.335	33.029	26.075	3786	2099
107	5.358	33.026	26.07	3784	2091
108	5.392	33.063	26.095	3783	2091
109	5.422	33.053	26.084	3781	2090
110	5.464	33.066	26.089	3779	2094
111	5.487	33.061	26.083	3777	2090
112	5.514	33.07	26.086	3776	2093
113	5.53	33.056	26.074	3775	2090
112	5.536	33.077	26.09	3771	2103
113	5.552	33.106	26.111	3773	2090
114	5.58	33.102	26.104	3770	2094
115	5.601	33.081	26.085	3769	2090
116	5.604	33.072	26.077	3769	2090
115	5.609	33.075	26.079	3767	2090
116	5.611	33.071	26.076	3767	2101
117	5.649	33.118	26.108	3765	2090
118	5.681	33.112	26.1	3763	2097
119	5.695	33.098	26.087	3761	2090
120	5.704	33.09	26.08	3759	2091
121	5.698	33.086	26.077	3758	2095
122	5.693	33.09	26.081	3757	2093
123	5.689	33.09	26.082	3754	2090
124	5.688	33.098	26.088	3753	2094
125	5.689	33.099	26.089	3752	2098
126	5.693	33.106	26.093	3750	2090
127	5.708	33.12	26.103	3745	2093
128	5.711	33.108	26.093	3741	2101
129	5.712	33.119	26.102	3740	2089
130	5.723	33.134	26.112	3736	2092
131	5.731	33.131	26.109	3733	2093
132	5.738	33.135	26.112	3730	2090
133	5.744	33.135	26.111	3729	2095
134	5.754	33.14	26.113	3724	2094
135	5.763	33.135	26.108	3721	2091
136	5.767	33.137	26.11	3715	2091
137	5.768	33.139	26.111	3712	2090

STATION: Sta07
R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
136	5.769	33.137	26.109	3711	2089
137	5.769	33.139	26.111	3708	2090
138	5.768	33.138	26.11	3701	2093
139	5.769	33.141	26.112	3698	2099
138	5.77	33.138	26.109	3697	2089
139	5.77	33.138	26.11	3696	2089
138	5.768	33.136	26.108	3692	2095

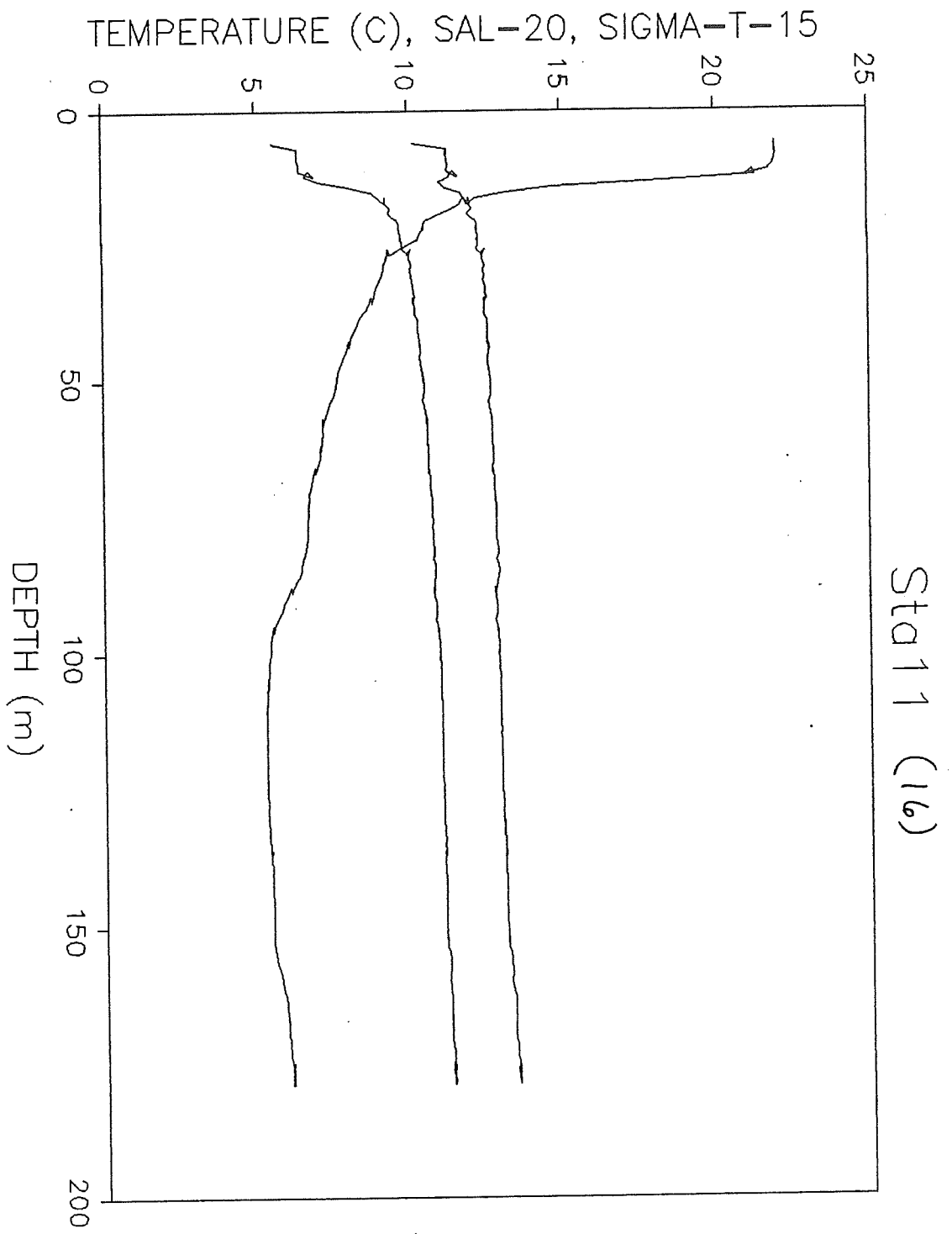


Sta08 (15)

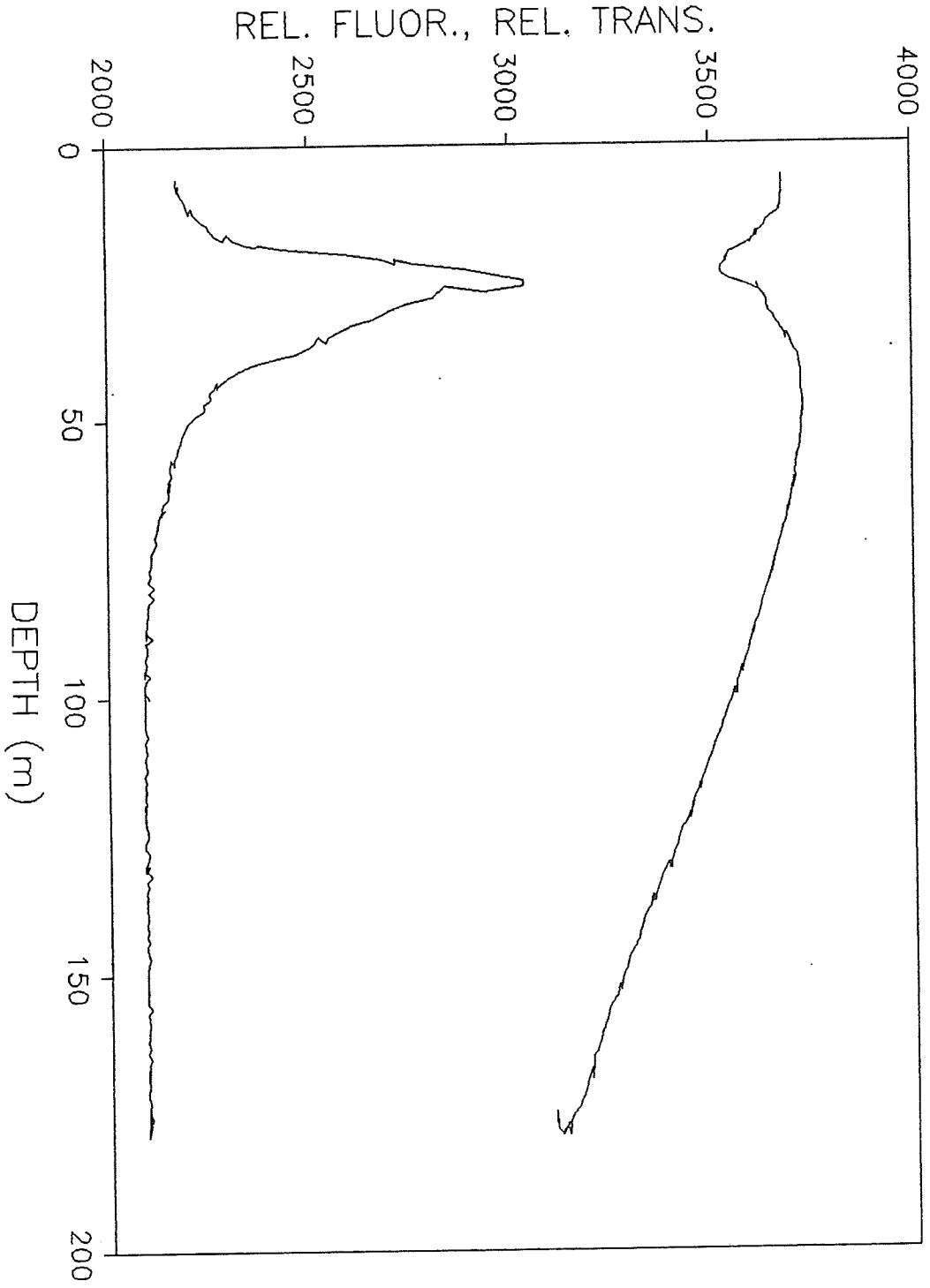


STATION: Sta08 (15)
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
6	21.088	31.732	21.986	3746	2188
7	21.069	31.731	21.99	3746	2181
8	21.048	31.732	21.997	3746	2181
7	21.042	31.72	21.989	3745	2216
8	20.856	31.669	22	3745	2183
9	20.617	31.727	22.107	3745	2185
10	20.227	31.629	22.135	3744	2185
11	19.998	31.768	22.3	3743	2185
10	19.986	31.773	22.307	3743	2185
11	19.97	31.808	22.338	3743	2190
12	19.894	31.803	22.354	3743	2191
13	19.818	31.817	22.384	3743	2193
14	19.678	31.609	22.262	3743	2191
15	18.489	31.116	22.182	3741	2198
16	16.733	31.753	23.086	3733	2208
17	16.037	31.898	23.355	3728	2220
18	15.263	32.057	23.648	3721	2232
19	14.492	32.146	23.881	3711	2251
20	13.66	31.981	23.925	3699	2274
21	12.308	31.751	24.01	3677	2318
22	11.724	32.208	24.473	3662	2428
23	11.526	32.292	24.574	3658	2507
24	11.391	32.357	24.649	3658	2544
25	11.247	32.296	24.628	3661	2567
26	11.15	32.353	24.689	3662	2572
27	11.115	32.326	24.674	3662	2571
26	11.1	32.35	24.695	3662	2582
27	11.01	32.329	24.695	3673	2571
28	10.208	32.082	24.64	3687	2551
29	9.585	32.447	25.027	3701	2537
30	9.358	32.449	25.066	3711	2522
31	9.102	32.468	25.12	3720	2502
32	8.739	32.499	25.201	3730	2471
33	8.503	32.589	25.307	3741	2437
34	8.309	32.509	25.273	3746	2419
35	8.026	32.625	25.406	3756	2387
34	8.282	32.694	25.422	3752	2382



Sta 11 (16)



STATION: Sta11 (16)
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
6	21.989	30.215	20.591	3680	2177
7	21.99	31.269	21.39	3680	2174
8	21.988	31.275	21.395	3680	2179
7	21.998	31.285	21.4	3681	2182
8	22.004	31.272	21.388	3681	2182
9	21.995	31.291	21.405	3680	2189
10	21.934	31.325	21.448	3679	2197
11	21.793	31.285	21.456	3678	2203
12	20.996	31.641	21.942	3674	2210
11	21.27	31.503	21.763	3677	2214
12	21.36	31.386	21.65	3675	2218
13	18.315	31.019	22.151	3657	2231
14	14.734	31.197	23.099	3643	2248
15	13.184	31.721	23.819	3639	2257
16	12.222	31.807	24.07	3623	2270
17	11.92	32.028	24.297	3617	2295
16	11.848	31.987	24.279	3617	2303
17	11.716	31.959	24.281	3613	2318
18	11.43	32.082	24.428	3603	2358
19	11.025	31.962	24.406	3580	2442
20	10.644	32.174	24.638	3550	2595
21	10.537	32.263	24.725	3543	2691
22	10.525	32.267	24.731	3542	2723
21	10.524	32.268	24.731	3542	2721
22	10.504	32.25	24.721	3540	2772
23	10.389	32.303	24.782	3527	2895
24	10.328	32.277	24.772	3527	2966
25	10.021	32.269	24.817	3548	3038
26	9.708	32.229	24.837	3591	3038
27	9.402	32.374	24.999	3621	2939
26	9.346	32.495	25.103	3617	2845
27	9.35	32.422	25.045	3621	2830
28	9.287	32.423	25.056	3635	2818
29	9.216	32.48	25.112	3642	2752
30	9.199	32.444	25.086	3641	2713
31	9.137	32.467	25.114	3645	2689
32	9.069	32.456	25.116	3658	2657
33	8.975	32.499	25.164	3665	2608
34	8.905	32.511	25.184	3673	2582
35	8.873	32.544	25.215	3682	2553
36	8.833	32.461	25.157	3687	2547
35	8.789	32.462	25.164	3690	2528
36	8.734	32.464	25.174	3697	2518
37	8.655	32.485	25.203	3702	2498
38	8.522	32.463	25.205	3708	2470
39	8.401	32.561	25.3	3717	2414
40	8.341	32.561	25.309	3719	2362
41	8.265	32.554	25.315	3722	2330

STATION: Sta11
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
42	8.177	32.547	25.323	3723	2305
43	8.12	32.571	25.35	3724	2287
44	8.081	32.584	25.366	3725	2275
43	8.057	32.591	25.374	3724	2276
44	8.021	32.617	25.4	3725	2268
45	7.973	32.581	25.379	3725	2258
46	7.888	32.561	25.375	3727	2260
47	7.813	32.563	25.387	3728	2241
48	7.742	32.583	25.414	3728	2244
49	7.68	32.625	25.455	3728	2223
50	7.637	32.66	25.489	3726	2208
51	7.609	32.66	25.493	3725	2199
52	7.575	32.654	25.492	3724	2192
53	7.53	32.639	25.487	3723	2185
54	7.447	32.58	25.452	3722	2183
55	7.373	32.62	25.494	3721	2176
56	7.319	32.649	25.524	3719	2174
57	7.256	32.677	25.555	3716	2167
58	7.211	32.698	25.577	3713	2168
57	7.194	32.705	25.585	3712	2157
59	7.189	32.707	25.587	3710	2156
60	7.177	32.714	25.594	3709	2158
61	7.157	32.715	25.598	3711	2151
62	7.151	32.717	25.6	3708	2150
61	7.143	32.716	25.601	3706	2156
63	7.122	32.734	25.618	3705	2150
62	7.122	32.729	25.614	3704	2149
63	7.106	32.731	25.618	3702	2150
64	7.082	32.727	25.618	3699	2150
65	7.056	32.724	25.619	3697	2138
66	6.993	32.706	25.613	3695	2136
67	6.936	32.708	25.622	3692	2132
66	6.921	32.717	25.632	3691	2143
67	6.889	32.729	25.645	3689	2129
68	6.847	32.751	25.668	3687	2126
69	6.816	32.76	25.679	3684	2123
70	6.771	32.766	25.69	3679	2120
71	6.732	32.784	25.71	3675	2117
72	6.704	32.804	25.729	3671	2119
73	6.689	32.813	25.737	3667	2115
74	6.679	32.82	25.744	3663	2107
75	6.675	32.822	25.747	3660	2108
76	6.668	32.827	25.752	3655	2108
77	6.667	32.826	25.751	3652	2103
78	6.662	32.827	25.752	3649	2105
79	6.657	32.831	25.756	3646	2101
80	6.638	32.853	25.776	3642	2111
81	6.611	32.879	25.8	3636	2100

STATION: Sta11
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
82	6.586	32.863	25.791	3631	2111
83	6.528	32.832	25.774	3628	2101
84	6.471	32.875	25.815	3623	2098
85	6.444	32.898	25.837	3620	2099
86	6.402	32.876	25.824	3615	2096
87	6.291	32.839	25.809	3608	2095
88	6.194	32.82	25.807	3604	2094
89	6.129	32.775	25.779	3602	2094
88	6.099	32.766	25.775	3602	2094
89	6.046	32.78	25.793	3599	2107
90	5.959	32.785	25.808	3597	2092
91	5.883	32.814	25.84	3593	2095
92	5.811	32.817	25.851	3589	2096
93	5.744	32.816	25.858	3585	2091
94	5.644	32.77	25.834	3581	2093
95	5.561	32.821	25.884	3575	2092
96	5.526	32.822	25.889	3573	2089
95	5.514	32.827	25.894	3571	2089
96	5.488	32.835	25.904	3568	2100
97	5.449	32.85	25.92	3564	2091
98	5.424	32.869	25.938	3559	2089
100	5.425	32.877	25.944	3559	2088
99	5.426	32.883	25.949	3558	2089
100	5.419	32.888	25.953	3555	2097
99	5.412	32.886	25.953	3553	2089
100	5.403	32.862	25.935	3551	2089
101	5.379	32.879	25.951	3546	2089
102	5.366	32.886	25.958	3539	2088
103	5.354	32.891	25.964	3534	2088
104	5.347	32.893	25.966	3530	2088
105	5.336	32.893	25.967	3524	2088
106	5.324	32.895	25.97	3520	2091
107	5.308	32.896	25.972	3515	2096
108	5.296	32.905	25.981	3509	2088
109	5.287	32.909	25.986	3503	2092
110	5.286	32.913	25.989	3499	2093
111	5.282	32.915	25.991	3495	2088
112	5.281	32.918	25.994	3488	2090
113	5.278	32.92	25.995	3483	2093
114	5.277	32.923	25.998	3479	2087
115	5.277	32.919	25.995	3473	2091
116	5.269	32.929	26.003	3470	2088
117	5.271	32.928	26.002	3468	2091
116	5.271	32.929	26.003	3465	2088
117	5.272	32.93	26.004	3462	2089
118	5.273	32.935	26.008	3456	2088
119	5.273	32.938	26.01	3452	2092
120	5.276	32.935	26.007	3450	2087

STATION: Sta11
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
119	5.275	32.936	26.009	3450	2087
120	5.274	32.937	26.009	3447	2088
121	5.278	32.937	26.009	3444	2087
122	5.28	32.935	26.007	3442	2087
121	5.276	32.939	26.011	3441	2087
122	5.28	32.94	26.011	3438	2088
123	5.28	32.941	26.012	3430	2089
124	5.282	32.943	26.013	3422	2094
125	5.282	32.947	26.016	3417	2093
126	5.282	32.951	26.019	3413	2087
127	5.287	32.963	26.028	3409	2087
128	5.296	32.974	26.035	3403	2096
129	5.302	32.971	26.033	3398	2094
130	5.302	32.971	26.033	3394	2088
131	5.307	32.961	26.024	3392	2087
130	5.313	32.955	26.019	3392	2087
131	5.31	32.965	26.027	3393	2088
130	5.311	32.965	26.027	3388	2095
131	5.312	32.964	26.026	3388	2087
130	5.312	32.968	26.029	3387	2087
131	5.315	32.98	26.038	3380	2091
132	5.324	32.994	26.049	3372	2100
133	5.327	33.007	26.058	3368	2088
134	5.343	33.025	26.071	3363	2093
135	5.357	33.023	26.067	3359	2089
136	5.372	33.034	26.075	3354	2092
137	5.379	33.041	26.079	3351	2088
136	5.381	33.04	26.079	3349	2088
137	5.387	33.037	26.076	3347	2088
136	5.391	33.034	26.072	3347	2089
137	5.383	33.037	26.075	3345	2088
136	5.409	33.015	26.055	3344	2088
137	5.394	33.029	26.068	3343	2088
138	5.401	33.029	26.067	3340	2088
139	5.408	33.028	26.065	3332	2092
140	5.413	33.033	26.069	3325	2092
141	5.417	33.038	26.072	3321	2088
142	5.422	33.04	26.073	3317	2092
143	5.426	33.039	26.072	3313	2088
144	5.429	33.049	26.08	3309	2094
145	5.432	33.053	26.083	3304	2088
146	5.436	33.046	26.077	3295	2092
147	5.438	33.05	26.079	3287	2096
148	5.44	33.056	26.084	3283	2092
149	5.441	33.06	26.087	3279	2089
150	5.444	33.069	26.094	3274	2089
151	5.446	33.07	26.094	3269	2088
152	5.457	33.071	26.094	3267	2088

STATION: Sta11
 R/V Seward Johnson, 12-15 August, 1988

DEPTH (m)	TEMP (C)	SAL (PPT)	SIGMA-t	REL. TRANS.	REL. FLUOR.
153	5.451	33.09	26.11	3263	2090
152	5.455	33.106	26.122	3261	2088
153	5.456	33.105	26.121	3257	2088
154	5.47	33.105	26.119	3254	2088
155	5.49	33.162	26.162	3245	2089
156	5.542	33.208	26.192	3237	2098
157	5.575	33.206	26.187	3232	2088
158	5.613	33.218	26.192	3228	2091
159	5.664	33.21	26.18	3224	2093
160	5.698	33.192	26.161	3219	2092
161	5.736	33.235	26.19	3214	2092
162	5.772	33.242	26.192	3211	2089
163	5.809	33.306	26.238	3207	2094
164	5.842	33.313	26.239	3201	2089
165	5.864	33.317	26.24	3193	2096
166	5.885	33.316	26.237	3191	2091
169	5.9	33.314	26.233	3189	2089
167	5.905	33.307	26.227	3190	2089
168	5.91	33.304	26.223	3185	2090
169	5.916	33.303	26.222	3180	2090
170	5.92	33.312	26.229	3175	2090
171	5.925	33.318	26.233	3173	2089
172	5.934	33.359	26.264	3168	2089
173	5.956	33.381	26.279	3161	2093
174	5.972	33.377	26.274	3157	2091
175	5.991	33.385	26.278	3147	2092
176	6.017	33.424	26.305	3140	2093
177	6.034	33.421	26.301	3134	2091
179	6.038	33.416	26.297	3131	2089
178	6.04	33.415	26.295	3128	2088
177	6.042	33.414	26.295	3129	2095
178	6.046	33.419	26.298	3123	2091
179	6.052	33.419	26.297	3116	2089
178	6.046	33.435	26.31	3121	2088
179	6.058	33.431	26.306	3114	2089
178	6.063	33.412	26.29	3102	2089
177	6.057	33.406	26.286	3103	2090
176	6.051	33.4	26.282	3100	2097
175	6.049	33.385	26.271	3100	2090
177	6.036	33.379	26.267	3099	2090