

Appendix Table 1.--(Continued)

Cruise and BT cast number	Month and day	Time (BST)	Latitude (North)	Longitude (West)	Temperature distribution										Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)
					Surface (°C)		Metalimnion		Lower limits		Deepest reading		Direction	Velocity (mph)						
					Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)								
41	Sept. 13	1752	42°23'30"	86°21'45"	19.3	19.0	12.2	12.2	25.9	12.1	31.1	30.06	10-12	1	SE	1-5	100			
42	14	0950	42 23 45	86 21 25	17.9	17.8	15.2	9.8	25.0	9.8	25.0	30.10	10	3	E	18-20	100			
43	14	1028	42 23 25	86 27 30	19.4	19.2	20.7	6.8	25.9	6.2	45.7	30.10	6-8	3	E	20-25	100			
44	15	0845	42 23 45	86 19 30	18.0	17.8	16.8	17.2	19.5	17.2	19.5	30.02	4	1	ESE	4-6	100			
45	15	0900	42 23 30	86 22 40	18.6	18.1	18.3	7.3	27.4	6.7	32.6	30.02	4	1	ESE	4-6	100			
46	15	0930	42 23 15	86 28 35	19.3	19.2	20.7	6.5	25.9	5.5	39.6	30.02	6	1	ESE	4-6	100			
47	15	1000	42 23 05	86 34 50	19.5	19.5	18.9	5.0	33.5	4.7	57.0	30.02	6	1	SE	4-6	100			
48	15	1041	42 22 40	86 43 15	19.0	18.7	22.9	4.9	42.4	4.2	64.0	30.04	6-8	1	NW	6-8	100			
49	15	1145	42 22 25	86 48 50	19.1	18.7	24.4	7.0	33.5	4.2	100.6	30.03	8	1	WNW	10-15	100			
50	15	1215	42 22 10	86 55 00	19.7	19.6	24.4	6.9	36.6	4.3	125.0	30.03	8	1	WNW	10-15	100			
51	15	1255	42 24 30	86 59 30	19.8	19.6	24.4	6.9	33.5	4.4	128.0	30.04	4-6	1	NNW	10-15	100			
52	15	1400	42 24 25	87 10 00	19.8	19.6	21.3	7.3	30.5	4.4	115.8	30.04	4-6	1	NW	10-15	100			
53	15	1430	42 23 45	87 12 00	20.1	20.0	20.1	6.8	27.4	4.4	115.8	30.04	4-6	3	NW	10-15	100			
54	15	1500	42 23 35	87 18 05	20.3	20.1	20.7	6.6	30.5	4.4	106.7	30.05	4-6	3	NNW	15-18	100			
55	15	1530	42 23 25	87 24 20	20.3	20.2	21.3	7.3	27.4	4.5	94.5	30.05	4-6	3	NNW	15-18	100			
56	15	1600	42 23 15	87 30 30	20.3	20.2	21.3	7.1	30.5	4.8	79.2	30.05	4-6	3	NNW	15-18	100			
57	15	1612	42 23 05	87 32 55	20.4	20.0	24.4	7.7	30.5	4.8	76.2	30.05	4-6	3	NNW	15-18	100			
58	15	1710	42 22 45	87 37 05	20.1	19.8	24.4	6.8	33.5	5.2	55.8	30.07	8-10	3	NW	15-18	100			
59	15	1735	42 22 20	87 42 10	20.1	20.1	26.8	11.7	35.7	11.7	35.7	30.07	8-10	3	NW	15-18	100			
60	15	1755	42 21 50	87 46 50	20.0	-	-	-	-	19.8	17.4	30.07	8-10	8	NW	20	100			
61	16	0932	42 45 50	87 36 10	19.7	19.6	30.5	5.6	48.2	5.6	48.2	30.13	10	3	NE	15	100			
62	16	1118	42 47 10	87 28 15	19.5	19.5	22.9	6.4	29.0	4.4	91.4	30.20	10	8	NE	15	100			
63	18	0921	43 02 40	86 17 15	16.6	16.3	8.2	14.2	10.7	13.7	23.8	29.94	6	0	WNW	1-5	100			
64	18	0940	43 01 05	86 20 45	17.4	16.1	18.3	7.4	28.0	5.8	50.3	29.94	6	0	WNW	1-5	100			
65	18	1010	42 58 20	86 26 50	17.4	16.6	18.9	5.6	35.1	4.6	76.2	29.94	6-8	0	W	1-5	100			

Continued

Appendix Table 1.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution										Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion					Deepest								Direction	Velocity (mph)	
					Temperature (°C)	Depth (meters)	Lower limits	Upper limits	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)						
66	Sept. 18	1045	42°56'00"	86°32'05"	17.3	16.8	20.7	6.6	26.8	4.5	79.2	29.94	2-6	0	WNW	1-5	100			
67	18	1115	42°53'40"	86°37'25"	17.3	15.7	20.7	6.2	29.0	4.5	86.6	29.94	4-8	0	WNW	1-5	100			
68	18	1145	42°51'15"	86°42'40"	16.9	15.9	18.9	6.6	29.0	4.3	76.2	29.92	6-10	0	WSW	1-5	75			
69	18	1215	42°48'50"	86°48'00"	18.1	16.6	17.1	6.7	32.0	4.2	118.9	29.90	6-10	0	WSW	1-5	75			
70	18	1318	42°43'30"	86°58'40"	19.8	19.5	18.3	7.0	27.4	4.2	158.5	29.83	15+	0	SE	5-10	50			
71	19	0942	43°02'55"	86°20'00"	17.1	15.1	25.0	8.2	36.6	8.2	36.6	29.71	15+	3	WNW	10-15	50			
Cruise VIII																				
1	29	1111	43°01'15"	86°39'50"	17.4	14.9	30.5	5.4	38.1	4.4	91.4	29.77	4-6	3	SSE	15-18	100			
2	Oct. 1	0820	43°03'05"	86°18'25"	18.1	-	-	-	-	16.9	27.4	30.12	8-10	1	NE	1-5	100			
3	1	0835	43°03'00"	86°21'40"	17.8	15.2	36.0	6.9	42.7	4.5	52.1	30.13	8-10	1	NE	10-12	100			
4	1	0850	43°03'00"	86°24'50"	17.3	15.4	30.5	5.8	39.6	4.5	76.2	30.13	8-10	1	NE	10-12	100			
5	1	1000	43°02'55"	86°30'00"	18.3	18.1	18.3	5.7	41.1	4.3	86.9	30.15	8-10	7	NE	1-5	100			
6	1	1030	43°02'50"	86°36'20"	15.4	14.9	28.0	5.4	35.1	4.0	92.9	30.15	8-10	7	NE	1-5	100			
7	1	1100	43°02'45"	86°42'30"	15.3	15.2	25.9	5.8	32.0	4.2	95.1	30.15	8-10	7	NE	1-5	100			
8	1	1130	43°02'40"	86°48'40"	15.3	14.6	29.0	5.6	37.5	4.3	88.4	30.15	8-10	7	NE	1-5	100			
9	1	1214	43°02'30"	86°55'50"	15.1	14.6	22.9	5.6	38.1	4.3	92.9	30.12	10	1	E	10-12	100			
10	1	1310	43°02'25"	87°03'00"	15.5	15.3	16.1	5.0	38.1	4.8	74.1	30.10	15+	1	E	1-5	100			
11	1	1340	43°02'20"	87°09'00"	15.6	15.4	16.8	5.0	33.5	4.9	61.9	30.10	15+	1	E	1-5	100			
12	1	1410	43°02'15"	87°15'00"	15.6	15.3	18.3	5.3	39.6	4.8	77.7	30.10	15+	1	E	1-5	100			
13	1	1440	43°02'10"	87°22'00"	15.7	15.1	19.8	5.3	37.5	5.1	73.2	30.10	15+	1	E	1-5	100			
14	1	1510	43°02'05"	87°28'00"	16.0	15.3	19.8	5.1	42.7	4.8	88.4	30.10	15+	1	E	1-5	100			
15	1	1540	43°02'00"	87°33'15"	16.8	15.9	24.4	5.3	39.6	5.0	73.2	30.04	6	2	SE	15-18	100			
16	1	1550	43°01'55"	87°35'50"	17.2	15.1	27.4	6.0	38.1	4.5	76.2	30.04	6	2	SE	15-18	100			
17	1	1645	43°01'50"	87°40'40"	17.7	17.5	25.9	5.8	32.3	4.4	54.9	30.04	6	1	SE	12-15	100			
18	1	1715	43°01'40"	87°46'55"	17.7	17.5	14.6	5.5	23.5	5.2	33.5	30.04	6	1	SE	12-15	100			
19	1	1730	43°01'40"	87°50'00"	17.5	17.4	11.6	9.1	15.2	9.1	15.2	30.04	6	1	SE	12-15	100			
20	2	0830	43°03'00"	87°50'55"	17.4	17.3	9.1	10.1	15.2	10.1	15.2	30.06	3-5	1	NNE	12-15	100			

Continued

Appendix Table 1.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Surface temperature (°C)	Temperature distribution						Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)
						Metalimnion			Deepest reading						Direction	Velocity (mph)	
						Upper limits temperature (°C)	Depth (meters)	Lower limits temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)						
21	Oct. 2	0859	43°07'15"	87°50'15"	17.6	17.5	15.2	5.8	21.3	5.7	25.0	30.06	3-5	1	NNE	12-15	100
22	2	0931	43 12 00	87 50 30	17.4	17.3	12.2	6.3	22.3	4.6	33.5	30.06	3-5	1	NNE	12-15	100
23	2	0954	43 15 15	87 51 15	17.6	16.8	13.4	5.6	19.2	5.4	29.0	30.09	3	1	WNW	12-15	100
24	2	1100	43 15 15	87 49 30	17.5	17.4	15.2	6.7	21.3	4.3	48.8	30.09	3	1	NNE	12-15	100
25	2	1223	43 16 15	87 42 20	17.6	17.6	23.8	6.7	33.5	4.3	97.5	30.07	4-6	1	NNE	15	100
26	2	1355	43 22 20	87 41 00	17.6	14.9	29.0	5.7	36.6	4.3	105.1	30.05	6-8	1	NE	15	100
27	2	1430	43 27 40	87 39 30	16.1	15.0	27.4	5.6	39.6	4.3	89.9	30.05	6-8	1	NE	15	100
28	2	1500	43 32 00	87 39 30	16.1	14.4	31.1	5.1	49.4	5.0	73.2	30.05	6-8	1	NE	15	100
29	2	1530	43 36 35	87 39 30	16.3	16.2	19.8	6.4	38.1	5.3	49.7	30.05	6-8	1	NE	15	100
30	2	1600	43 41 10	87 39 30	17.0	17.0	4.6	12.8	25.0	12.8	25.0	30.02	6-8	1	NE	15	100
31	3	0921	43 47 40	87 36 50	13.8	13.7	9.1	5.8	16.8	4.6	43.6	29.80	2-4	7	-	>1	100
32	3	1120	43 51 20	87 32 50	16.6	15.8	14.6	4.3	36.6	4.1	57.0	29.78	2-4	7	E	1-5	100
33	3	1150	43 54 30	87 28 15	15.7	15.1	19.8	4.3	42.1	4.2	67.1	29.78	2-4	7	E	1-5	100
34	3	1215	43 57 05	87 24 45	16.2	15.8	23.8	4.6	45.7	4.4	76.2	29.78	2-4	7	E	1-5	100
35	3	1425	43 58 00	87 26 25	16.1	15.7	27.4	4.6	41.1	4.5	59.4	29.68	1	7	N	1-5	100
36	3	1455	44 01 00	87 31 10	16.4	16.1	9.1	4.5	24.4	4.2	48.8	29.73	1	7	N	1-5	100
37	3	1525	44 04 20	87 35 45	14.9	-	-	-	-	12.8	13.7	29.74	1	7	N	1-5	100
38	4	0830	44 05 00	87 35 45	14.2	-	-	-	-	13.4	12.2	30.00	1	1	WNW	1-5	100
39	4	0850	44 04 30	87 31 40	13.8	-	-	-	-	11.6	25.0	30.00	1	1	WNW	1-5	100
40	4	0933	44 03 50	87 29 40	15.4	13.1	16.8	5.0	30.5	4.4	76.2	30.01	2-3	1	NNW	1-5	50
41	4	1030	44 03 10	87 20 20	15.6	15.3	25.9	4.9	39.6	4.1	91.4	30.01	2-3	1	NNW	1-5	50
42	4	1100	44 02 25	87 14 00	15.0	14.7	27.4	4.9	48.8	4.0	128.0	30.03	2-3	1	NNW	1-5	50
43	4	1130	44 01 40	87 07 35	15.3	15.0	25.9	5.1	45.7	4.0	125.0	30.03	15+	1	NW	12-15	50
44	4	1200	44 00 50	87 02 50	14.7	14.4	18.3	5.1	33.5	3.9	113.4	30.05	15+	1	NW	12-15	50
45	4	1247	44 00 30	87 53 30	13.8	13.5	23.8	5.4	42.7	4.0	150.5	30.06	15+	1	NW	12-15	50

Continued

Appendix Table 1.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution										Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion					Deepest								Direction	Velocity (mph)	
					Surface (°C)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)						
46	Oct. 4	1345	43°59'40"	86°48'05"	14.0	13.0	18.3	6.0	36.6	4.0	146.3	30.05	15+	6	NW	1-5	75			
47	4	1432	43 58 30	86 38 25	14.8	13.0	24.4	5.1	48.8	4.4	76.2	30.05	15+	6	NW	1-5	75			
48	4	1515	43 48 00	86 34 25	16.4	16.2	5.5	12.5	19.8	12.5	19.8	30.05	15+	6	NW	1-5	75			
49	4	1530	43 57 40	86 31 30	17.2	17.0	11.6	14.9	14.3	14.7	19.8	30.02	15+	6	NW	1-5	75			
50	5	0832	43 57 15	86 30 20	16.7	16.6	7.9	14.9	9.1	14.7	15.2	30.24	10-15	1	NE	12-15	100			
51	5	0850	43 57 15	86 33 40	15.9	15.7	6.1	13.2	18.3	12.7	29.0	30.24	10-15	1	NE	12-15	100			
52	5	0935	43 56 25	86 36 05	15.8	15.8	10.7	4.7	41.5	4.4	57.9	30.24	10-15	1	NE	12-15	100			
53	5	1039	43 54 00	86 41 00	16.6	16.4	9.1	5.7	39.6	4.3	129.5	30.24	10-15	3	ENE	15-18	100			
54	5	1200	43 49 10	86 40 30	17.0	16.8	17.7	5.6	39.6	4.2	112.8	30.24	10-15	3	ENE	15-18	100			
55	5	1230	43 44 45	86 38 45	17.0	16.8	15.2	5.3	50.3	4.4	79.2	30.22	10-15	3	ENE	15-18	100			
56	5	1300	43 40 25	86 37 00	16.4	16.3	13.1	4.2	55.8	4.2	55.8	30.22	10-15	3	ENE	15-18	100			
57	5	1330	43 36 00	86 35 15	17.2	15.0	22.3	5.0	40.2	4.6	54.9	30.17	10-15	3	NE	12-15	100			
58	5	1400	43 31 20	86 32 45	17.1	14.8	23.5	5.5	37.2	4.8	50.6	30.17	10-15	3	NE	12-15	100			
59	5	1430	43 27 00	86 30 40	17.0	16.9	15.2	5.5	32.6	5.5	32.6	30.17	10-15	3	NE	12-15	100			
60	5	1500	43 22 50	86 28 30	17.3	16.6	16.8	5.7	25.4	5.6	27.4	30.17	10-15	3	NE	12-15	100			
61	5	1530	43 18 25	86 26 15	16.1	-	1	-	-	15.6	15.8	30.20	10-15	3	NE	12-15	100			
62	5	1600	43 14 10	86 24 00	17.1	17.0	13.7	15.8	13.1	15.7	18.9	30.20	10-15	3	NE	12-15	100			
63	5	1630	43 09 50	86 21 50	16.7	-	-	-	-	14.8	27.4	30.19	6-8	1	NE	12-15	100			
64	5	1700	43 05 50	86 18 55	17.1	-	-	-	-	16.0	20.7	30.19	6-8	1	NE	12-15	100			
65	7	0834	43 02 20	86 16 50	13.7	13.6	12.8	6.1	15.5	5.7	18.3	30.70	15+	1	NE	1-5	0			
66	7	0857	42 58 15	86 16 50	13.8	13.7	14.3	5.3	18.3	4.6	26.8	30.70	15+	1	NE	1-5	0			
67	7	1004	42 57 00	86 19 15	14.8	14.6	25.0	4.5	32.6	4.2	48.8	30.69	15+	1	E	12-15	0			
68	7	1802	43 03 00	86 24 50	15.8	14.6	21.3	5.4	29.0	4.3	79.2	30.49	15+	1	SE	15-18	75			
69	7	1846	43 03 00	86 24 50	15.8	14.6	21.0	5.4	30.5	4.3	76.2	30.49	15+	1	SE	15-18	75			
70	7	2112	43 03 00	86 24 50	15.8	14.7	26.8	5.3	32.0	4.3	76.2	30.46	15+	2	SE	20	100			
71	10	0728	43 02 20	86 16 50	15.0	-	-	-	-	13.6	18.3	29.87	1-2	1	S	1-5	100			
72	10	0758	42 58 15	86 16 00	15.1	14.5	17.7	10.5	19.8	10.5	19.8	29.87	1-2	1	-	>1	100			
73	10	1020	42 56 10	86 17 40	15.7	14.7	22.9	5.6	38.4	5.6	38.4	29.84	1/2	1	S	1-5	100			

Continued

Appendix Table 1.--(Continued)

Cruise and or cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)	
					Metalimnion		Deepest		Depth (meters)	Temperature (°C)				Direction	Velocity (mph)		
					Upper limits (meters)	Lower limits (meters)	Upper limits (meters)	Deepest reading (meters)									
						Surface temperature (°C)											
Cruise IX																	
1	Oct. 20	0927	43°02'00"	86°16'45"	13.2	-	-	-	-	12.2	18.3	30.41	8-10	0	SSE	1-5	50
2	20	0951	42 58 15	86 16 45	13.6	-	-	-	-	12.5	25.0	30.41	8-10	0	SSE	1-5	50
3	20	1059	42 58 15	86 19 10	14.5	14.3	14.3	7.5	37.2	7.1	48.8	30.41	8-10	0	SSE	1-5	50
4	21	0823	43 03 05	86 17 50	14.2	-	-	-	-	14.1	15.3	30.19	2-3	1	WNW	1-5	50
5	21	0918	43 02 40	86 20 50	14.0	12.2	32.6	7.0	36.6	5.9	48.8	30.19	2-3	1	WNW	1-5	50
6	21	1122	43 01 15	86 32 50	13.9	13.7	32.0	4.9	44.2	4.6	94.5	30.19	8-10	1	NW	12-15	50
7	22	0836	43 00 00	86 17 00	14.0	-	-	-	-	13.3	16.8	30.24	4-6	6	-	1-5	0
8	22	0900	42 56 30	86 18 50	14.0	12.2	40.5	8.1	45.7	8.1	45.7	30.24	4-6	6	WNW	1-5	0
9	22	0930	42 52 15	86 21 00	13.2	12.1	33.5	7.2	42.7	6.7	56.4	30.24	4-6	6	WNW	1-5	0
10	22	1014	42 46 15	86 24 40	14.3	14.3	33.5	5.7	42.7	4.9	76.2	30.24	4-6	6	WNW	1-5	0
11	22	1115	42 46 10	86 31 50	14.2	13.8	32.0	5.3	39.6	4.9	82.3	30.28	10	6	WNW	1-5	0
12	22	1145	42 46 05	86 38 00	14.2	13.8	25.9	5.1	39.6	4.6	93.2	30.28	10	6	WNW	1-5	0
13	22	1215	42 46 00	86 44 10	14.1	13.7	26.8	4.9	67.1	4.4	112.8	30.28	10	6	WNW	1-5	0
14	22	1245	42 45 50	86 50 20	14.3	13.5	34.1	6.0	48.8	4.4	146.3	30.28	10	6	WNW	1-5	0
15	22	1327	42 47 00	86 58 30	14.1	13.5	36.6	6.2	45.7	4.0	158.5	30.24	10-15	1	WSW	1-5	0
16	22	1420	42 47 00	87 03 00	14.0	13.7	33.5	6.7	39.6	4.2	152.4	30.24	10-15	1	WSW	1-5	0
17	22	1505	42 47 00	87 07 00	14.2	13.7	33.5	6.3	42.7	4.2	152.4	30.24	10-15	1	WSW	1-5	0
18	22	1541	42 46 20	87 13 45	14.2	13.6	32.0	6.3	43.0	4.4	128.0	30.24	10-15	1	WSW	1-5	0
19	22	1610	42 46 25	87 19 30	13.8	13.0	33.5	4.9	51.8	4.6	100.6	30.24	10-15	1	WSW	1-5	0
20	22	1640	42 46 20	87 25 50	14.9	12.5	41.1	5.1	54.9	4.7	92.9	30.24	10-15	1	WSW	1-5	0
21	22	1724	42 44 30	87 31 15	14.0	13.2	30.5	5.5	38.1	5.4	76.8	30.24	10-15	1	WSW	1-5	0
22	22	1820	42 44 25	87 37 15	14.1	12.5	24.4	8.4	36.6	8.1	41.1	30.24	10-15	1	WSW	1-5	0
23	22	1836	42 44 20	87 40 20	14.4	-	-	-	-	14.0	16.8	30.24	10-15	1	WSW	1-5	0
24	23	0813	42 44 30	87 44 00	12.3	-	-	-	-	12.3	14.3	30.31	4-6	0	WSW	1-5	0
25	23	0834	42 45 10	87 39 45	13.8	13.7	16.8	11.7	21.9	11.7	21.9	30.31	4-6	0	WSW	1-5	0

Continued

Appendix Table 1.---(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Surface temperature (°C)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)
						Metalimnion			Deepest reading						Direction	Velocity (mph)	
						Upper limits Temperature (°C)	Depth (meters)	Lower limits Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)						
26	Oct. 23	0852	42°45'50"	87°36'20"	13.6	12.1	29.9	9.1	32.0	7.2	48.8	30.31	4-6	0	WSW	1-5	0
27	23	0950	42°47'15"	87°28'15"	14.4	13.1	36.6	5.1	50.3	4.7	96.0	30.31	4-6	0	WSW	1-5	0
28	23	1046	42°51'40"	87°28'45"	14.1	13.3	32.0	5.7	40.2	4.6	97.5	30.31	4-6	1	SW	15	0
29	23	1221	42°51'40"	87°36'40"	14.2	13.7	26.2	5.4	32.6	5.2	56.4	30.31	4-6	1	SW	15	0
30	23	1425	43°00'00"	87°45'00"	13.5	12.6	19.8	7.0	39.6	7.0	39.6	30.31	4-6	1	SW	15	0
31	23	1448	43°00'40"	87°48'00"	13.3	-	-	-	-	12.3	21.3	30.31	4-6	1	SW	15	0
32	24	0838	43°00'45"	87°48'40"	13.0	-	-	-	-	13.0	11.3	30.40	1	0	-	>1	0
33	24	0925	43°00'00"	87°45'00"	12.9	12.3	19.8	6.2	37.2	6.2	37.2	30.39	1	0	-	>1	0
34	24	1035	43°05'05"	87°48'20"	13.1	-	-	-	-	9.6	30.5	30.39	1	0	-	>1	0
35	24	1058	43°08'15"	87°50'40"	12.9	12.5	13.7	7.5	25.9	7.3	29.0	30.39	1	0	-	>1	0
36	25	0835	43°00'30"	87°49'30"	12.7	-	-	-	-	12.7	10.7	30.15	1	0	SSE	1-5	0
37	25	0900	42°59'00"	87°44'40"	13.2	12.9	18.3	8.2	27.4	8.2	27.4	30.15	1	0	SSE	1-5	50
38	25	0930	42°57'20"	87°39'50"	13.2	13.0	20.4	8.3	35.7	7.8	47.2	30.15	1	0	SSE	1-5	50
39	25	1000	42°55'30"	87°34'10"	14.0	12.5	30.5	5.2	39.6	4.7	64.0	30.15	1	0	SSE	1-5	50
40	25	1030	42°53'55"	87°29'20"	14.1	13.2	28.7	5.1	44.2	4.6	85.3	30.15	1	0	SSE	1-5	50
41	25	1100	42°52'00"	87°23'35"	14.1	12.8	33.5	5.4	44.2	5.0	88.4	30.15	1	0	SSE	1-5	50
42	25	1132	42°50'05"	87°18'00"	13.8	13.2	24.4	5.6	45.7	4.5	107.3	30.15	1	6	S	1-5	50
43	25	1200	42°48'20"	87°12'35"	14.4	12.2	42.7	5.9	53.3	4.4	125.0	30.15	1	6	S	1-5	50
44	25	1335	42°47'00"	87°07'00"	14.6	13.1	36.6	6.0	48.8	4.1	149.4	30.15	1	6	S	1-5	50
45	26	0910	42°59'05"	87°48'45"	13.0	-	-	-	-	12.5	15.3	30.00	1	1	S	1-5	50
46	26	0940	42°56'20"	87°43'50"	13.3	-	-	-	-	12.8	19.8	29.98	>1/4	1	S	12-15	100
47	26	1010	42°53'50"	87°39'35"	13.6	12.4	25.9	9.5	31.1	9.5	31.1	29.98	>1/4	1	S	12-15	100
48	26	1040	42°41'00"	87°34'50"	13.7	13.0	28.0	5.2	35.1	4.8	56.4	29.98	>1/4	1	S	12-15	100
49	26	1220	42°47'15"	87°28'15"	14.0	12.9	32.0	4.4	47.2	4.2	98.1	29.91	1	1	S	15	100
50	26	1351	42°45'50"	87°36'20"	14.4	13.3	25.0	8.0	29.0	5.1	47.2	29.90	1	1	S	15	100

Continued

Appendix Table 1.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)		
					Surface Temperature (°C)	Metalimnion		Deepest reading		Depth (meters)				Temperature (°C)	Direction		Velocity (mph)	
						Upper limits Temperature (°C)	Depth (meters)	Lower limits Temperature (°C)	Depth (meters)									
51	Oct. 28	0841	43°01'40"	87°46'30"	13.2	13.0	19.8	10.5	25.9	10.5	25.9	29.85	6-8	3	SSW	20	0	
52	28	0855	43 01 45	87 43 40	12.8	12.6	24.4	8.5	30.5	5.0	40.5	29.85	6-8	3	SSW	20	0	
53	28	0928	43 01 55	87 35 50	12.9	12.8	27.4	4.7	76.2	4.7	76.2	29.85	15+	3	SSW	20-25	0	
54	31	0835	43 01 35	87 50 00	11.3	-	-	-	-	11.2	12.2	30.03	15+	7	NW	1-5	75	
55	31	0850	43 01 40	87 46 55	11.6	-	-	-	-	11.6	27.4	30.03	15+	7	NW	1-5	75	
56	31	0920	43 01 45	87 40 45	11.5	11.3	39.6	7.6	44.2	7.0	51.2	30.03	15+	7	NW	1-5	75	
57	31	0950	43 01 50	87 34 30	11.5	11.3	36.6	5.1	57.9	5.0	77.7	30.04	15+	8	NNW	15-18	75	
58	31	1020	43 02 00	87 28 20	11.6	11.6	38.1	6.7	42.7	4.9	89.9	30.04	15+	8	NNW	15-18	75	
59	31	1050	43 02 05	87 22 05	11.3	11.1	33.5	5.9	39.6	5.3	62.5	30.04	15+	8	NNW	15-18	75	
60	31	1120	43 02 10	87 15 50	11.8	11.8	35.1	5.4	42.7	4.9	80.8	30.04	15+	8	NNW	15-18	75	
61	31	1150	43 02 15	87 09 30	11.6	11.6	33.5	5.4	38.1	5.1	74.7	30.02	15+	3	WNW	18-20	75	
62	31	1220	43 02 25	87 03 10	11.8	11.8	41.1	5.3	44.2	5.2	73.2	30.02	15+	3	WNW	18-20	75	
63	31	1300	43 02 50	86 56 40	11.5	11.3	45.7	5.7	54.9	5.2	91.4	30.00	15+	3	W	10-15	75	
64	31	1400	43 03 05	86 51 30	11.5	11.5	39.6	5.3	45.7	4.8	88.4	30.00	15+	3	W	10-15	75	
65	31	1430	43 03 10	86 45 20	11.4	11.4	33.5	5.8	39.6	4.7	93.8	30.03	10	6	W	10-15	75	
66	31	1500	43 03 15	86 39 00	11.7	11.7	33.5	4.9	39.6	4.7	89.9	30.03	10	6	W	10-15	75	
67	31	1530	43 03 20	86 32 45	12.2	12.1	33.5	4.9	42.7	4.7	88.4	30.03	10	6	W	10-15	75	
68	31	1604	43 03 20	86 25 40	13.1	13.1	36.6	5.4	51.8	5.1	76.2	30.00	15+	6	W	10	75	
69	31	1647	43 03 25	86 21 45	12.9	12.5	39.9	8.5	46.6	8.5	46.6	30.00	15+	6	W	10	75	
70	31	1700	43 03 25	86 18 20	12.2	-	-	-	-	11.3	25.9	30.00	15+	6	W	10	75	
Cruise X																		
1	Nov. 10	0910	43 03 10	86 17 50	11.2	-	-	-	-	11.2	22.9	30.60	15+	2	SSW	15-18	0	
2	10	1038	43 02 40	86 21 20	12.0	-	-	-	-	11.4	51.8	30.54	15+	3	S	15-18	0	
3	10	1249	43 01 15	86 32 50	11.5	10.8	38.1	5.1	44.8	4.6	94.5	30.54	15+	3	S	15-18	0	
4	12	0830	43 03 00	86 17 40	11.4	-	-	-	-	11.4	15.2	30.53	15+	1	E	12-15	0	
5	12	0845	43 03 00	86 20 45	11.4	-	-	-	-	11.4	40.2	30.53	15+	1	E	12-15	0	

Continued

Appendix Table 1.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)	
					Metalimnion			Deepest						Direction	Velocity (mph)		
					Surface (°C)	Upper limits (°C)	Depth (meters)	Temperature (°C)	Lower limits (meters)	Temperature (°C)							Depth (meters)
6	Nov. 12	0905	43°03'00"	86°24'50"	11.5	10.8	51.8	5.0	61.0	4.7	76.2	30.53	15+	1	E	12-15	0
7	12	1015	43 03 40	86 34 10	11.0	10.0	42.7	5.0	54.9	4.2	83.8	30.53	15+	1	E	12-15	0
8	12	1045	43 03 45	86 40 20	10.7	9.1	45.7	5.1	54.9	4.2	89.3	30.53	15+	1	E	12-15	0
9	12	1115	43 03 45	86 46 35	9.2	7.5	51.8	5.0	61.0	4.4	89.9	30.53	15+	1	E	12-15	0
10	12	1152	43 03 45	86 54 15	9.0	8.9	38.1	4.6	61.0	4.4	94.5	30.53	15+	1	E	12-15	0
11	12	1300	43 03 50	87 00 00	9.0	8.6	39.6	5.5	54.9	5.0	79.2	30.51	15+	1	E	1-5	75
12	12	1330	43 03 50	87 06 10	9.1	8.7	33.5	5.2	45.7	5.1	68.6	30.51	15+	1	E	1-5	75
13	12	1400	43 03 50	87 10 00	9.2	8.9	39.6	5.1	54.9	5.1	70.7	30.51	15+	1	E	1-5	75
14	12	1430	43 03 55	87 16 20	9.3	8.9	39.6	5.4	54.9	5.3	70.1	30.48	15+	1	S	1-5	75
15	12	1500	43 03 55	87 22 35	9.4	8.9	39.6	7.3	53.3	7.3	53.3	30.48	15+	1	S	1-5	75
16	12	1530	43 03 40	87 28 40	9.3	8.7	48.8	5.1	61.0	5.1	83.8	30.44	15+	1	SE	1-5	75
17	12	1613	43 02 50	87 37 35	9.4	9.2	39.6	5.8	49.4	5.0	74.7	30.44	15+	1	SE	1-5	75
18	12	1718	43 02 15	87 44 40	10.1	9.7	37.5	5.9	43.9	5.9	43.9	30.44	15+	1	SE	1-5	75
19	12	1733	43 02 00	87 47 45	9.8	-	-	-	-	9.7	25.9	30.44	15+	1	SE	1-5	75
20	15	2030	43 01 35	87 49 55	9.0	-	-	-	-	9.0	12.2	30.00	15+	3	SW	15-18	0
21	15	2045	43 01 35	87 46 50	9.0	-	-	-	-	9.0	24.4	30.00	15+	3	SW	15-18	0
22	15	2115	43 01 35	87 40 50	8.8	8.7	29.9	5.7	44.2	5.6	53.3	29.95	15+	3	SSW	15-18	0
23	15	2145	43 01 35	87 34 40	9.4	9.3	47.2	5.1	57.9	5.0	73.2	29.95	15+	3	SSW	15-18	0
24	15	2215	43 01 35	87 28 45	9.1	8.8	44.2	4.8	55.5	4.7	87.8	29.94	15+	3	SSW	15-18	0
25	15	2245	43 01 35	87 22 45	8.8	8.6	33.8	4.7	50.9	4.6	89.3	29.94	15+	3	SSW	15-18	0
26	15	2315	43 01 15	87 16 50	8.6	8.3	42.7	4.8	57.9	4.7	76.2	29.94	15+	3	SSW	15-18	0
27	15	2345	43 00 55	87 10 50	8.6	8.4	24.4	4.8	57.9	4.8	79.2	29.94	15+	3	SSW	15-18	0
28	16	0015	43 00 55	87 06 45	8.6	7.0	45.7	5.4	54.9	5.1	79.9	29.94	15+	3	SSW	15-18	0
29	16	0045	43 00 55	87 00 15	8.4	8.3	38.1	4.6	61.0	4.6	76.2	29.94	15+	3	SSW	15-18	0
30	16	0115	43 00 55	86 54 15	8.8	8.6	42.7	4.5	73.2	4.5	91.4	29.94	15+	3	SSW	15-18	0

Continued

Appendix Table 1.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Surface temperature (°C)	Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion			Deepest							Direction	Velocity (mph)	
					Upper limits temperature (°C)	Depth (meters)	Lower limits temperature (°C)	Depth (meters)	Temperature (°C)	reading							
31	Nov. 16	0145	43°00'20"	86°51'45"	8.1	51.8	4.4	70.1	4.2	94.5	29.89	15+	3	SSE	18-20	25	
32	16	0215	43 00 00	86 42 20	9.4	51.8	5.0	59.4	4.5	94.5	29.89	15+	3	SSE	18-20	25	
33	16	0245	42 59 40	86 36 20	10.6	57.3	5.1	67.1	4.8	91.4	29.89	15+	3	SSE	18-20	25	
34	16	0315	42 59 15	86 30 25	10.2	53.3	5.1	61.9	4.7	76.2	29.92	15+	3	SSW	18-20	25	
35	16	0345	42 58 50	86 24 30	9.7	36.6	4.6	52.4	4.5	57.0	29.92	15+	3	SSW	18-20	25	
36	16	0415	43 00 35	86 19 20	10.1	-	-	-	9.5	45.1	29.92	15+	3	SSW	18-20	25	
37	16	0430	43 02 10	86 17 10	10.5	-	-	-	10.5	16.8	29.92	15+	3	SSW	18-20	25	
38	17	1727	43 00 20	86 19 55	10.2	40.2	4.6	45.1	4.6	48.8	29.96	6-8	1	S	12-15	0	
39	18	1047	42 58 15	86 17 15	10.3	-	-	-	9.6	30.5	29.90	1/4	1	SSE	1-5	100	
40	18	1446	43 02 55	86 24 40	10.8	30.5	4.9	42.7	4.3	76.2	29.84	1/2	0	-	1-5	100	
41	18	1755	43 02 55	86 24 40	10.9	36.6	4.9	42.7	4.4	76.2	29.84	1/2	0	N	1-5	100	
42	18	2013	43 02 55	86 24 40	10.8	38.1	5.1	44.2	4.4	76.2	29.83	1	1	N	1-5	100	
43	18	2207	43 02 55	86 24 40	10.9	38.1	5.1	42.7	4.4	76.2	29.83	1	1	N	1-5	100	
44	19	0012	43 02 55	86 24 40	10.8	35.7	4.8	41.1	4.4	76.2	29.80	1/2	1	N	12-15	100	
45	19	1355	43 02 30	86 23 00	10.3	25.9	4.6	41.1	4.5	57.9	29.74	2	3	NW	15-18	100	
46	19	1615	43 06 55	86 25 35	10.2	45.7	4.6	54.9	4.3	76.2	29.74	4-6	3	N	15	100	
Cruise XI																	
1	14	1012	43 03 10	86 17 40	6.4	-	-	-	6.4	12.8	29.88	4	1	SSE	1-5	100	
2	14	1026	43 02 40	86 21 20	7.0	-	-	-	6.0	45.7	29.80	4	1	S	15	100	
3	14	1240	43 01 15	86 32 50	7.0	63.1	5.3	75.6	5.2	91.4	29.76	4	1	S	15	100	
4	14	1430	43 03 00	86 24 50	7.3	-	-	-	6.7	76.2	29.73	2	1	SSW	15-18	100	
5	14	1612	42 59 40	86 19 35	7.0	-	-	-	6.8	48.2	29.73	2	1	SSW	15-18	100	

Appendix Table 2.--Summary of water temperature data from BT casts and related meteorological observations, Lake Michigan, 1955

[Sea state codes as follows: 0 - calm; 1 - gentle; 2 - choppy; 3 - moderate; 4 - rough; 5 - heavy; 6 - gentle swells; 7 - moderate swells, 8 - heavy swells]

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion		Deepest reading		Direction	Velocity (mph)						
					Upper limits (meters)	Lower limits (meters)	Temperature (°C)	Depth (meters)						Temperature (°C)	Depth (meters)	
<b>Cruise I</b>																
1	Jan. 24	1438	43°03'00"	86°17'00"	1.2	-	-	-	1.2	21.3	29.81	10	1	SSE	10	50
2	24	1450	43 02 50	86 19 00	2.1	-	-	-	2.1	47.2	29.81	10	1	SSE	10	50
3	24	1534	43 02 40	86 25 00	4.1	-	-	-	4.1	75.6	29.80	10	1	SSE	10	50
4	24	1557	43 02 30	86 35 00	4.4	-	-	-	4.4	91.4	29.80	10	1	SSE	10	50
<b>Cruise II</b>																
1	Mar. 9	1438	43 03 05	86 17 50	0.4	-	-	-	0.4	18.3	29.68	5	1	WSW	15-18	50
2	9	1455	43 02 50	86 20 40	0.6	-	-	-	0.6	48.2	29.68	5	1	WSW	10-12	50
3	9	1530	43 02 10	86 25 00	0.9	-	-	-	0.9	73.2	29.68	5	1	WSW	10-12	50
4	9	1610	43 01 10	86 32 45	2.2	-	-	-	2.3	91.4	29.71	7	1	WSW	10-12	50
5	9	1720	43 02 55	86 24 40	1.0	-	-	-	1.0	73.2	29.71	7	1	WSW	10-12	50
<b>Cruise III</b>																
1	May 11	0950	44 39 10	86 16 50	6.6	-	-	-	6.2	19.8	30.14	7	1	SW	12-15	0
2	11	1014	44 41 50	86 20 00	3.4	-	-	-	3.8	146.3	30.14	7	1	SW	12-15	0
3	11	1046	44 42 45	86 19 15	5.3	-	-	-	4.0	94.5	30.14	7	1	SW	12-15	0
4	11	1120	44 44 40	86 17 45	5.6	-	-	-	4.2	45.7	30.14	7	1	SW	12-15	0
5	11	1120	44 44 40	88 17 45	5.6	-	-	-	4.2	45.7	30.14	7	1	SW	12-15	0
6	12	1120	44 36 10	86 16 00	6.2	-	-	-	6.1	25.0	30.12	4	2	SSW	15-18	75
7	12	1135	44 34 05	86 17 10	5.7	-	-	-	5.1	38.1	30.12	4	2	SSW	12-15	75
8	12	1200	44 30 35	86 19 10	4.1	-	-	-	4.0	75.0	30.12	4	2	SSW	12-15	75
9	12	1231	44 26 35	86 21 20	4.0	-	-	-	3.9	103.6	30.11	4	2	SSW	12-15	75
10	12	1300	44 22 30	86 23 40	3.6	-	-	-	3.5	106.7	30.11	4	2	SSW	12-15	75
11	12	1330	44 18 10	86 25 55	4.4	-	-	-	4.1	67.7	30.11	4	2	SSW	12-15	75
12	12	1400	44 13 55	86 28 15	3.7	-	-	-	3.7	115.8	30.08	4	1	SSW	12-15	75
13	12	1432	44 09 20	86 30 50	3.7	-	-	-	3.6	96.0	30.08	4	1	SSW	12-15	75
14	12	1502	44 05 05	86 33 05	3.5	-	-	-	3.4	86.9	30.08	4	1	S	12-15	100
15	12	1533	44 01 05	86 31 55	6.6	-	-	-	6.6	16.8	30.08	4	1	S	12-15	100

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion		Depth		Deepest					Direction	Velocity (mph)	
					Upper limits (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)						
16	May	0821	43°57'35"	86°30'45"	7.7	-	-	7.6	13.7	30.09	10	0	E	1-5	75	
17		0835	43 57 35	86 33 40	6.0	-	-	5.3	25.0	30.09	10	0	E	1-5	75	
18		0855	43 58 25	86 37 45	4.0	-	-	3.9	76.2	30.10	10	1	N	1-5	75	
19		0945	43 59 15	86 45 00	3.6	-	-	3.4	129.5	30.10	10	1	N	1-5	75	
20		1025	44 00 20	86 53 15	3.4	-	-	3.3	143.3	30.10	10	1	N	1-5	75	
21		1132	44 01 15	87 00 20	3.5	-	-	3.3	112.8	30.10	8	1	NW	1-5	75	
22		1200	44 02 15	87 06 15	3.5	-	-	3.3	140.2	30.10	8	1	NW	1-5	75	
23		1230	44 03 00	87 12 30	3.5	-	-	3.3	137.2	30.10	5	1	NNW	12-15	75	
24		1301	44 03 50	87 18 55	3.6	-	-	3.4	96.0	30.10	5	1	NNW	12-15	75	
25		1332	44 04 50	87 26 45	5.4	-	-	3.8	74.7	30.11	8	1	NNW	12-15	75	
26		1401	44 05 10	87 28 50	6.1	-	-	4.6	48.8	30.11	8	1	NNW	12-15	75	
27		1450	44 05 35	87 32 00	7.3	-	-	6.1	11.3	30.11	8	1	NNW	12-15	75	
28		1505	44 05 50	87 35 05	6.5	-	-	5.3	13.7	30.11	8	1	NNW	12-15	75	
29		0827	44 05 15	87 33 40	7.1	-	-	5.4	12.2	30.27	15	1	NE	12-15	0	
30		0911	44 05 10	87 28 50	5.7	-	-	4.1	48.8	30.27	15	1	NE	12-15	0	
31		0946	44 09 40	87 27 20	6.5	6.2	13.7	4.6	37.5	30.27	15	1	NE	1-5	0	
32		1016	44 14 20	87 25 30	7.0	6.6	12.2	4.3	36.6	30.27	15	1	NE	1-5	0	
33		1045	44 18 30	87 24 10	4.2	-	-	3.9	67.1	30.28	15	1	NNE	1-5	0	
34		1116	44 23 05	87 22 30	4.2	-	-	3.9	96.0	30.28	15	1	NNE	1-5	0	
35		1150	44 28 00	87 20 25	5.0	-	-	3.9	102.1	30.28	15	1	NNE	1-5	0	
36		1231	44 33 30	87 16 45	4.1	-	-	3.9	70.1	30.28	15	1	NNE	1-5	0	
37		1301	44 37 40	87 14 05	3.7	-	-	3.7	83.8	30.27	15	0	-	>1	0	
38		1339	44 41 45	87 10 45	3.9	-	-	3.8	97.5	30.27	15	0	-	>1	0	
39		1516	44 44 20	87 14 15	6.9	-	-	4.5	44.2	30.27	15	0	-	>1	0	
40		1516	44 44 20	87 14 15	6.9	-	-	4.5	44.2	30.27	15	0	-	>1	0	

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)
					Surface Temperature (°C)	Metalimnion		Deepest reading	Direction	Velocity (mph)						
						Upper limits (meters)	Lower limits (meters)									
41	May 14	1551	44°46'10"	87°13'20"	-	-	-	4.8	27.4	30.27	15	0	-	>1	0	
42	14	1551	44 46 10	87 13 20	-	-	-	4.9	25.9	30.27	15	0	-	>1	0	
43	15	0922	44 45 35	87 16 05	-	-	-	5.7	15.2	30.27	10	1	S	12-15	0	
44	15	1000	44 44 15	87 14 20	-	-	-	3.9	54.9	30.27	10	1	S	12-15	0	
45	15	1000	44 44 15	87 14 20	-	-	-	3.9	54.9	30.27	10	1	S	12-15	0	
46	15	1048	44 42 00	87 11 25	-	-	-	3.9	88.4	30.25	10	1	S	15-18	0	
47	16	0831	44 46 35	87 17 00	-	-	-	5.4	12.8	30.20	15+	2	NE	18-20	75	
48	16	0844	44 46 15	87 14 45	5.8	13.7	4.9	4.9	19.8	30.20	15+	4	N	18-20	75	
49	17	0848	44 46 35	87 17 00	-	-	-	7.1	9.1	30.29	15+	1	NE	1-5	0	
50	17	0901	44 46 15	87 14 45	-	-	-	5.8	24.4	30.29	15+	1	NE	1-5	0	
51	17	0913	44 45 50	87 11 50	-	-	-	4.7	73.2	30.29	15+	1	NE	1-5	0	
52	17	1000	44 44 55	87 05 00	-	-	-	3.4	121.9	30.28	15+	6	N	1-5	0	
53	17	1030	44 44 00	86 58 40	-	-	-	3.3	134.1	30.28	15+	6	N	1-5	0	
54	17	1100	44 42 55	86 52 15	-	-	-	3.5	134.1	30.28	15+	6	N	1-5	0	
55	17	1130	44 42 05	86 45 55	-	-	-	3.5	134.1	30.28	15+	6	N	1-5	0	
56	17	1147	44 41 30	86 42 20	-	-	-	3.5	262.1	30.28	15+	6	N	1-5	0	
57	17	1147	44 41 30	86 42 20	-	-	-	3.6	137.2	30.28	15+	6	N	1-5	0	
58	17	1244	44 40 20	86 33 50	-	-	-	3.6	246.9	30.28	15+	6	N	1-5	0	
59	17	1244	44 40 20	86 33 50	-	-	-	3.6	134.1	30.28	15+	6	N	1-5	0	
60	17	1415	44 39 20	86 27 20	-	-	-	3.8	129.5	30.22	15+	6	-	>1	0	
61	17	1445	44 38 30	86 21 00	-	-	-	3.7	118.9	30.22	15+	6	-	>1	0	
62	17	1452	44 38 10	86 19 00	-	-	-	4.0	73.2	30.22	15+	6	-	>1	0	
63	17	1515	44 38 00	86 17 15	6.2	1.5	4.3	4.3	27.4	30.20	15+	6	N	1-5	0	
64	18	0813	44 45 35	86 16 05	7.0	6.1	5.3	4.3	24.4	30.03	8	2	S	15-18	0	
65	18	0839	44 41 50	86 20 00	5.6	-	-	4.1	143.3	30.03	8	2	S	15-18	0	

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion		Deepest		Direction	Velocity (mph)						
					Upper limits Temperature (°C)	Depth (meters)	Lower limits Temperature (°C)	Depth (meters)								
					Surface (°C)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Deepest reading (meters)					
66	May 18	0921	44°42'45"	86°19'15"	5.2	-	-	4.4	97.5	30.03	8	2	S	15-18	0	
67	18	1057	44 44 40	86 17 45	5.3	-	-	4.6	45.7	30.00	5	2	S	18-20	25	
68	18	1057	44 44 40	86 17 45	5.3	-	-	4.6	45.7	30.00	5	2	S	18-20	25	
69	19	0906	44 38 10	86 17 10	6.6	-	-	5.7	27.4	29.88	8	2	N	1-5	100	
70	19	0915	44 38 30	86 19 00	4.1	-	-	4.1	137.2	29.88	8	2	N	1-5	100	
71	19	0950	44 39 40	86 26 15	3.9	-	-	3.9	137.2	29.88	8	2	N	1-5	100	
72	19	1018	44 40 50	86 32 00	3.7	-	-	3.7	131.1	29.88	8	2	N	1-5	100	
73	19	1018	44 40 50	86 32 00	3.7	-	-	3.7	246.9	29.88	8	2	N	1-5	100	
74	19	1308	44 30 45	86 19 20	6.2	6.2	9.1	4.3	33.5	29.91	15	1	NNW	18	75	
75	19	1350	44 32 30	86 18 30	6.7	6.4	13.7	4.7	24.4	29.91	15	1	NNW	18	75	
76	19	1443	44 34 50	86 18 40	4.7	-	-	4.3	45.7	29.91	15+	1	N	12-15	25	
77	19	1443	44 34 50	86 18 40	4.7	-	-	4.3	48.8	29.91	15+	1	N	12-15	25	
78	20	0813	44 30 40	86 16 25	7.8	7.7	0.9	5.9	15.2	30.03	15+	0	-	>1	25	
79	20	0850	44 34 50	86 18 40	6.7	6.6	3.7	4.3	33.5	30.03	15+	0	-	>1	25	
80	20	0850	44 34 50	86 18 40	6.7	6.6	3.7	4.3	33.5	30.03	15+	0	-	>1	25	
81	20	1149	44 34 40	86 15 00	8.0	7.9	9.1	6.0	19.8	30.04	15+	1	NNW	12-15	25	
82	21	1124	44 35 50	86 15 40	8.1	6.9	12.2	5.8	19.8	30.06	10	0	-	>1	0	
83	21	1559	44 34 40	86 15 00	9.3	-	-	-	-	29.99	15+	0	-	>1	0	
84	21	1559	44 34 40	86 15 00	9.3	-	-	-	-	29.99	15+	0	-	>1	0	
85	22	0832	44 34 25	86 17 00	7.9	7.1	10.7	4.8	19.8	29.89	5	0	-	>1	100	
86	22	0900	44 30 30	86 19 10	7.4	7.2	3.0	4.8	13.7	29.89	5	0	-	>1	100	
87	22	0910	44 29 30	86 20 30	7.7	-	-	-	-	29.88	5	0	-	>1	100	
88	22	0954	44 28 45	86 19 00	8.0	-	-	-	-	29.88	5	0	-	>1	100	
89	22	0954	44 28 45	86 19 00	8.0	-	-	-	-	29.88	5	0	-	>1	100	

Continued

Appendix Table 2 Continued

Cruise BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution							Surf- ce (°C)	Deepest reading (meters)	Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion			Temperature distribution									Direction	Velocity (mph)	
					Upper limits (meters)	Lower limits (meters)	Depth (meters)	Upper limits (°C)	Lower limits (°C)	Depth (meters)	Temperature (°C)								
Cruise IV																			
1	Jun. 1	0844	44°39'10"	86°16'45"	9.7	9.5	1.8	6.4	7.6	6.1	17.1	30.24	15+	0	S	1-5	25		
2	1	0855	44 40 30	86 18 00	8.1	8.0	0.9	6.6	3.7	5.2	76.2	30.24	15+	0	S	1-5	25		
3	1	0930	44 42 45	86 19 45	7.8	7.7	0.6	6.2	6.1	4.4	134.1	30.24	15+	1	SW	1-5	25		
4	1	1002	44 42 45	86 19 10	8.4	8.3	1.5	6.4	6.1	5.0	86.9	30.24	15+	1	SW	1-5	25		
5	1	1030	44 46 30	86 15 30	9.6	9.6	2.4	6.1	14.0	5.6	38.1	30.24	15+	1	SW	1-5	25		
6	1	1100	44 50 30	86 11 30	7.9	7.9	1.5	5.6	10.1	4.9	53.3	30.24	15+	1	SW	1-5	25		
7	1	1130	44 54 10	86 07 45	9.6	9.6	0.9	6.9	6.1	6.8	11.0	30.24	15+	1	SW	1-5	25		
8	1	1200	44 57 20	86 03 20	9.7	9.6	0.9	7.6	6.1	4.7	91.4	30.25	15+	1	SW	1-5	25		
9	1	1230	44 59 40	85 57 30	8.6	8.6	0.6	6.6	12.2	5.7	51.8	30.25	15+	1	SW	1-5	25		
10	1	1300	45 03 00	85 52 25	8.2	8.2	0.6	7.3	6.1	4.4	69.5	30.25	15+	1	SW	1-5	25		
11	1	1332	45 06 20	85 47 20	7.2	7.2	0.3	5.3	3.4	3.8	143.3	30.25	15+	1	SW	1-5	25		
12	1	1400	45 09 20	85 43 00	7.6	-	-	-	-	4.1	137.2	30.25	15+	1	SW	1-5	25		
13	1	1431	45 12 45	85 37 55	8.3	8.3	0.6	7.0	2.4	5.8	45.7	30.25	15+	1	SW	1-5	25		
14	1	1459	45 15 55	85 33 15	8.2	8.1	0.3	6.4	4.6	4.3	86.3	30.25	15+	1	SW	1-5	25		
15	1	1545	45 18 20	85 29 40	5.7	-	-	-	-	4.0	92.9	30.20	15+	0	-	>1	25		
16	1	1657	45 19 20	85 19 00	9.7	9.6	0.6	7.3	20.7	6.9	41.1	30.20	15+	0	-	>1	25		
17	1	1657	45 19 20	85 19 00	9.7	9.7	0.6	7.3	20.7	7.0	41.1	30.20	15+	0	-	>1	25		
18	2	0809	45 19 50	85 17 35	9.6	9.5	2.1	7.1	10.7	6.3	50.3	30.28	15+	0	S	1-5	50		
19	2	0825	45 18 50	85 20 30	10.0	9.8	1.5	7.4	6.1	5.8	57.3	30.28	15+	0	S	1-5	50		
20	2	0855	45 17 10	85 25 00	7.8	7.8	1.2	6.3	4.0	6.1	16.1	30.28	15+	0	S	1-5	50		
21	2	0925	45 11 40	85 25 20	10.1	10.0	4.0	7.6	7.6	5.9	24.4	30.22	15+	0	-	>1	75		
22	2	0955	45 07 05	85 25 20	8.4	8.3	3.4	6.3	15.2	4.8	45.7	30.22	15+	0	-	>1	75		
23	2	1025	45 02 10	85 25 00	9.3	9.1	0.6	5.7	12.2	4.5	59.4	30.22	15+	0	-	>1	75		
24	2	1055	44 57 40	85 26 20	8.9	8.6	7.6	5.0	27.4	4.0	137.2	30.22	15+	0	-	>1	75		
25	2	1230	44 56 10	85 27 00	9.4	-	-	-	-	4.0	134.1	30.22	15+	0	NE	1-5	75		

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Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution										Wind					
					Surface (°C)	Metalimnion					Deepest					Barometer (inches)	Visibility (miles)	Sea	Wind	
						Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Direction	Velocity (mph)				Cloud coverage (percent)	
26	Jun. 2	1230	44°56'10"	85°27'00"	9.6	-	-	-	-	-	3.7	182.9	30.22	15+	0	NE	1-5	75		
27	2	1414	44 52 30	85 29 05	11.9	11.8	1.8	5.4	22.9	4.0	138.7	30.16	15+	1	NE	1-5	50			
28	2	1657	44 57 00	85 28 10	10.3	-	-	-	-	5.1	38.1	30.16	15+	1	NE	1-5	50			
29	2	1700	44 57 20	85 28 35	11.1	11.0	1.8	6.4	12.2	6.4	16.8	30.16	15+	1	NE	1-5	50			
30	3	0800	44 56 50	85 28 00	10.7	10.6	0.9	7.5	4.6	4.1	100.6	30.12	10	0	-	>1	100			
31	3	0901	44 56 10	85 27 00	9.7	9.5	1.5	4.5	67.1	4.1	121.9	30.11	10	0	-	>1	100			
32	3	0901	44 56 10	85 27 00	9.7	9.5	1.5	4.3	70.1	3.7	182.9	30.11	10	0	-	>1	100			
33	3	1139	44 57 40	85 29 00	11.4	11.4	4.3	7.2	5.8	6.6	14.6	30.08	10	1	SSE	15	100			
34	3	1204	44 57 00	85 28 00	10.7	10.7	3.7	5.3	22.9	4.3	48.2	30.08	10	1	SSE	15	100			
35	3	1204	44 57 00	85 28 00	10.7	10.6	3.7	5.2	22.9	4.5	45.7	30.08	10	1	SSE	15	100			
36	3	1248	45 07 15	85 27 20	10.1	10.1	3.0	5.0	32.0	4.1	75.0	30.10	5	1	S	1-5	100			
37	3	1320	45 07 15	85 27 20	10.2	9.9	3.0	5.0	33.5	4.1	77.7	30.10	5	1	S	1-5	100			
38	3	1350	45 12 00	85 27 20	10.1	10.1	0.9	5.6	30.5	5.6	30.5	30.10	5	1	S	1-5	100			
39	3	1420	45 16 10	85 24 25	9.0	9.0	1.5	6.2	6.1	5.8	24.4	30.10	5	1	S	1-5	100			
40	3	1450	45 19 05	85 20 00	8.4	8.0	9.1	6.8	14.6	4.1	86.9	30.10	5	1	S	1-5	100			
41	3	1609	45 20 00	85 18 10	9.4	9.3	0.6	7.2	12.8	5.6	45.7	30.06	10	1	SSW	1-5	100			
42	3	1609	45 20 00	85 18 10	9.4	9.3	0.6	7.2	12.8	5.6	44.8	30.06	10	1	SSW	1-5	100			
43	3	1648	45 19 45	85 17 55	10.2	-	-	-	-	8.3	15.2	30.06	10	1	SSW	1-5	100			
44	4	0840	45 20 00	85 18 10	7.9	-	-	-	-	5.6	44.2	29.90	10	1	SSW	1-5	50			
45	4	0840	45 20 00	85 18 10	8.0	-	-	-	-	5.8	45.7	29.90	10	1	SSW	1-5	50			
46	4	0920	45 19 20	85 19 00	9.2	9.2	4.9	6.4	25.3	6.2	46.0	29.90	10	1	SSW	1-5	50			
47	4	0920	45 19 20	85 19 00	9.2	9.2	3.0	6.1	24.4	5.7	45.7	29.90	10	1	SSW	1-5	50			
48	4	1105	45 18 20	85 29 40	7.2	7.1	3.0	5.1	22.6	4.0	88.4	29.90	10	1	SSW	1-5	50			
49	5	0805	45 20 00	85 17 35	10.4	10.3	0.9	6.6	21.6	4.1	86.9	29.82	2	0	-	>1	75			
50	5	0850	45 21 25	85 20 20	9.4	9.3	0.6	4.9	21.3	4.1	59.4	29.82	2	0	-	>1	75			

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Surface temperature (°C)	Temperature distribution						Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)				
						Metalimnion		Depth		Temperature (°C)					Depth (meters)	Temperature (°C)		Depth (meters)	Temperature (°C)	Direction	Velocity (mph)
						Upper limits	Lower limits	Upper limits	Lower limits	Upper limits	Lower limits										
51	Jun. 5	0920	45°24'00"	85°25'45"	7.6	7.3	3.7	4.7	32.0	4.3	74.7	29.82	2	0	-	>1	75				
52	5	0950	45 26 30	85 31 05	6.9	6.6	6.1	4.3	16.1	4.1	58.8	29.82	2	0	-	>1	75				
53	5	1020	45 29 00	85 36 30	11.9	11.8	1.5	4.6	9.1	4.1	106.7	29.82	2	6	E	1-5	75				
54	5	1050	45 31 20	85 43 10	9.0	8.9	0.3	5.3	18.3	4.6	58.8	29.82	2	6	E	1-5	75				
55	5	1108	45 32 50	85 46 40	7.8	7.4	4.3	4.6	18.3	4.3	73.2	29.82	1	0	-	>1	75				
56	5	1200	45 35 00	85 51 45	9.6	9.6	0.9	4.7	21.3	4.1	94.5	29.82	1	0	-	>1	75				
57	5	1230	45 36 25	85 57 10	9.0	8.4	0.6	5.7	10.7	5.6	14.9	29.82	2	6	E	1-5	75				
58	5	1300	45 40 20	86 02 10	7.6	6.6	1.2	5.0	21.3	4.4	95.1	29.82	2	6	E	1-5	75				
59	5	1330	45 43 15	86 07 15	10.7	10.7	0.9	4.6	24.4	4.3	95.1	29.82	2	6	E	1-5	75				
60	5	1400	45 44 50	86 08 25	12.3	11.1	5.2	5.0	18.3	4.2	71.6	29.82	2	6	E	1-5	75				
61	5	1448	45 46 15	86 09 10	12.9	12.8	0.6	4.8	24.4	4.3	45.7	29.77	2	6	E	1-5	75				
62	5	1448	45 46 15	86 09 10	12.9	12.7	0.9	4.8	22.3	4.3	44.2	29.77	2	6	E	1-5	75				
63	5	1523	45 51 00	86 11 50	14.0	13.9	0.6	6.2	26.8	6.2	26.8	29.77	2	6	E	1-5	75				
64	5	1536	45 22 55	86 12 50	13.9	13.9	0.6	8.3	16.8	8.3	16.8	29.77	2	6	E	1-5	75				
65	5	1549	45 54 10	86 13 50	13.9	13.9	0.6	10.2	12.8	10.2	12.8	29.77	2	6	E	1-5	75				
66	6	0831	45 55 00	86 14 00	13.3	13.3	2.4	9.1	13.7	9.1	13.7	29.74	1	1	SSE	1-5	100				
67	6	0906	45 52 45	86 07 55	12.8	12.7	4.6	6.9	19.8	6.9	19.8	29.74	1	1	SSE	1-5	100				
68	6	0931	45 49 50	86 04 20	12.7	12.2	3.0	4.8	36.6	4.8	36.6	29.74	1	1	SSE	1-5	100				
69	6	1120	45 45 40	86 05 40	10.0	9.6	4.0	4.5	21.3	4.1	88.4	29.74	1	1	SSE	1-5	100				
70	6	1310	45 50 05	86 00 30	12.0	11.4	3.0	4.9	31.4	4.6	51.8	29.72	2	1	E	1-5	100				
71	6	1310	45 50 05	86 00 30	12.0	11.8	3.7	4.9	32.0	4.7	52.4	29.72	2	1	E	1-5	100				
72	6	1355	45 53 00	86 00 30	14.4	14.3	2.4	6.5	27.4	6.5	27.4	29.71	4	1	E	1-5	100				
73	6	1355	45 53 00	86 00 30	14.2	14.1	2.4	6.3	27.4	6.3	27.4	29.71	4	1	E	1-5	100				
74	6	1518	45 56 35	86 00 00	14.5	13.3	7.3	11.2	9.1	11.2	9.1	29.71	4	1	E	1-5	100				
75	7	1121	45 55 00	86 14 55	14.7	14.6	5.2	9.4	12.8	9.4	12.8	29.68	1	6	-	>1	100				

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)	
					Metalimnion			Deepest reading						Direction	Velocity (mph)		
					Upper limits (meters)	Lower limits (meters)	Depth (meters)	Temperature (°C)	Temperature (°C)	Depth (meters)							
					Surface (°C)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)						
76	Jun. 7	1136	45°53'10"	86°13'00"	14.3	14.2	4.3	7.5	15.8	7.5	15.8	29.68	1	6	-	>1	100
77	7	1206	45 49 25	86 09 20	13.2	13.1	3.0	6.6	27.4	6.6	27.4	29.68	2	6	-	>1	100
78	7	1315	45 45 40	86 05 40	10.9	10.9	0.9	4.6	16.8	4.0	76.2	29.70	1/2	1	ESE	1-5	100
79	7	1405	45 50 05	86 00 30	12.9	-	-	-	-	4.4	43.3	29.70	1/2	1	ESE	1-5	100
80	7	1405	45 50 05	86 00 30	12.9	-	-	-	-	4.4	43.3	29.70	1/2	1	ESE	1-5	100
81	7	1450	45 53 00	86 00 30	14.7	-	-	-	-	7.8	24.4	29.70	1/2	1	ESE	1-5	100
82	7	1450	45 53 00	86 00 30	15.0	-	-	-	-	7.5	24.4	29.70	1/2	1	ESE	1-5	100
83	7	1555	45 56 40	85 59 30	15.5	-	-	-	-	14.0	6.1	29.70	3	1	E	10-12	75
84	8	0819	45 55 35	86 14 10	14.4	14.4	7.6	13.5	12.3	13.5	12.3	29.71	8	2	ESE	15-18	75
85	8	1005	45 46 15	86 09 10	10.4	10.1	5.5	5.2	24.4	4.2	51.8	29.74	1	2	ENE	15-18	75
86	8	1005	45 46 15	86 09 10	10.4	10.1	7.0	5.1	24.4	4.0	50.9	29.74	1/2	2	ENE	15-18	75
87	8	1134	45 43 15	86 07 15	7.7	7.6	8.5	4.3	22.9	4.0	92.5	29.74	1/2	2	ENE	15-18	75
88	9	0823	45 55 10	86 15 00	14.1	-	-	-	-	13.7	14.6	29.89	5	1	ESE	15	75
89	9	0838	45 52 55	86 15 00	12.9	-	-	-	-	12.8	18.3	29.89	5	1	ESE	15	75
90	9	0910	45 48 05	86 15 00	11.8	11.7	4.6	7.7	21.3	7.6	30.5	29.88	5	1	E	12-15	75
91	9	0940	45 43 20	86 15 00	8.9	8.3	13.7	5.8	21.3	4.8	45.7	29.90	1	1	ENE	12-15	75
92	9	1010	45 38 45	86 15 00	7.2	7.1	1.2	4.4	13.4	4.1	80.8	29.90	1	1	ENE	12-15	75
93	9	1040	45 34 15	86 15 00	7.0	6.0	11.3	4.4	25.9	4.0	119.2	29.90	1	1	ENE	12-15	75
94	9	1110	45 29 05	86 15 00	6.4	6.4	0.6	4.1	32.6	3.9	143.3	29.89	3	1	NNE	10	75
95	9	1140	45 24 30	86 14 15	4.9	4.9	2.4	4.4	6.1	3.8	144.8	29.89	3	1	NNE	10	75
96	9	1210	45 20 00	86 14 10	7.1	7.0	0.9	4.4	24.4	4.0	138.7	29.89	3	1	NNE	10	75
97	9	1240	45 15 20	86 14 10	7.6	7.6	0.9	4.6	24.4	3.9	143.3	29.89	3	1	NNE	10	75
98	9	1310	45 10 50	86 14 10	8.9	8.9	1.5	4.3	15.2	3.8	143.3	29.89	3	1	NNE	10	75
99	9	1344	45 05 35	86 14 15	11.1	11.0	2.4	5.4	25.9	4.2	88.4	29.89	3	1	NNE	10	75
100	9	1410	45 01 25	86 14 15	11.8	11.7	2.4	5.8	18.3	4.2	88.4	29.89	3	1	NNE	10	75

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution										Barometer (inches)	Visi-bility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion					Deepest								Direction	Velocity (mph)	
					Surface (°C)	Temperature (°C)	Depth (meters)	Temperature (°C)	Lower limits	Upper limits	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)						
101	Jun. 9	1440	44°56'50"	86°14'15"	11.8	11.7	2.7	7.1	15.2	6.4	27.4	29.89	3	1	NNE	10	100			
102	9	1510	44 52 15	86 14 15	10.5	10.4	3.7	5.7	29.0	4.3	112.8	29.86	5	1	NE	1-5	100			
103	9	1540	44 47 20	86 15 20	11.8	11.8	4.6	6.0	16.8	5.1	96.0	29.86	5	1	NE	1-5	100			
104	9	1610	44 42 55	86 13 15	12.8	12.8	2.1	6.8	27.4	6.8	27.4	29.86	5	1	NE	1-5	100			
105	9	1640	44 38 45	86 16 15	13.1	13.0	2.1	8.7	13.7	8.7	13.7	29.86	5	1	NE	1-5	100			
106	10	0840	44 40 15	86 17 10	12.6	12.6	3.0	5.1	42.7	5.1	42.7	29.87	1	1	WSW	12-15	75			
107	10	0937	44 42 45	86 19 45	12.4	12.3	3.7	5.0	30.5	4.0	137.2	29.87	1/2	1	WSW	12-15	100			
108	10	1118	44 42 45	86 19 10	12.8	12.4	4.3	5.2	38.1	4.3	88.4	29.84	3	1	WSW	12-15	50			
109	10	1329	44 34 50	86 18 40	12.2	11.5	3.0	6.9	10.7	4.9	45.7	29.84	3	1	WSW	12-15	50			
110	10	1329	44 34 50	86 18 40	12.2	11.2	3.0	6.8	8.5	4.7	44.8	29.83	5	0	W	1-5	50			
111	11	0914	44 34 50	86 18 40	12.4	12.1	5.5	7.1	8.5	5.1	45.7	29.68	3	3	N	15-18	100			
112	11	0914	44 34 50	86 18 40	12.5	12.3	5.2	7.0	9.1	5.0	45.7	29.68	3	3	N	15-18	100			
113	11	1238	44 36 00	86 16 00	12.2	12.0	5.2	9.5	7.6	6.1	27.4	29.64	3	3	NNW	20	100			
114	12	1813	44 36 30	86 16 40	4.7	-	-	-	-	4.7	23.5	29.76	5	6	NW	1-5	100			
115	12	1828	44 34 50	86 18 40	4.6	-	-	-	-	4.6	45.7	29.76	5	6	NW	1-5	100			
116	12	1948	44 35 05	86 21 35	6.5	6.4	10.7	4.1	36.6	3.8	132.0	29.78	7	3	NNW	20	100			
117	12	2040	44 34 50	86 18 40	4.6	-	-	-	-	4.5	39.6	29.78	7	3	NNW	20	100			
Cruise V																				
1	22	0900	44 38 40	86 16 10	14.4	14.3	6.7	11.2	12.8	11.2	12.8	29.88	15+	4	NW	20	25			
2	22	0935	44 41 50	86 20 00	13.7	13.6	6.1	5.8	30.5	4.3	137.2	29.88	15+	4	NW	20	25			
3	22	1001	44 42 45	86 19 15	13.3	13.1	7.0	6.3	16.8	4.4	86.9	29.88	15+	4	NW	20	25			
4	22	1034	44 44 40	86 17 45	14.3	14.2	7.0	5.6	18.3	4.5	45.7	29.90	15+	4	NW	20	50			
5	22	1034	44 44 40	86 17 45	14.3	14.3	7.0	5.6	18.3	4.5	45.7	29.90	15+	4	NW	20	50			
6	23	0814	44 38 00	86 17 15	13.8	13.7	6.7	6.0	16.8	5.4	32.0	29.90	15+	4	NW	20	50			
7	23	0820	44 38 10	86 18 40	12.9	12.7	6.1	5.3	30.5	4.7	73.2	29.95	15+	1	SW	5	100			
8	23	0855	44 38 25	86 20 45	13.2	12.3	9.1	4.9	39.6	4.0	140.2	29.95	15+	1	SW	5	100			
9	23	0925	44 39 20	86 27 00	13.3	13.2	3.0	5.3	30.5	4.0	137.2	29.95	15+	1	SW	5	100			
10	23	0925	44 40 10	86 32 45	13.2	13.1	3.7	4.4	51.8	4.0	137.2	29.95	15+	1	SW	5	100			

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud-coverage (percent)	
					Metalimnion		Deepest		Direction	Velocity (mph)							
					Upper limits	Lower limits	Temperature (°C)	Depth (meters)						Temperature (°C)	Depth (meters)		
					Surface (°C)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)						
11	Jun. 23	0952	44°40'10"	86°32'45"	13.0	12.9	6.1	4.2	61.0	3.8	237.7	29.95	15+	1	SW	5	100
12	23	1100	44 40 50	86 38 50	11.8	11.2	7.0	4.7	48.8	4.1	137.2	29.95	15+	1	SW	5	100
13	23	1117	44 41 15	86 42 20	11.1	10.8	6.1	5.9	16.8	4.0	137.2	29.96	15+	1	SW	5	100
14	23	1117	44 41 15	86 42 20	11.1	10.8	6.1	4.5	61.0	3.7	246.9	29.96	15+	1	SW	5	100
15	23	1203	44 41 15	86 46 10	10.6	10.3	4.9	4.8	18.3	4.0	143.3	29.96	15+	1	SW	5	100
16	23	1230	44 42 15	86 51 40	10.7	10.4	7.9	6.1	13.7	3.9	140.2	29.98	15+	1	WNW	2	100
17	23	1300	44 43 00	86 58 00	14.4	14.0	3.0	5.4	16.1	3.9	140.2	29.98	15+	1	WNW	2	100
18	23	1330	44 43 40	87 04 50	15.4	15.2	3.7	5.4	12.8	3.9	121.9	29.98	15+	1	WNW	2	100
19	23	1359	44 44 25	87 12 00	15.0	14.6	10.1	4.7	44.2	4.3	73.2	29.98	15+	1	WNW	2	100
20	23	1433	44 45 40	87 15 15	14.4	12.9	10.7	8.7	15.2	8.5	19.8	29.98	15+	1	WNW	2	100
21	23	1443	44 46 30	87 17 05	12.8	-	-	-	-	9.9	12.8	29.98	15+	1	WNW	2	100
22	24	0828	44 46 30	87 17 00	12.2	-	-	-	-	10.9	10.7	30.02	6-8	0	NW	2	50
23	24	0917	44 44 10	87 14 00	14.7	14.4	9.1	4.6	36.6	4.1	51.8	30.02	6-8	0	NW	2	50
24	24	0917	44 44 10	87 14 00	14.7	14.4	9.1	4.6	36.6	4.1	51.8	30.02	6-8	0	NW	2	50
25	24	1005	44 42 15	87 11 45	14.4	13.9	9.8	7.3	15.2	4.3	88.4	30.02	6-8	0	NW	2	50
26	25	0901	44 46 30	87 17 00	13.8	13.7	5.5	11.9	12.2	11.9	12.2	30.06	15+	1	NNE	12-15	25
27	25	0923	44 44 10	87 14 10	15.0	14.8	4.0	4.6	45.7	4.6	45.7	30.06	15+	1	NNE	12-15	25
28	25	0941	44 41 50	87 11 20	14.5	13.9	7.6	5.8	18.3	4.0	88.4	30.06	15+	1	NNE	12-15	25
29	25	1142	44 40 20	87 15 00	15.3	15.2	3.0	4.8	41.1	4.4	53.3	30.06	15+	1	NNE	12-15	25
30	25	1142	44 40 20	87 15 00	15.3	15.2	3.0	4.8	41.1	4.4	53.3	30.06	15+	1	NNE	12-15	25
31	25	1359	44 32 45	87 23 15	16.1	12.8	10.1	4.6	24.4	4.4	43.6	30.08	15+	1	ESE	3	25
32	25	1430	44 30 00	87 26 50	16.1	-	-	-	-	11.4	12.2	30.08	15+	1	ESE	3	25
33	25	1500	44 25 30	87 28 00	14.5	-	-	-	-	9.5	15.2	30.08	15+	1	ESE	3	25
34	25	1511	44 24 00	87 27 45	13.6	-	-	-	-	6.7	27.4	30.08	15+	1	ESE	3	25
35	25	1511	44 24 00	87 27 45	13.8	13.5	3.0	8.9	14.3	7.5	27.4	30.08	15+	1	ESE	3	25

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)	
					Metalimnion			Deepest						Direction	Velocity (mph)		
					Upper limits Temperature (°C)	Depth (meters)	Lower limits Temperature (°C)	Depth (meters)	Temperature (°C)	Depth reading (meters)							Surface Temperature (°C)
36	Jun. 25	1620	44°18'20"	87°28'50"	-	-	-	-	-	9.9	12.8	30.06	15+	1	ESE	3	25
37	25	1650	44 14 30	87 28 50	-	-	-	-	-	10.8	14.6	30.06	15+	1	ESE	3	25
38	25	1720	44 10 00	87 28 50	-	-	-	-	-	10.5	14.6	30.06	15+	1	ESE	3	25
39	25	1757	44 06 45	87 34 55	-	-	-	-	-	11.1	10.7	30.06	15+	1	SW	3	25
40	26	0822	44 05 15	87 36 35	15.1	3.0	10.6	12.8	10.6	12.8	30.16	15+	1	NE	12-15	50	
41	26	0837	44 05 10	87 33 15	15.4	3.7	7.6	18.3	7.5	18.3	30.16	15+	1	NE	12-15	50	
42	26	0908	44 04 20	87 26 45	15.2	3.0	4.3	73.2	4.3	73.2	30.16	15+	1	NE	12-15	50	
43	26	0955	44 03 30	87 20 45	15.1	2.4	6.7	15.2	4.0	88.4	30.16	15+	1	NE	12-15	50	
44	26	1025	44 02 40	87 14 35	15.7	3.0	4.6	39.6	3.9	128.0	30.16	15+	1	NE	12-15	50	
45	26	1055	44 01 55	87 08 15	14.4	1.8	4.4	51.8	3.9	126.5	30.16	15+	1	NE	12-15	50	
46	26	1125	44 01 05	87 02 00	14.0	1.8	4.4	61.0	3.9	123.5	30.16	15+	1	NE	12-15	50	
47	26	1155	44 00 00	86 56 00	14.1	1.8	6.1	12.2	3.9	115.8	30.16	15+	1	NE	12-15	50	
48	26	1222	43 59 20	86 50 20	15.2	3.0	4.6	45.7	4.0	137.2	30.15	15+	1	N	12-15	50	
49	26	1222	43 59 20	86 50 20	15.2	3.0	4.6	45.7	4.0	149.4	30.15	15+	1	N	12-15	50	
50	26	1325	43 58 45	86 45 45	14.8	4.6	4.6	51.8	4.2	146.3	30.14	15+	1	N	12-15	25	
51	26	1409	43 57 50	86 38 20	16.1	4.0	4.4	42.7	4.3	73.2	30.14	15+	1	NNW	12-15	25	
52	26	1458	43 59 20	86 35 40	16.1	2.4	4.4	42.7	4.5	51.8	30.14	15+	1	NNW	12-15	25	
53	26	1458	43 59 20	86 35 40	16.1	2.4	4.4	42.7	4.5	51.8	30.14	15+	1	NNW	12-15	25	
54	26	1523	43 58 30	86 32 35	10.2	9.9	6.1	12.2	6.1	18.3	30.14	15+	1	NNW	12-15	25	
55	26	1540	43 58 30	86 29 05	14.3	3.0	7.0	9.1	6.8	12.8	30.14	15+	1	NNW	12-15	25	
56	27	0821	43 57 45	86 30 15	12.6	1.5	5.9	4.6	5.7	9.8	30.23	15+	0	SSW	2	0	
57	27	0848	43 59 20	86 35 40	15.6	3.0	4.4	39.6	4.4	51.2	30.23	15+	0	SSW	2	0	
58	27	0848	43 59 20	86 35 40	15.6	3.0	4.4	39.6	4.4	51.2	30.23	15+	0	SSW	2	0	
59	27	1010	44 03 45	86 33 40	16.3	3.0	4.5	59.4	4.5	70.1	30.23	15+	1	SSW	4	0	
60	27	1040	44 07 40	86 31 40	17.4	3.7	4.7	48.8	4.2	115.8	30.23	15+	1	SSW	4	0	

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (BST)	Latitude (North)	Longitude (West)	Temperature distribution						Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)	
					Surface (°C)	Metalimnion		Deepest		Direction				Velocity (mph)			
						Upper limits (meters)	Lower limits (meters)	Temperature (°C)	Depth (meters)						Temperature (°C)		Depth (meters)
61	Jun. 27	1110	44°11'55"	86°30'20"	16.8	16.7	3.0	4.6	61.0	4.4	131.1	30.23	15+	1	SSW	2	0
62	27	1140	44 16 10	86 27 00	16.9	16.8	3.0	4.7	64.0	4.6	85.3	30.23	15+	1	SSW	2	0
63	27	1210	44 20 30	86 24 50	16.2	16.1	3.0	4.5	62.5	4.5	67.1	30.23	15+	1	SSW	2	0
64	27	1240	44 24 45	86 22 30	15.7	15.6	3.0	7.2	15.2	4.4	118.9	30.23	15+	1	SSW	2	0
65	27	1314	44 28 45	86 21 20	17.2	16.6	5.2	5.7	27.4	4.7	88.4	30.21	15+	1	SSW	12-15	0
66	27	1515	44 29 30	86 20 00	17.1	16.7	5.5	6.8	13.7	5.0	42.7	30.21	15+	1	SSW	12-15	0
67	27	1515	44 29 30	86 20 00	17.1	16.7	5.5	6.8	13.7	5.0	42.7	30.21	15+	1	SSW	12-15	0
68	27	1535	44 28 35	86 17 30	16.9	16.7	5.5	5.7	19.8	5.8	27.4	30.21	15+	1	SSW	12-15	0
69	27	1535	44 28 45	86 17 30	17.0	16.7	5.5	5.7	19.8	5.8	27.4	30.22	15+	1	SSW	12-15	0
70	28	0826	44 39 20	86 16 35	16.0	15.9	8.5	5.7	15.2	5.7	15.2	30.24	15+	1	SSW	15	25
71	28	0845	44 42 15	86 16 35	15.9	15.6	10.7	5.6	16.8	4.7	51.8	30.24	15+	1	SSW	15	25
72	28	0940	44 44 40	86 17 45	15.8	15.6	6.7	5.0	27.4	4.6	45.7	30.24	15+	1	SSW	15	25
73	28	0940	44 44 40	86 17 45	15.8	15.6	6.7	5.0	27.4	4.6	45.7	30.24	15+	1	S	15	25
74	28	1045	44 42 45	86 19 15	16.1	15.9	4.6	5.1	43.6	4.4	91.4	30.24	15+	1	S	15	25
75	28	1135	44 41 50	86 20 00	16.1	15.7	6.1	5.4	33.5	4.4	137.2	30.24	15+	1	S	15	25
76	29	0910	44 38 00	86 17 15	16.3	16.2	8.5	5.5	27.4	5.5	27.4	30.04	6	3	SW	18	50
77	29	0930	44 38 50	86 23 50	16.1	15.9	6.1	4.6	51.8	4.1	143.3	30.04	6	3	SW	18	50
78	29	1000	44 39 45	86 29 55	15.7	15.6	6.1	4.4	51.8	4.1	143.3	30.04	6	3	SW	18-20	50
79	29	1106	44 40 10	86 32 45	15.0	14.9	6.1	4.3	45.7	3.9	134.1	30.04	6	3	SW	18-20	50
80	29	1106	44 40 10	86 32 45	15.0	14.9	6.1	4.3	45.7	3.9	256.0	30.04	3	3	SSW	18-20	100
81	30	0828	44 36 15	86 16 10	16.7	16.3	14.3	6.5	24.4	6.5	24.4	29.92	3	1	SSW	15-18	100
82	30	0842	44 34 20	86 17 30	15.6	15.2	15.2	5.1	39.6	5.1	39.6	29.92	3	1	SSW	15-18	100
83	30	0912	44 30 10	86 20 20	14.1	14.0	11.3	5.7	30.5	4.3	100.6	29.92	3	1	SSW	15-18	100
84	30	1040	44 29 50	86 19 10	15.5	15.4	12.2	5.3	45.7	5.3	45.7	29.90	4-6	3	SSW	15-18	75
85	30	1135	44 29 20	86 17 05	16.3	16.1	14.3	7.4	27.4	7.4	27.4	29.90	4-6	3	SSW	15-18	75
86	30	1559	44 34 40	86 19 00	16.2	15.6	13.7	5.0	47.2	5.0	47.2	29.90	4-6	3	SSW	15-18	75
87	30	2034	44 34 40	86 19 00	15.8	15.7	12.2	4.8	47.2	4.8	47.2	29.90	4-6	3	SSW	15-18	75
88	30	2350	44 34 40	86 19 00	15.6	15.1	11.6	4.9	42.7	4.9	42.7	29.79	4-6	1	S	12-15	0

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution							Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)	
					Surface (°C)	Metalimnion			Deepest reading						Direction	Velocity (mph)		
						Upper limits Temperature (°C)	Depth (meters)	Lower limits Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)							
Cruise VI																		
1	July 13	0826	44°39'00"	86°16'40"	7.8	-	-	-	5.7	15.2	30.24	8-10	2	S	12-15	25		
2	13	0845	44 41 50	86 16 55	17.6	4.6	6.0	10.7	4.4	57.9	30.24	8-10	2	S	12-15	25		
3	13	0915	44 46 15	86 15 55	19.5	9.1	5.9	27.4	5.8	30.5	30.24	8-10	2	S	12-15	25		
4	13	0945	44 49 55	86 12 10	18.5	16.1	5.9	30.5	4.4	97.5	30.24	8-10	2	S	12-15	25		
5	13	1015	44 53 15	86 08 45	18.4	18.3	5.7	18.3	5.3	39.6	30.24	8-10	2	S	12-15	25		
6	13	1045	45 56 30	86 04 20	18.8	18.6	7.2	27.4	5.0	86.9	30.24	8-10	2	S	12-15	25		
7	13	1115	45 59 10	85 59 10	17.9	17.8	10.0	15.2	10.0	15.2	30.24	8-10	2	S	12-15	25		
8	13	1145	45 02 10	85 54 15	19.4	19.4	6.7	24.4	4.5	76.2	30.21	15+	2	SW	12-15	0		
9	13	1230	45 07 00	85 47 20	19.2	18.5	6.1	38.1	4.4	140.2	30.21	15+	2	SW	12-15	0		
10	13	1300	45 10 00	85 43 00	19.6	19.1	5.5	45.7	4.2	132.6	30.21	15+	2	SW	12-15	0		
11	13	1332	45 13 20	85 38 05	19.7	18.7	6.2	30.5	4.4	112.8	30.18	15+	2	SW	12-15	0		
12	13	1402	45 13 30	85 33 25	19.2	18.2	6.3	30.5	4.4	79.2	30.18	15+	2	SW	12-15	0		
13	13	1432	45 19 40	85 30 20	19.2	18.6	5.3	32.0	4.3	94.5	30.18	15+	2	SW	12-15	0		
14	13	1540	45 19 35	85 18 30	19.2	19.1	5.2	39.6	4.4	79.2	30.18	15+	2	SW	12-15	0		
15	13	1600	45 19 35	85 19 15	17.7	17.6	4.9	40.5	4.4	67.1	30.18	15+	2	SW	12-15	0		
16	13	1610	45 19 40	85 17 15	18.0	-	-	-	12.5	24.4	29.96	8-10	2	SW	15-18	0		
17	14	0804	45 20 00	85 17 45	17.5	17.4	5.8	41.1	4.8	70.1	29.96	8-10	2	SW	15-18	0		
18	14	0820	45 21 20	85 20 40	17.8	17.8	5.0	54.9	5.0	61.0	29.96	8-10	3	SSW	18-20	0		
19	14	0850	45 23 45	85 26 05	18.8	18.8	4.8	47.2	4.3	94.5	29.96	8-10	3	SSW	18-20	0		
20	14	0920	45 26 15	85 31 35	18.9	18.6	4.9	25.9	4.4	67.1	29.96	8-10	3	SSW	18-20	0		
21	14	0950	45 28 40	85 37 00	19.3	19.2	4.4	36.6	4.3	137.2	29.94	8-10	3	SW	15-18	0		
22	14	1020	45 31 00	85 42 30	18.8	18.7	5.7	36.6	5.7	36.6	29.94	8-10	3	SW	15-18	0		
23	14	1050	45 33 50	85 47 05	18.5	18.3	5.5	45.7	4.0	137.2	29.94	8-10	3	SW	15-18	0		
24	14	1222	45 36 05	85 54 30	18.9	18.6	5.5	36.6	4.4	85.3	29.89	8-10	3	SSW	18-20	0		
25	14	1300	45 39 00	85 59 30	19.1	18.9	13.5	15.2	13.5	15.2	29.89	8-10	3	SSW	18-20	0		

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution										Wind		Cloud coverage (percent)		
					Surface (°C)	Metalimnion					Deepest					Sea		Direction	Velocity (mph)
						Upper limits (meters)	Lower limits (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Upper limits (meters)	Lower limits (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)				
26	July 14	1330	45°41'80"	86°04'35"	18.7	18.4	10.7	5.1	30.5	4.1	106.7	29.86	10-12	3	SSW	18-20	25		
27	14	1445	45 43 15	86 07 20	18.5	18.3	9.1	4.5	45.7	4.1	94.5	29.81	3-5	3	SSW	15-18	25		
28	14	1525	45 47 35	86 09 55	19.0	18.9	7.6	6.4	24.4	6.3	33.5	29.81	3-5	3	SSW	15-18	25		
29	14	1555	45 51 45	86 12 20	18.8	18.3	9.1	12.9	13.1	12.7	21.3	29.81	3-5	3	SSW	15-18	25		
30	14	1610	45 53 50	86 13 30	18.4	18.3	6.1	13.9	16.8	13.9	16.8	29.81	3-5	3	SSW	15-18	25		
31	14	1620	45 55 55	86 14 45	18.4	18.4	4.6	14.3	12.8	14.3	12.8	29.81	3-5	3	SSW	15-18	25		
32	15	0802	45 55 15	86 14 20	18.1	17.8	9.1	14.2	12.2	14.2	12.2	29.71	3-5	0	-	0	75		
33	15	0817	45 53 05	86 13 05	18.4	18.2	8.5	13.0	18.3	13.0	18.3	29.71	3-5	0	-	0	75		
34	15	0847	45 49 00	86 10 40	18.7	18.5	10.7	6.6	32.2	6.6	32.0	29.72	0	1	S	2-6	100		
35	15	0919	45 44 50	86 08 15	18.8	18.6	9.1	5.5	24.4	4.4	73.2	29.72	0	1	S	2-6	100		
36	15	1010	45 40 40	86 06 00	19.1	18.8	11.3	4.7	42.7	4.2	108.2	29.73	0	1	-	1-3	100		
37	15	1040	45 37 55	86 00 45	19.9	19.6	8.5	10.1	18.3	10.1	18.3	29.73	0	1	-	1-3	100		
38	15	1110	45 35 55	85 55 10	19.7	19.3	6.1	5.8	30.5	4.6	77.7	29.73	0	1	-	1-3	100		
39	15	1140	45 33 40	85 49 15	19.1	18.4	10.7	5.6	35.1	4.4	85.3	29.72	1/2	1	-	0	100		
40	15	1152	45 32 50	85 45 45	19.0	18.7	8.2	5.2	42.7	4.6	73.2	29.72	1/2	1	-	0	100		
41	15	1250	45 29 35	85 39 20	20.4	19.6	10.7	5.5	27.4	5.4	39.6	29.72	1/2	1	-	0	100		
42	15	1320	45 29 35	85 34 00	20.9	19.4	9.1	6.0	21.3	4.4	94.5	29.70	2-3	0	-	1-3	100		
43	15	1350	45 24 50	85 28 35	20.2	19.6	7.6	6.4	24.4	4.7	67.1	29.70	2-3	0	-	1-3	100		
44	15	1420	45 22 30	85 23 15	20.9	-	-	-	-	13.5	18.3	29.70	2-3	0	-	1-3	100		
45	15	1440	45 21 00	85 20 00	20.3	-	-	-	-	5.0	70.1	29.70	2-3	0	-	1-3	100		
46	15	1505	45 20 15	85 17 50	20.8	19.4	9.1	6.8	32.0	4.5	103.6	29.70	2-3	0	-	1-3	100		
47	15	1513	45 19 35	85 16 20	20.7	19.2	13.7	6.2	29.6	5.0	48.8	29.70	2-3	0	-	1-3	100		
48	15	1549	45 17 12	85 11 20	23.7	-	-	-	-	7.3	29.0	29.72	10-12	1	ENE	15	75		
49	16	0823	45 19 50	85 17 50	20.8	-	-	-	-	7.2	32.0	29.86	1/2	1	NNW	12-15	100		
50	16	0838	45 19 45	85 21 15	21.0	-	-	-	-	4.5	82.3	29.86	1/2	1	NNW	12-15	100		

Continued

Appendix Table 2 Continued

Cruise and BF cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution										Wind		Cloud coverage (percent)
					Surface (°C)	Upper Limits		Metalimnion		Deepest		Barometer (inches)	Visibility (miles)	Sea	Direction	Velocity (mph)	
						Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)						
51	July 16	1114	45°18'30"	85°29'40"	20.3	20.2	3.1	6.5	27.4	4.4	88.4	29.87	2	1	NNW	10-12	100
52	16	1251	45 17 12	85 11 20	24.3	24.3	4.6	8.3	30.5	8.3	30.5	29.87	2	1	NNW	10-12	100
53	16	1251	45 17 12	85 11 20	24.3	24.3	4.6	8.3	30.5	8.3	30.5	29.87	2	1	NNW	10-12	100
54	17	0825	45 20 00	85 17 45	20.9	20.8	2.4	5.4	42.7	5.2	57.9	29.96	3	1	N	1-3	50
55	17	0840	45 21 05	85 20 35	20.8	20.7	4.6	5.5	59.4	5.5	59.4	29.96	3	1	N	1-3	50
56	17	0910	45 23 20	85 26 10	20.7	20.6	6.1	5.9	41.1	4.5	103.6	29.96	3	1	N	1-3	50
57	17	0940	45 25 30	85 31 50	20.5	20.4	7.6	5.6	21.3	4.6	48.8	29.97	4-6	1	N	1-3	75
58	17	1010	45 27 20	85 37 30	20.6	20.4	6.1	5.4	27.4	4.3	109.7	29.98	6-8	1	NNW	10-12	75
59	17	1040	45 30 20	85 43 35	20.0	19.8	6.1	5.6	33.5	5.6	39.6	29.98	8-10	1	NW	10-12	75
60	17	1110	45 33 00	85 48 50	20.3	19.8	6.1	5.4	39.6	4.2	112.8	29.98	8-10	1	NW	10-12	75
61	17	1400	45 36 05	85 54 30	20.5	19.9	8.2	5.2	39.6	4.3	85.3	30.01	8-10	1	WNW	10-12	75
62	17	1435	45 39 55	85 58 20	21.2	19.9	9.1	10.9	15.2	10.9	15.2	30.01	8-10	1	WNW	10-12	75
63	17	1505	45 43 35	86 02 00	20.7	19.4	9.1	5.1	30.5	4.2	94.5	30.01	8-10	1	WNW	10-12	75
64	17	1535	45 47 20	86 05 50	20.6	19.8	9.1	5.2	33.5	4.4	61.0	30.00	8-10	1	WSW	12	50
65	17	1605	45 51 10	86 09 30	20.6	19.8	9.1	9.9	27.4	9.9	27.4	30.00	8-10	1	WSW	12	50
66	17	1635	45 55 00	86 13 15	20.1	20.0	3.0	13.9	15.2	13.9	15.2	30.00	8-10	1	WSW	12	50
67	18	0810	45 55 25	86 14 27	19.8	19.7	5.2	13.9	13.7	13.9	13.7	30.10	8-10	0	NW	1-3	75
68	18	0825	45 53 15	86 13 15	20.0	19.8	6.4	12.2	18.3	12.2	18.3	30.10	8-10	0	NW	1-3	75
69	18	0855	45 49 05	86 10 45	20.3	20.1	6.1	6.7	35.1	6.7	35.1	30.10	8-10	0	NW	1-3	75
70	18	1116	45 44 10	86 06 00	20.4	18.7	9.8	5.4	29.0	4.1	91.4	30.10	8-10	0	NW	1-3	75
71	18	1300	45 44 25	85 58 55	20.9	19.3	9.1	5.8	24.4	4.9	59.4	30.10	8-10	0	W	1-3	75
72	18	1331	45 45 20	85 52 05	21.1	19.7	9.8	6.7	21.3	5.3	51.8	30.10	8-10	0	W	1-3	75
73	18	1400	45 46 00	85 46 00	21.7	21.7	0.0	6.3	33.5	5.5	51.8	30.10	10	0	-	0	25
74	18	1430	45 47 00	85 39 50	21.4	20.9	6.7	13.6	18.3	13.6	18.3	30.10	10	0	-	0	25
75	18	1500	45 46 15	85 33 20	22.1	21.2	3.7	14.1	14.6	14.1	14.6	30.10	10	0	-	0	25

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Surface temperature (°C)	Temperature distribution						Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)
						Metalimnion		Deepest		Depth (meters)	Temperature (°C)				Direction	Velocity (mph)	
						Upper limits	Lower limits	Upper limits	Deepest reading								
76	July 19	0818	45°44'00"	85°29'15"	21.6	21.4	9.1	17.8	14.6	17.8	14.6	30.25	15+	0	SSE	1-3	25
77	19	0847	45 40 30	85 25 30	21.4	21.2	10.7	15.8	16.5	15.8	16.5	30.25	15+	0	SSE	1-3	25
78	19	1015	45 41 00	85 29 30	22.2	22.0	7.6	16.9	15.2	16.9	15.2	30.25	15+	0	SSE	1-3	25
79	19	1045	45 40 00	85 29 30	21.9	21.4	10.7	8.5	25.6	8.5	25.6	30.25	15+	0	SSE	1-3	25
80	19	1133	45 40 00	85 28 00	21.7	21.2	8.5	6.0	29.0	4.7	45.7	30.25	15+	0	SSE	1-3	25
81	19	1348	45 33 30	85 29 30	21.8	21.3	9.1	4.7	39.6	4.3	89.9	30.22	15+	0	SSW	1-3	10
82	19	1450	45 29 30	85 25 05	22.0	21.2	6.1	5.7	39.6	4.8	89.9	30.22	15+	0	SSW	1-3	10
83	19	1520	45 25 40	85 21 40	22.4	-	-	-	-	16.9	10.7	30.22	15+	0	SSW	1-3	10
84	19	1545	45 22 25	85 18 45	22.8	22.8	0.0	7.6	32.0	5.2	74.7	30.22	15+	0	SSW	1-3	10
85	19	1555	45 21 15	85 17 40	22.8	22.8	0.0	6.8	36.6	5.0	106.7	30.22	15+	0	SSW	1-3	10
86	19	1605	45 19 50	85 16 25	23.9	23.9	0.0	6.0	51.8	5.8	67.1	30.22	15+	0	SSW	1-3	10
87	20	0815	45 19 55	85 19 40	22.7	22.6	4.6	6.4	39.6	4.8	91.4	30.20	15+	0	SW	1-3	25
88	20	0845	45 19 20	85 26 00	22.3	22.1	7.6	6.7	29.0	4.7	96.0	30.20	15+	0	SW	1-3	25
89	20	1015	45 18 30	85 29 40	22.3	22.1	4.6	6.3	32.9	4.7	91.4	30.20	8-10	0	S	1-3	25
90	21	0635	45 20 00	85 17 45	22.8	22.6	4.0	6.6	35.1	5.5	53.3	30.09	6-8	0	WSW	12-15	0
91	21	0650	45 21 05	85 20 35	22.6	22.2	5.5	6.5	36.6	5.5	57.9	30.09	6-8	0	WSW	12-15	0
92	21	0720	45 23 20	85 26 10	22.2	21.9	6.1	5.8	38.1	4.1	121.9	30.09	6-8	0	WSW	12-15	0
93	21	0750	45 25 30	85 31 50	22.2	22.1	5.5	5.0	30.5	4.3	61.0	30.09	6-8	0	WSW	12-15	0
94	21	0822	45 27 50	85 37 50	22.2	22.0	6.1	5.0	30.5	4.1	103.6	30.09	6-8	0	WSW	12-15	0
95	21	0850	45 30 20	85 43 35	22.1	21.8	7.6	6.1	28.0	5.3	45.7	30.09	6-8	0	WSW	12-15	0
96	21	0920	45 33 25	85 48 30	22.2	22.0	5.2	5.1	39.6	4.1	94.5	30.09	3-5	1	WSW	12	0
97	21	1117	45 36 05	85 54 30	22.6	21.9	6.1	6.1	29.6	4.1	85.3	30.09	3-5	1	WSW	12	0
98	21	1150	45 39 35	85 58 00	22.5	22.0	5.8	10.3	18.3	10.3	18.3	30.08	3	1	SW	15	0
99	21	1220	45 43 20	86 01 45	21.9	21.1	6.1	6.0	21.3	3.9	97.5	30.08	3	1	SW	15	0
100	21	1250	45 47 05	86 05 30	21.8	21.6	3.7	5.6	29.6	4.3	61.0	30.08	3	1	SW	15	0

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution							Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion				Deepest						Direction	Velocity (mph)	
					Surface Temperature (°C)	Upper limits Temperature (°C)	Depth (meters)	Lower limits Temperature (°C)	Depth (meters)	Temperature (°C)	Deepest reading (meters)						
101	July 21	1320	45°50'55"	86°09'15"	21.7	21.3	4.6	8.3	29.9	8.3	29.9	30.08	3	1	SW	15	0
102	21	1350	45 54 35	86 12 55	21.2	20.8	6.1	13.6	15.2	13.6	15.2	30.05	3-4	1	SSW	15	50
103	22	0840	45 55 00	86 14 15	20.0	20.0	3.1	13.3	14.6	13.3	14.6	29.90	3-5	1	SSW	15	50
104	22	0855	45 52 50	86 13 00	20.7	20.6	6.1	13.3	19.8	13.3	19.8	29.90	3-5	1	SSW	15	50
105	22	0932	45 47 40	86 10 00	21.9	21.8	8.5	5.3	36.6	5.3	36.6	29.91	3-5	2	SSW	15-18	75
106	22	1305	45 43 15	86 07 15	22.3	21.8	6.7	5.4	33.5	4.3	97.5	29.91	3-5	2	SSW	15-18	75
107	23	0945	45 55 15	86 14 55	17.8	17.7	4.0	12.1	10.7	12.1	10.7	29.90	15+	2	NNW	15-18	75
108	23	1000	45 53 00	86 15 00	18.9	18.8	4.0	10.3	16.8	10.3	16.8	29.90	15+	2	NNW	15-18	75
109	23	1030	45 48 10	86 15 15	20.8	20.5	5.5	5.8	29.0	5.8	29.0	29.90	15+	2	NNW	15-18	75
110	23	1100	45 43 25	86 15 30	20.4	20.2	2.7	5.4	35.7	5.4	38.7	29.90	15+	2	NNW	15-18	75
111	23	1130	45 38 50	86 15 50	20.2	19.9	11.3	5.6	27.4	4.1	76.2	29.90	15+	2	NNW	15-18	75
112	23	1200	45 34 15	86 16 00	21.3	21.2	9.1	5.0	27.4	3.9	106.7	29.90	15+	2	NNW	18-20	75
113	23	1230	45 29 45	86 15 45	22.0	21.8	8.5	5.0	27.4	3.8	137.2	29.90	15+	2	NNW	18-20	75
114	23	1300	45 25 15	86 15 10	22.3	22.1	11.3	5.1	29.9	3.8	146.3	29.90	15+	2	NNW	18-20	75
115	23	1330	45 20 40	86 16 35	22.8	22.5	11.6	5.6	29.0	3.8	143.3	29.90	15+	2	NNW	18-20	75
116	23	1400	45 16 05	86 16 55	22.8	22.6	9.1	5.6	29.0	3.8	143.3	29.90	15+	2	NNW	18-20	75
117	23	1430	45 11 30	86 17 15	22.6	22.4	7.6	5.2	30.5	3.8	143.3	29.90	15+	2	NNW	18-20	75
118	23	1500	45 06 55	86 17 35	22.1	22.0	6.7	5.9	33.5	3.8	143.3	29.90	15+	2	NNW	18-20	75
119	23	1530	45 02 20	86 17 55	22.2	22.1	7.6	5.1	39.6	3.9	106.7	29.91	15+	2	NNW	20-22	75
120	23	1600	44 57 50	86 18 15	22.5	22.4	9.8	5.2	42.7	3.9	125.0	29.92	15+	2	N	20	100
121	23	1630	44 53 10	86 18 40	22.7	22.7	7.0	5.7	24.4	4.2	67.1	29.92	15+	2	N	20	100
122	23	1700	44 48 30	86 19 00	22.5	22.3	9.1	5.8	27.4	4.1	97.5	29.92	15+	2	N	20	100
123	23	1730	44 43 35	86 19 50	22.5	22.3	8.5	6.3	25.0	4.3	67.1	29.92	15+	2	NNW	20	50
124	23	1752	44 39 55	86 17 20	23.2	23.1	8.5	5.7	28.3	4.3	71.6	29.92	15+	2	NNW	20	50
125	23	1805	44 38 40	86 16 05	23.4	23.3	6.4	8.1	12.2	8.1	12.2	29.92	15+	2	NNW	20	50

Continued

Appendix Table 2 Continued

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barometer (inches)	Visi-bility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion		Deepest		Depth (meters)	Temperature (°C)				Direction	Velocity (mph)	
					Upper limits	Lower limits	Upper limits	Deepest reading								
Surface temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)							
126	July 24	1532	44°35'30"	86°15'20"	12.7	3.0	5.2	14.6	5.2	24.4	29.99	15+	1	N	12-15	0
127	24	1603	44 32 30	86 18 35	18.5	4.0	4.5	33.5	4.5	45.7	29.98	15+	1	N	12-15	25
128	24	1817	44 33 30	86 18 35	15.4	0.0	4.5	33.5	4.5	45.7	29.97	15+	1	N	12-15	25
129	24	2023	44 33 30	86 18 35	11.8	3.0	4.5	32.0	4.4	45.7	29.98	15+	0	-	0	0
130	24	2238	44 33 30	86 18 35	11.7	1.5	4.5	30.5	4.4	45.7	29.98	15+	0	-	0	0
Cruise VII																
1	Aug. 3	0840	44 36 20	86 15 50	22.3	4.6	7.4	21.3	7.4	21.3	30.01	5-7	1	S	12-15	100
2	3	0900	44 33 40	86 17 30	22.6	6.7	6.2	21.9	5.6	39.6	30.01	5-7	1	S	12-15	100
3	3	0930	44 29 25	86 20 00	22.3	5.2	6.3	23.8	4.6	76.2	30.01	5-7	1	S	12-15	100
4	3	1000	44 25 20	86 22 25	22.8	4.6	6.5	29.0	4.5	128.0	30.01	5-7	1	S	12-15	100
5	3	1030	44 21 05	86 24 50	22.8	4.6	6.0	21.3	4.5	103.6	30.01	5-7	1	S	12-15	100
6	3	1100	44 16 50	86 27 15	23.2	3.0	5.1	30.5	4.8	71.6	30.01	5-7	1	S	12-15	100
7	3	1133	44 12 10	86 30 00	23.4	4.6	5.0	50.3	4.3	146.3	30.02	3	1	SSW	15	100
8	3	1200	44 08 25	86 32 30	22.9	4.6	5.9	30.5	4.3	140.2	30.02	3	1	SSW	15	100
9	3	1230	44 04 30	86 35 00	23.1	3.7	5.2	36.6	4.3	103.6	30.02	3	1	SSW	15	100
10	3	1340	44 01 55	86 37 10	23.8	3.0	5.2	42.7	4.3	109.7	30.02	2	1	-	1-3	100
11	3	1455	44 00 20	86 34 25	24.2	3.0	4.9	29.0	4.3	45.7	30.02	2	1	-	1-3	100
12	3	1455	44 00 20	86 34 25	24.2	3.0	4.9	29.0	4.3	45.7	30.02	2	1	-	1-3	100
13	3	1525	43 58 35	86 31 00	24.2	-	-	-	10.7	13.7	29.98	2	1	SSW	1-3	100
14	4	0836	43 57 30	86 30 35	23.6	8.5	9.7	15.2	9.7	15.2	30.02	10-12	1	SW	15-18	25
15	4	0850	43 57 55	86 33 25	22.9	6.1	7.1	24.1	7.1	24.1	30.02	10-12	1	SW	15-18	25
16	4	0920	43 58 40	86 39 40	23.3	6.1	4.8	38.1	4.1	94.5	30.02	10-12	2	SW	15-18	25
17	4	0950	43 59 25	86 45 50	23.9	3.0	5.8	29.0	4.0	131.1	30.02	10-12	2	SW	15-18	25
18	4	1020	44 00 15	86 52 15	23.6	4.6	6.0	29.0	4.0	149.4	30.02	10-12	2	SW	15-18	25
19	4	1053	44 01 00	86 58 25	23.9	6.1	5.4	29.0	4.0	121.9	30.02	10-12	2	SW	15-18	25
20	4	1120	44 00 25	86 59 55	24.1	6.1	6.4	24.4	4.1	115.8	30.02	10-12	2	SW	15-18	25

Continued

Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)	
					Surface (°C)	Metalimnion		Deepest		Direction				Velocity (mph)			
						Upper limits (meters)	Lower limits (meters)	Temperature (°C)	Depth (meters)						Temperature (°C)		Depth (meters)
21	Aug. 4	1150	44°01'15"	87 06 00	24.3	23.8	7.0	5.3	24.4	4.0	131.1	30.01	10-12	2	SW	15-18	25
22	4	1220	44 02 05	87 12 20	24.3	23.7	7.0	6.3	21.3	4.0	118.9	30.01	10-12	2	SW	15-18	25
23	4	1350	44 06 45	87 18 20	23.6	23.5	3.0	5.5	27.4	4.0	129.5	30.01	10-12	2	SW	15-18	25
24	4	1430	44 06 25	87 24 40	24.1	23.9	3.0	6.1	27.4	4.1	89.9	30.01	8-10	1	S	12-15	25
25	4	1515	44 05 15	87 28 10	24.3	24.2	3.0	4.4	33.5	4.1	57.9	30.01	8-10	1	S	12-15	25
26	4	1515	44 05 15	87 28 10	24.3	24.2	3.0	4.7	33.5	4.4	57.9	30.01	8-10	1	S	12-15	25
27	4	1555	44 05 20	87 34 25	24.3	-	-	-	-	6.9	12.2	30.01	8-10	1	S	12-15	25
28	5	0817	44 05 15	87 36 40	21.9	21.8	2.1	7.1	11.3	7.1	11.3	30.09	8-10	0	NNE	1-3	25
29	5	0832	44 04 50	87 33 25	24.1	24.0	4.0	6.0	18.3	6.0	18.3	30.09	8-10	0	NNE	1-3	25
30	5	0902	44 04 00	87 27 15	24.0	23.8	4.9	4.3	43.6	4.1	73.2	30.09	8-10	0	NNE	1-3	25
31	5	0955	44 03 05	87 20 30	24.2	24.1	6.1	7.3	18.3	4.1	91.4	30.09	8-10	0	NNE	1-3	25
32	5	1025	44 02 20	87 14 15	24.4	24.2	6.1	6.1	22.3	4.0	121.9	30.09	8-10	0	NNE	1-3	25
33	5	1055	44 01 35	87 08 00	24.3	24.1	6.1	6.3	22.9	4.1	112.8	30.10	12-15	0	WNW	1-3	50
34	5	1125	44 00 45	87 00 40	24.7	24.3	6.1	6.3	25.9	4.2	109.7	30.10	12-15	0	WNW	1-3	50
35	5	1200	43 59 05	86 57 25	24.7	24.3	6.1	6.0	26.5	4.1	129.5	30.10	12-15	0	WNW	1-3	50
36	5	1220	43 58 50	86 53 15	24.5	24.4	3.7	6.6	24.4	4.1	125.0	30.10	15+	0	NW	12	50
37	5	1220	43 58 50	86 53 15	24.5	24.4	3.7	6.6	24.4	4.0	158.5	30.10	15+	0	NW	12	50
38	5	1315	43 58 25	86 47 00	24.5	24.3	3.0	6.6	21.3	4.1	143.3	30.10	15+	0	NW	12	50
39	5	1355	43 57 50	86 38 10	24.4	24.4	1.5	4.7	38.1	4.2	73.2	30.09	15+	0	WNW	12	50
40	5	1434	43 57 35	86 33 10	24.4	24.3	3.0	7.6	19.8	7.6	19.8	30.09	15+	0	WNW	12	50
41	5	1448	43 57 20	86 30 05	25.1	24.1	11.3	13.5	15.2	13.5	15.2	30.09	15+	0	WNW	12	50
42	6	0827	43 58 15	86 30 25	25.2	25.1	8.2	10.0	16.8	10.0	16.8	30.02	15+	1	SSW	10-12	25
43	6	0947	44 00 20	86 34 25	24.6	24.5	6.1	5.9	19.8	4.4	47.2	30.02	15+	1	SSW	10-12	25
44	6	0947	44 00 20	86 34 25	24.6	24.5	6.1	5.9	19.8	4.4	47.2	30.02	15+	1	SSW	10-12	25
45	6	1300	44 01 55	86 37 10	24.8	24.7	4.6	8.2	18.3	4.5	109.7	30.00	6-8	1	S	12-15	75

Continued

Appendix Table 2.---(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)	
					Surface Temperature (°C)	Metalimnion		Deepest		Direction				Velocity (mph)			
						Upper limits Temperature (°C)	Depth (meters)	Lower limits Temperature (°C)	Depth (meters)						Temperature (°C)		reading (meters)
46	Aug. 7	0818	43°57'25"	86°30'00"	24.9	24.8	7.0	13.1	12.2	13.1	12.2	30.04	15+	2	NNW	18-20	50
47	8	0822	44 05 35	87 36 25	22.4	-	-	22.4	15.3	22.4	15.3	30.04	15+	2	NNW	18-20	50
48	8	1042	44 05 15	87 28 10	22.2	22.0	16.8	5.4	32.0	5.0	56.4	30.04	15+	3	NNE	25	50
49	8	1314	44 06 45	87 18 20	22.8	22.5	12.2	6.4	27.4	4.0	129.5	30.04	15+	3	NNE	25	50
50	10	0818	43 58 10	86 30 15	15.1	15.1	1.8	5.3	12.2	5.3	16.8	30.03	4-6	1	SW	10-12	100
51	10	1006	44 00 20	86 34 25	21.2	21.1	2.4	4.5	29.0	4.0	45.7	30.03	4-6	1	SW	10-12	100
52	10	1006	44 00 20	86 34 25	21.2	21.1	2.4	4.5	29.0	4.0	45.7	30.03	4-6	1	SW	10-12	100
53	10	1351	44 01 55	86 37 10	19.4	19.4	2.1	5.8	15.2	4.1	1091.7	30.04	4-6	1	WSW	1-3	50
54	11	0818	43 57 25	86 30 25	15.6	-	-	-	-	4.7	15.2	30.14	4-8	0	-	-	10
55	11	0833	43 57 55	86 33 30	12.8	12.8	0.0	5.9	9.1	5.0	24.4	30.14	4-8	0	-	-	10
56	11	0845	45 58 20	86 37 45	17.8	17.8	0.0	5.3	19.8	4.0	73.2	30.16	4-8	0	N	1-3	10
57	11	0945	43 59 10	86 45 20	21.6	20.8	7.6	5.9	24.4	4.0	131.1	30.16	15+	1	NW	12-15	0
58	11	1010	43 59 50	86 50 25	21.5	21.0	13.1	5.9	29.0	3.7	143.3	30.16	15+	1	NW	12-15	0
59	11	1017	44 00 05	86 52 00	21.5	21.2	12.1	5.9	30.5	3.8	146.3	30.16	15+	1	NW	12-15	0
60	11	1105	44 01 10	86 57 40	22.1	21.2	15.2	6.1	25.9	4.0	125.0	30.16	15+	1	NW	12-15	0
61	11	1135	44 06 45	87 18 20	22.5	22.2	15.2	5.8	30.5	4.1	131.1	30.16	15+	1	NW	12-15	0
62	11	1205	43 58 10	86 30 15	23.0	22.6	13.7	5.6	22.9	4.0	100.6	30.16	15+	1	NW	12-15	0
63	11	1235	44 00 20	86 34 25	22.7	22.4	12.2	5.6	25.9	3.9	118.9	30.17	15+	1	N	12-15	25
64	11	1306	44 00 20	86 34 25	22.5	22.0	13.7	6.7	22.3	4.1	94.5	30.17	15+	1	N	12-15	25
65	11	1338	44 04 10	87 27 00	22.6	21.8	12.2	5.5	27.4	4.1	71.6	30.16	15+	1	NNE	12-15	25
66	11	1425	44 04 55	87 33 15	22.8	21.9	13.7	8.6	21.3	8.6	21.3	30.16	15+	1	NNE	12-15	25
67	11	1440	44 05 55	87 36 15	22.9	21.8	9.1	18.3	12.2	18.3	12.2	30.16	15+	1	NNE	12-15	25
68	12	0815	44 05 35	87 36 15	22.6	22.5	7.6	20.0	12.2	20.0	12.2	30.16	15+	1	NE	12-15	0
69	12	0830	44 05 30	87 33 05	22.6	22.1	14.0	18.4	16.1	18.4	16.1	30.16	15+	1	NE	12-15	0
70	12	0950	44 30 15	87 28 10	22.4	22.3	14.6	6.2	27.4	4.7	54.9	30.16	15+	1	NE	12-15	0

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Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (BST)	Latitude (North)	Longitude (West)	Temperature distribution										Wind		Cloud coverage (percent)
					Surface (°C)	Metalimnion				Deepest		Barom- eter (inches)	Visi- bility (miles)	Sea	Direction	Velocity (mph)	
						Upper limits (meters)	Lower limits (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)						
71	Aug. 12	1252	44°06'45"	87°18'20"	22.7	22.2	10.7	6.1	22.9	4.0	128.0	30.20	15+	1	NE	12-15	25
72	13	0813	44 05 15	87 36 40	22.6	22.6	6.7	20.2	12.2	20.2	12.2	30.16	15+	1	ENE	12-15	0
73	13	0828	44 04 50	87 33 25	22.3	-	-	-	-	22.3	16.8	30.16	15+	1	ENE	12-15	0
74	13	0859	44 04 00	87 27 15	22.3	22.3	15.2	5.7	33.5	4.4	73.2	30.16	15+	1	ENE	12-15	0
75	13	0955	44 03 20	87 19 55	22.8	22.8	13.7	7.0	29.4	4.0	91.4	30.16	15+	1	ENE	12-15	0
76	13	1025	44 02 40	87 13 45	22.7	22.7	13.7	5.7	33.5	3.8	134.1	30.16	15+	1	ENE	12-15	0
77	13	1055	44 01 55	87 07 20	22.3	22.3	13.7	5.6	33.5	4.0	137.2	30.14	15+	2	NE	15-18	25
78	13	1125	44 01 10	87 01 05	21.8	21.7	15.2	5.7	33.5	3.9	121.9	30.12	15+	2	N	18	25
79	13	1215	44 00 05	86 52 05	19.9	19.9	3.0	6.2	27.4	3.8	146.3	30.09	15+	2	N	20	25
80	13	1310	43 59 15	86 45 20	14.3	14.2	6.1	5.6	25.9	4.0	125.0	30.09	15+	2	N	20	25
81	13	1347	43 58 20	86 37 45	12.0	11.6	7.0	5.4	19.8	4.1	73.2	30.08	15+	2	N	20	25
82	13	1435	43 57 55	86 33 25	9.8	9.8	2.1	4.3	18.3	4.3	27.4	30.06	15+	2	NNW	20	25
83	13	1450	43 57 30	86 30 20	9.0	8.7	6.1	5.0	11.6	5.0	16.8	30.06	15+	2	NNW	20	25
84	14	0831	43 59 00	86 31 45	5.0	-	-	-	-	5.0	16.8	29.95	15+	1	NW	12-15	50
85	14	1022	44 00 20	86 34 25	9.6	9.5	3.7	5.0	15.3	4.4	44.2	29.95	15+	2	NW	15-18	50
86	14	1413	44 01 55	86 37 10	12.4	11.9	6.7	5.0	32.0	4.3	109.7	29.95	15+	2	NW	15-18	100
87	15	0837	43 57 30	86 30 35	5.1	-	-	-	-	5.0	16.1	30.06	3-4	0	-	0	75
88	15	0852	43 57 50	86 33 45	11.7	-	-	-	-	4.7	27.4	30.06	10	0	SSW	1-3	75
89	15	0912	43 58 20	86 37 45	11.5	11.1	5.5	6.3	13.7	4.1	76.2	30.06	10	0	SSW	1-3	75
90	15	0955	43 59 05	86 44 25	18.6	18.6	0.0	6.3	19.8	4.0	115.8	30.06	10	0	SSW	1-3	75
91	15	1028	44 00 05	86 52 05	21.8	20.8	12.2	5.9	24.4	3.7	149.4	30.07	15+	1	S	12-14	50
92	15	1120	44 01 35	86 57 35	22.0	21.5	13.7	6.2	25.9	3.8	118.9	30.06	15+	1	SSE	12	50
93	15	1150	44 02 55	87 02 30	22.6	21.7	18.3	5.8	27.4	3.8	129.5	30.06	15+	1	SSE	12	50
94	15	1220	44 04 30	87 08 25	23.0	22.0	16.8	5.4	30.5	3.7	137.2	30.06	15+	1	SSE	12	50
95	15	1250	44 04 55	87 16 40	23.2	22.3	16.8	6.6	25.3	3.7	131.1	30.06	15+	1	SSE	12	50

Continued

Appendix Table 2.--(Continued)

Cruise and BF number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Surface Temperature (°C)	Temperature distribution					Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)	
						Metalimnion		Deepest		Direction				Velocity (mph)			
						Upper limits Temperature (°C)	Depth (meters)	Lower limits Temperature (°C)	Depth (meters)						Temperature (°C)		reading
96	Aug. 15	1330	44°04'45"	87°23'05"	23.0	21.9	16.8	6.5	29.0	3.9	88.4	30.02	12-15	1	S	12-15	25
97	15	1349	44 04 10	87 27 00	23.0	22.0	16.8	5.0	36.6	4.1	73.2	30.02	12-15	1	SSE	12-15	25
98	15	1435	44 04 55	87 33 30	23.0	-	-	-	-	22.1	18.3	30.02	12-15	1	SSE	12-15	25
99	15	1450	44 05 15	87 36 40	23.0	-	-	-	-	22.3	12.2	30.02	12-15	1	SSE	12-15	25
100	16	0806	44 05 30	87 36 30	22.5	-	-	-	-	21.9	12.2	29.98	8-10	1	SSW	1-3	0
101	16	0821	44 05 25	87 33 20	22.5	-	-	-	-	21.4	17.7	29.98	8-10	1	SSW	1-3	0
102	16	0941	44 05 15	87 36 40	22.5	22.1	13.7	5.8	30.5	4.5	57.9	29.97	8-10	1	SSW	10-12	0
103	16	1138	44 06 45	87 18 20	22.9	22.1	13.7	4.9	30.5	3.7	128.0	29.96	6-8	1	S	12	0
104	16	1215	44 06 40	87 13 00	23.1	22.6	14.9	5.8	22.9	3.6	143.3	29.96	6-8	1	S	12	0
105	16	1245	44 05 15	87 06 50	23.1	22.6	14.9	4.9	35.1	3.6	146.3	29.96	6-8	1	S	12	0
106	16	1315	44 02 20	87 01 45	23.0	22.4	9.1	5.6	25.9	3.7	125.0	29.96	6-8	1	S	12	0
107	16	1345	44 01 00	86 55 50	22.6	22.3	9.1	5.8	25.9	3.9	131.1	29.96	6-8	1	S	12	0
108	16	1415	43 59 40	86 49 45	22.5	22.0	10.7	5.9	29.0	4.0	149.4	29.96	5-7	1	SSE	16	0
109	16	1445	43 58 20	86 43 45	22.6	22.1	7.6	6.5	22.9	4.0	125.0	29.96	5-7	1	SSE	16	0
110	16	1515	43 57 00	86 37 40	20.6	20.6	3.0	5.2	29.0	4.4	64.0	29.96	5-7	1	SSE	16	0
111	16	1545	43 55 45	86 32 00	19.5	19.5	1.5	5.3	18.3	5.3	24.4	29.96	5-7	1	SSE	16	0
112	16	1555	43 56 30	86 30 10	18.6	18.6	1.5	5.3	15.3	5.3	15.3	29.96	5-7	1	SSW	15-18	0
113	18	0830	43 58 10	86 30 20	21.1	21.1	0.0	7.0	10.1	6.9	15.3	29.98	3-5	1	S	10-12	0
114	18	1057	44 00 20	86 34 25	22.3	22.3	0.0	6.5	10.7	4.9	42.7	29.98	3-5	1	S	10-12	0
115	18	1129	44 01 55	86 37 10	23.3	23.3	2.7	5.8	33.5	4.5	109.7	29.98	2-3	1	S	10	25
116	18	1500	44 06 20	86 34 00	24.2	24.2	0.0	5.8	33.5	4.6	97.5	29.98	2-3	1	S	10	25
117	18	1530	44 10 20	86 30 50	21.8	21.8	0.0	6.2	30.5	4.6	121.9	29.98	2-3	1	S	10	25
118	18	1600	44 14 20	86 17 40	21.7	21.7	0.0	5.8	33.5	4.6	106.7	29.98	2-3	1	S	10	25
119	18	1630	44 18 20	86 24 35	21.2	21.2	0.0	5.7	24.4	5.6	48.8	29.94	3-5	1	S	1-3	50
120	18	1700	44 22 45	86 23 00	21.7	21.7	0.0	5.3	27.4	4.3	97.5	29.94	3-5	1	S	1-3	50

Continued

Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution							Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)	
					Surface (°C)	Metalimnion		Deepest		Depth (meters)	Temperature (°C)				Temperature (°C)	Direction		Velocity (mph)
						Upper limits (meters)	Lower limits (meters)	Depth (meters)	Temperature (°C)									
121	Aug. 18	1731	44°27'10"	86°21'20"	22.5	22.5	0.0	6.3	24.4	4.4	121.9	29.94	3-5	1	S	1-3	50	
122	18	1801	44 31 15	86 19 40	22.2	22.2	0.0	5.8	25.9	4.3	88.4	29.94	3-5	1	S	1-3	50	
123	18	1830	44 35 15	86 17 05	21.1	21.1	0.0	5.2	30.5	5.1	35.1	29.94	3-5	1	S	1-3	50	
124	19	0837	44 37 55	86 17 15	21.9	21.9	0.0	6.0	16.8	6.0	29.0	30.01	3-5	0	-	0	25	
125	19	0854	44 38 10	86 19 40	20.1	20.1	0.0	4.4	45.7	4.1	73.2	30.01	3-5	0	-	0	25	
126	19	0940	44 39 00	86 25 25	22.5	22.4	2.1	6.0	16.8	3.8	137.2	30.01	3-5	0	-	0	25	
127	19	1011	44 40 00	86 31 50	23.0	22.9	3.0	6.4	21.9	4.0	143.3	30.01	3-5	0	-	0	25	
128	19	1040	44 40 55	86 37 55	23.9	22.3	12.2	6.1	24.4	3.9	140.2	30.01	10	0	SSW	1-3	25	
129	19	1102	44 41 35	86 42 15	24.2	21.6	13.7	6.0	30.5	3.8	265.2	30.01	10	0	SSW	1-3	25	
130	19	1102	44 41 35	86 42 15	24.0	21.3	13.7	5.7	30.5	3.8	143.3	30.01	10	0	SSW	1-3	25	
131	19	1150	44 42 35	86 47 55	24.1	21.3	13.7	6.3	29.0	3.8	143.3	30.01	10	0	SSW	1-3	25	
132	19	1220	44 43 45	86 54 05	24.6	22.2	15.2	6.1	27.4	3.8	143.3	30.01	10	0	SSW	1-3	25	
133	19	1252	44 45 35	86 59 30	24.6	22.6	12.2	5.3	27.4	3.6	137.2	30.00	3-5	1	S	15	100	
134	19	1349	44 45 45	87 11 00	24.6	21.8	12.2	5.7	25.9	4.1	73.2	30.00	3-5	1	S	15	100	
135	19	1418	44 46 10	87 13 50	24.5	-	-	-	-	8.8	18.3	30.00	3-5	1	S	15	100	
136	19	1435	44 46 40	87 17 35	24.4	-	-	-	-	15.4	9.8	30.00	3-5	1	S	15	100	
Cruise VIII																		
1	Sept. 1	0851	44 39 00	86 16 35	19.3	18.6	14.9	13.9	18.3	13.9	18.3	30.14	15+	1	NW	15	0	
2	1	0930	44 41 50	86 20 00	19.8	19.6	18.3	6.6	35.1	4.4	143.3	30.14	15+	1	NW	15	0	
3	1	0955	44 42 45	86 19 15	19.7	19.6	18.3	7.2	30.5	4.4	94.5	30.17	15+	1	NNW	15	0	
4	1	1040	44 47 20	86 18 10	20.0	19.8	18.6	5.7	39.6	5.6	47.2	30.17	15+	1	NNW	15	0	
5	1	1110	44 51 10	86 14 20	19.6	19.3	15.2	4.5	62.5	4.5	62.5	30.17	15+	1	NNW	15	0	
6	1	1140	44 54 50	86 10 40	20.2	-	-	-	-	20.1	12.8	30.17	15+	1	NNW	15	0	
7	1	1210	44 57 30	86 05 50	20.3	19.4	22.9	7.1	35.1	5.4	82.3	30.17	15+	1	NNW	15	0	
8	1	1240	44 59 20	86 00 05	20.3	19.8	13.7	6.6	35.1	6.4	39.6	30.17	15+	1	NNW	15	0	
9	1	1310	45 01 40	85 55 00	20.6	20.4	19.8	8.2	32.0	7.2	42.7	30.17	15+	1	NNW	15	0	
10	1	1340	45 05 00	85 50 50	20.5	20.2	25.6	6.8	45.7	6.8	45.7	30.17	15+	1	NNW	15	0	

Continued

Appendix Table 2.--(Continued)

Cruise and BF cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution							Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion				Deepest reading						Direction	Velocity (mph)	
					Surface Temperature (°C)	Upper limits Temperature (°C)	Depth (meters)	Lower limits Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)						
11	Sept. 1	1410	45°08'20"	85°46'20"	20.6	20.4	22.9	6.7	36.6	4.6	131.1	30.17	15+	1	NNW	15	0
12	1	1440	45 11 45	85 42 10	20.8	20.6	20.7	6.7	35.1	5.0	94.5	30.17	15+	1	NNW	15	0
13	1	1510	45 14 55	85 37 40	20.9	20.6	19.8	7.1	30.5	4.9	88.4	30.17	15+	1	NNW	15	0
14	1	1540	45 17 55	85 32 35	21.2	20.5	18.3	15.5	22.9	15.5	22.9	30.17	15+	1	NNW	15	0
15	1	1609	45 18 20	85 29 40	20.6	19.7	21.3	7.3	34.1	5.2	88.4	30.17	15+	1	NNW	15	0
16	1	1653	45 22 10	85 23 00	21.0	20.6	22.9	7.8	37.2	7.4	48.8	30.13	15+	1	W	12-15	0
17	1	1653	45 22 10	85 23 00	21.0	20.6	22.9	7.8	37.2	7.4	48.8	30.13	15+	1	W	12-15	0
18	1	1715	45 21 05	85 20 20	21.1	20.7	21.3	7.4	64.0	7.4	64.0	30.13	15+	1	W	12-15	0
19	1	1728	45 20 05	85 17 53	21.2	20.8	17.7	12.5	40.5	12.2	48.8	30.13	15+	1	W	12-15	0
20	2	0830	45 20 05	85 18 10	20.9	20.9	16.8	9.5	41.1	9.5	41.1	30.18	15+	1	SW	3-6	25
21	2	0845	45 19 00	85 21 00	21.1	21.0	13.1	6.8	42.7	5.7	57.9	30.18	15+	1	SW	3-6	25
22	2	0915	45 16 10	85 25 00	20.9	20.8	13.7	20.1	14.3	20.1	14.3	30.18	15+	1	S	15	25
23	2	0945	45 11 40	85 25 00	20.4	18.1	21.9	11.9	24.4	11.9	24.4	30.18	15+	1	S	15	25
24	2	1015	45 07 00	85 25 00	20.0	18.4	18.3	9.5	30.5	9.5	30.5	30.18	15+	1	S	15	25
25	2	1045	45 02 25	85 25 00	20.9	20.0	15.2	6.1	45.7	5.8	57.9	30.16	15+	0	E	1-3	25
26	2	1143	44 56 10	85 27 00	21.3	20.7	16.8	6.6	39.6	4.0	182.9	30.16	15+	0	E	1-3	25
27	2	1143	44 56 10	85 27 00	21.3	20.7	16.8	6.6	39.6	4.4	129.5	30.16	15+	0	E	1-3	25
28	2	1535	44 57 10	85 28 10	21.5	21.3	10.7	10.4	27.4	10.4	27.4	30.13	15+	0	NE	1-3	25
29	2	1535	44 57 10	85 28 10	21.5	21.3	10.7	10.4	27.4	10.4	27.4	30.13	15+	0	NE	1-3	25
30	3	0810	44 57 10	85 27 45	21.3	21.2	8.8	8.3	32.0	8.3	32.0	30.14	15	0	SSE	10	0
31	3	0900	44 56 10	85 27 00	20.9	20.8	13.7	6.7	35.1	4.0	182.9	30.14	15	0	SSE	10	0
32	3	0900	44 56 10	85 27 00	20.9	20.8	13.7	6.7	35.1	4.0	131.1	30.14	15	0	SSE	10	0
33	3	1016	45 01 00	85 25 05	21.2	20.2	18.3	6.4	41.1	4.8	82.3	30.13	15	0	SSW	10	0
34	3	1045	45 05 25	85 25 25	20.4	19.4	15.2	6.9	45.7	6.9	45.7	30.13	15	0	SSW	10	0
35	3	1120	45 10 45	85 25 45	20.8	-	-	-	-	18.8	16.8	30.13	15	0	SSW	10	0

Continued

Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution										Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion					Deepest reading								Direction	Velocity (mph)	
					Surface temperature (°C)	Upper limits temperature (°C)	Depth (meters)	Temperature (°C)	Lower limits (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Deepest reading (meters)							
36	Sept. 3	1150	45°15'15"	85°25'45"	21.1	21.0	15.0	14.6	22.9	14.6	22.9	22.9	30.13	15	0	SSW	10	0		
37	3	1220	45 18 35	85 23 15	20.8	20.6	13.7	7.6	35.1	5.2	73.2	30.13	15	0	SSW	10	0			
38	3	1408	45 20 00	85 18 10	21.2	20.9	13.7	6.3	36.1	5.8	47.2	30.11	15+	0	WSW	12-15	0			
39	3	1408	45 20 00	85 18 10	21.2	20.9	13.7	6.3	36.1	5.8	47.2	30.11	15+	0	WSW	12-15	0			
40	3	1422	45 19 40	85 17 30	21.5	-	-	-	-	0.6	18.3	30.11	15+	0	WSW	12-15	0			
41	3	1501	45 17 12	85 11 20	21.7	21.3	6.1	9.1	29.0	9.1	29.0	30.11	15+	0	WSW	12-15	0			
42	3	1501	45 17 12	85 11 20	21.7	21.3	6.1	9.1	29.0	9.1	29.0	30.11	15+	0	WSW	12-15	0			
43	4	0811	45 19 40	85 17 35	21.4	21.3	15.2	15.6	24.4	15.6	24.4	29.97	10-12	2	SSW	20	0			
44	4	0935	45 20 00	85 18 10	20.7	20.7	22.9	6.1	50.0	6.1	50.0	29.97	10-12	2	SSW	20	0			
45	4	1135	45 22 10	85 23 00	18.6	18.5	22.9	7.4	45.7	7.4	45.7	29.97	10-12	2	SSW	20	0			
46	4	1318	45 18 20	85 29 40	20.0	19.4	24.4	6.9	39.6	5.1	91.4	29.89	10-12	3	SW	20	0			
47	5	0824	45 20 05	85 17 55	20.5	17.9	32.0	6.3	48.8	4.8	76.2	30.05	15+	3	NNW	18	0			
48	5	0836	45 21 00	85 20 00	18.0	17.5	32.6	6.7	44.2	5.5	73.2	30.07	15+	3	NNW	18	0			
49	5	0940	45 23 00	85 24 20	19.4	19.4	19.8	14.8	25.9	14.7	30.5	30.07	15+	3	NNW	18	0			
50	5	1010	45 25 20	85 29 40	19.3	19.3	6.1	9.6	30.5	9.6	30.5	30.07	15+	3	NNW	18	0			
51	5	1040	45 27 40	85 34 55	19.6	19.5	13.7	5.3	44.2	4.2	125.0	30.10	15+	3	NW	15-18	0			
52	5	1110	45 29 55	85 40 10	17.2	17.1	18.3	10.5	16.5	10.5	16.5	30.10	15+	3	NW	15-18	0			
53	5	1156	45 33 50	85 46 40	18.8	16.8	18.3	5.6	32.0	4.7	73.2	30.12	15+	1	WNW	15	0			
54	5	1245	45 35 40	85 52 42	18.1	17.7	16.8	6.3	61.0	5.2	91.4	30.12	15+	1	WNW	15	0			
55	5	1315	45 38 05	85 58 00	18.5	-	-	-	-	18.2	11.9	30.11	15+	1	NW	12-15	25			
56	5	1345	45 40 55	86 03 05	18.5	18.2	12.2	4.8	41.1	4.2	91.4	30.11	15+	1	NW	12-15	25			
57	5	1431	45 43 15	86 07 15	17.9	17.9	0.0	6.1	21.3	4.0	91.4	30.11	15+	1	NW	12-15	25			
58	5	1446	45 44 50	86 08 15	16.3	15.9	6.1	6.1	22.9	4.1	70.1	30.10	15+	1	NNW	12-15	25			
59	5	1524	45 46 15	86 09 05	17.4	16.4	7.6	6.2	21.0	5.2	45.7	30.10	15+	1	NNW	12-15	25			
60	5	1524	45 46 15	86 09 05	17.2	16.2	7.6	6.0	21.0	5.0	45.7	30.10	15+	1	NNW	12-15	25			

Continued

Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution								Deepest temperature reading (meters)	Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)
					Metalimnion				Temperature distribution								Direction	Velocity (mph)	
					Surface temperature (°C)	Upper limits temperature (°C)	Depth (meters)	Lower limits temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)							
61	Sept. 5	1605	45°50'50"	86°11'45"	17.0	16.7	9.1	9.1	24.4	9.1	24.4	9.1	24.4	30.10	15+	1	NNW	12-15	25
62	5	1625	45 53 40	86 13 25	14.0	-	-	-	-	13.5	10.7	13.5	10.7	30.10	15+	1	NNW	12-15	25
63	5	1638	45 55 10	86 14 55	14.2	14.2	3.0	10.6	10.7	10.6	10.7	10.6	10.7	30.10	15+	1	NNW	12-15	25
64	7	0844	45 55 05	86 14 55	13.0	-	-	-	-	12.5	10.7	12.5	10.7	30.13	15+	0	WNW	1-3	25
65	7	0859	45 53 20	86 13 15	15.6	15.5	6.1	12.9	12.8	12.9	12.8	12.9	12.8	30.13	15+	0	WNW	1-3	25
66	7	0929	45 49 25	86 09 20	15.6	15.4	19.8	7.5	24.4	7.3	29.0	7.3	29.0	30.13	15+	0	WNW	1-3	25
67	7	1001	45 45 35	86 05 35	15.2	14.6	13.7	6.5	24.4	4.4	91.4	4.4	91.4	30.13	15+	0	WNW	1-3	25
68	7	1354	45 51 25	85 57 00	16.8	15.7	15.2	4.8	41.1	4.8	41.1	4.8	41.1	30.14	15+	1	NW	12-15	25
69	7	1354	45 51 25	85 57 00	16.8	15.7	15.2	4.8	41.1	4.8	41.1	4.8	41.1	30.14	15+	1	NW	12-15	25
70	7	1529	45 53 05	86 00 35	14.8	14.4	16.8	10.0	24.4	10.0	24.4	10.0	24.4	30.14	15+	1	NW	12-15	25
71	7	1529	45 53 05	86 00 35	14.8	14.4	16.8	10.0	24.4	10.0	24.4	10.0	24.4	30.14	15+	1	NW	12-15	25
72	7	1621	45 55 30	86 00 00	14.5	14.5	3.0	12.1	7.6	12.1	7.6	12.1	7.6	30.14	15+	1	NW	12-15	25
73	8	0833	45 55 10	86 14 55	13.1	-	-	-	-	12.8	9.1	12.8	9.1	30.22	15	1	SE	10-12	100
74	8	0850	45 52 50	86 13 45	14.9	14.9	10.1	11.9	12.2	11.9	12.2	11.9	12.2	30.22	15	1	SE	10-12	100
75	8	0920	45 48 40	86 11 15	15.6	15.2	15.2	7.2	30.5	7.2	30.5	7.2	30.5	30.22	15	1	SE	10-12	100
76	8	1026	45 46 15	86 09 05	15.3	14.6	14.3	6.7	21.3	5.4	44.2	5.4	44.2	30.22	15+	1	SSE	12	100
77	8	1026	45 46 15	86 09 05	15.3	14.6	14.3	6.7	21.3	5.4	44.2	5.4	44.2	30.22	15+	1	SSE	12	100
78	8	1129	45 43 15	86 07 15	17.1	14.5	19.8	4.7	36.6	3.8	91.4	3.8	91.4	30.22	15+	1	SSE	12	100
79	8	1230	45 37 40	86 08 35	17.3	17.3	22.9	4.9	41.1	3.9	118.9	3.9	118.9	30.22	15+	1	SSE	12	100
80	8	1301	45 33 00	86 09 00	17.8	17.6	19.8	7.4	33.5	4.1	115.8	4.1	115.8	30.22	15+	1	SSE	12	100
81	8	1330	45 29 15	86 09 05	18.3	17.8	21.3	4.9	42.7	4.1	106.7	4.1	106.7	30.20	15+	1	S	12-15	100
82	8	1400	45 24 45	86 10 10	18.4	17.9	22.9	5.1	36.6	3.8	128.0	3.8	128.0	30.20	15+	1	S	12-15	100
83	8	1430	45 20 15	86 11 15	18.8	18.6	21.3	5.6	36.6	4.0	131.1	4.0	131.1	30.20	15+	1	S	12-15	100
84	8	1500	45 15 50	86 12 10	18.0	16.2	19.8	5.2	32.0	3.9	134.1	3.9	134.1	30.18	15+	1	SSE	12-15	75
85	8	1530	45 11 20	86 13 10	18.1	16.7	19.8	5.3	35.1	3.8	131.1	3.8	131.1	30.18	15+	1	SSE	12-15	75

Continued

Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution							Deepest reading (meters)	Barometer (inches)	Visibility (miles)	Sea	Wind		Cloud coverage (percent)		
					Metalimnion		Lower limits		Upper limits		Depth (meters)					Temperature (°C)	Temperature (°C)		Direction	Velocity (mph)
					Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)										
86	Sept. 8	1600	45°06'50"	86°14'10"	18.9	18.0	21.3	5.5	36.6	4.0	121.9	30.18	15+	1	SSE	12-15	75			
87	8	1630	45 02 15	86 15 10	18.7	18.3	12.8	6.9	27.4	4.1	91.4	30.16	15+	1	SSE	12-15	75			
88	8	1700	44 57 45	86 16 05	19.0	18.4	19.8	6.4	32.0	4.1	73.2	30.16	15+	1	SSE	12-15	75			
89	8	1730	44 53 15	86 17 10	18.8	18.3	12.2	5.9	27.4	4.1	61.0	30.16	15+	1	SSE	12-15	75			
90	8	1800	44 49 00	86 18 05	19.2	19.0	17.7	5.9	29.6	4.3	73.2	30.16	15+	1	SSE	12-15	75			
91	8	1830	44 44 05	86 18 35	19.1	19.1	14.3	4.3	45.7	4.3	67.1	30.16	15+	1	SSE	12-15	75			
92	8	1856	44 40 20	86 17 05	17.9	17.9	3.0	4.2	18.3	4.2	51.8	30.16	15+	1	SSE	12-15	75			
93	8	1906	44 39 00	86 16 10	18.3	18.3	5.2	8.4	12.8	8.4	12.8	30.16	15+	1	SSE	12-15	75			
94	9	0902	44 39 25	86 17 05	17.4	17.1	15.8	5.1	25.9	5.0	33.5	29.96	4-8	3	SSE	20	100			
95	9	0955	44 41 50	86 20 00	19.0	19.0	18.0	6.7	27.1	4.4	143.3	29.96	4-8	3	SSE	20	100			
96	9	1133	44 42 45	86 19 15	19.3	19.3	18.9	5.6	38.1	5.6	38.1	29.84	4-8	4	SSE	25-30	100			
97	10	1741	44 35 45	86 15 25	18.8	-	-	-	-	18.5	18.3	30.00	15+	3	NW	10-12	100			
98	10	1800	44 36 20	86 16 30	18.7	18.6	20.1	12.2	24.4	12.2	24.4	30.00	15+	3	NW	10-12	100			
99	10	1835	44 33 20	86 18 30	18.8	18.7	18.3	4.5	32.0	4.4	45.1	30.00	15+	3	WNW	12-14	75			
Cruise IX																				
1	21	0825	44 38 55	86 16 30	17.2	-	-	-	-	17.2	9.1	30.09	15	2	E	18-20	100			
2	21	0841	44 40 55	86 18 40	17.6	17.5	18.3	5.9	39.6	4.5	131.1	30.09	15	2	E	18-20	100			
3	21	0858	44 41 50	86 20 00	17.7	17.6	21.3	6.2	22.9	4.6	140.2	30.09	15	2	E	18-20	100			
4	21	0922	44 42 45	86 19 15	17.7	17.5	21.3	5.6	42.7	4.7	94.5	30.09	15	2	E	18-20	100			
5	21	1003	44 45 20	86 18 10	17.7	15.7	33.5	7.0	38.1	6.8	45.7	30.09	15	2	E	18-20	100			
6	21	1003	44 45 20	86 18 10	17.7	15.7	33.5	7.0	38.1	6.8	45.7	30.06	15+	2	ESE	20-25	100			
7	22	0819	44 37 55	86 17 05	16.7	16.7	18.0	8.2	24.4	8.2	24.4	30.11	8-10	1	ESE	15	75			
8	22	0848	44 38 10	86 18 45	16.8	16.8	21.3	4.8	29.0	3.9	67.1	30.11	8-10	1	ESE	15	75			
9	22	0930	44 39 10	86 26 00	17.3	17.2	27.4	5.6	41.1	3.9	138.0	30.11	8-10	1	ESE	15	75			
10	22	1003	44 40 10	86 32 45	17.3	17.2	27.4	5.6	36.6	3.8	246.9	30.11	8-10	1	ESE	15	75			

Continued

Appendix Table 2.--(Continued)

Cruise and number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)	
					Metalimnion			Deepest						Direction	Velocity (mph)		
					Surface (°C)	Upper limits (°C)	Depth (meters)	Lower limits (°C)	Depth (meters)	Temperature (°C)							Temperature (°C)
11	Sept. 22	1003	44°40'10"	86°32'45"	17.3	17.2	27.4	5.6	36.6	4.0	137.2	30.12	8-10	1	SE	15	50
12	22	1115	44 41 00	86 38 50	16.7	16.4	24.4	5.1	38.1	3.9	128.0	30.12	8-10	1	SE	15	50
13	22	1130	44 41 30	86 42 20	16.9	16.7	21.3	5.3	39.6	4.0	137.2	30.12	8-10	1	SE	15	50
14	22	1130	44 41 30	86 42 20	16.8	16.7	21.3	5.3	39.6	3.7	268.2	30.12	8-10	1	SSE	15	50
15	22	1241	44 42 50	86 51 15	16.9	16.8	18.6	4.8	36.6	3.9	131.1	30.12	8-10	1	SSE	15	50
16	22	1310	44 44 45	86 55 40	15.1	15.0	12.2	5.1	27.4	3.9	131.1	30.12	8-10	1	SSE	15	50
17	22	1340	44 45 45	87 01 55	15.5	15.1	13.7	4.2	48.8	3.9	129.5	30.12	8-10	1	SSE	15	50
18	22	1410	44 46 45	87 08 10	15.1	14.7	16.8	6.6	32.0	5.4	83.8	30.12	8-10	1	SSE	15	50
19	22	1429	44 45 45	87 11 00	15.2	14.4	18.3	5.1	67.1	5.0	73.2	30.10	15	1	SSE	10-12	50
20	22	1506	44 46 20	87 15 20	15.0	-	-	-	-	14.1	12.8	30.10	15	1	SSE	10-12	50
21	22	1516	44 46 40	87 17 30	13.7	-	-	-	-	12.5	11.0	30.10	15	1	SSE	10-12	50
22	23	0855	44 45 45	87 16 15	15.4	-	-	-	-	15.1	14.6	29.97	6-8	1	SE	15-18	100
23	23	1048	44 44 10	87 14 10	15.6	15.3	18.9	7.0	44.2	6.6	53.3	29.97	6-8	1	SE	15-18	100
24	23	1048	44 44 10	87 14 10	15.6	15.3	18.9	7.0	44.2	6.6	53.3	29.97	6-8	1	SE	15-18	100
25	23	1441	44 42 15	87 11 45	15.4	15.2	16.8	6.7	39.6	5.1	85.3	29.93	8-10	1	SE	10-12	75
26	24	0855	44 46 25	87 17 05	15.0	-	-	-	-	14.9	11.9	30.12	15+	1	NW	15-18	25
27	24	0910	44 44 45	87 15 00	16.0	16.0	15.3	14.0	29.0	14.0	29.0	30.12	15+	1	NW	15-18	25
28	24	0925	44 44 35	87 13 20	15.9	15.7	24.4	9.0	54.9	9.0	54.9	30.12	15+	1	NW	15-18	25
29	24	0925	44 44 35	87 13 20	15.9	15.7	24.4	9.0	54.9	9.0	54.9	30.12	15+	1	NW	15-18	25
30	24	1041	44 41 50	87 11 20	15.6	15.2	13.7	5.7	42.7	4.7	89.9	30.13	15+	2	NNW	15-18	75
31	24	1235	44 32 15	87 23 20	16.3	15.6	21.3	9.1	50.3	9.1	50.3	30.13	15+	2	NNW	15-18	75
32	24	1305	44 28 15	87 27 00	15.6	-	-	-	-	14.5	19.8	30.13	15+	2	NNW	15-18	75
33	24	1350	44 23 55	87 27 40	15.0	-	-	-	-	13.9	27.4	30.13	15+	2	NNW	15-18	75
34	24	1350	44 23 55	87 27 40	15.0	-	-	-	-	13.9	27.4	30.17	15+	1	NW	15	100
35	24	1512	44 17 20	87 29 00	12.7	-	-	-	-	11.5	4.6	30.17	15+	1	NW	15	100

Continued

Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Surface Temperature (°C)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)				
						Metalimnion		Depth		Temperature					Depth (meters)	Temperature (°C)		Depth (meters)	Temperature (°C)	Direction	Velocity (mph)
						Upper limits	Lower limits	Upper limits	Lower limits	Upper limits	Lower limits										
36	Sept. 24	1540	44°12'35"	87°29'35"	12.9	-	-	-	-	-	12.9	6.1	30.17	15+	1	NW	15	100			
37	24	1610	44 08 35	87 31 20	13.6	-	-	-	-	-	13.3	11.0	30.17	15+	1	NW	15	100			
38	24	1625	44 07 20	87 34 00	13.2	-	-	-	-	-	12.1	10.1	30.17	15+	1	NW	15	100			
39	26	0807	44 05 15	87 36 30	13.4	-	-	-	-	-	12.6	12.2	30.42	8-10	2	SE	15-18	100			
40	26	0822	44 04 50	87 33 20	14.0	-	-	-	-	-	14.0	18.9	30.42	8-10	2	SE	15-18	100			
41	26	0858	44 04 10	87 27 00	11.2	10.4	24.4	6.3	33.5	4.6	73.2	30.42	30.42	8-10	3	SSE	20	100			
42	26	1003	44 02 35	87 20 00	12.8	12.7	6.1	7.9	17.7	4.1	85.3	30.42	30.42	8-10	3	SSE	20	100			
43	26	1033	44 01 10	87 14 10	15.1	15.0	9.1	4.6	35.1	3.9	112.8	30.42	30.42	8-10	3	SSE	20	100			
44	26	1103	43 59 50	87 08 25	16.2	16.1	12.8	4.7	45.7	4.0	109.7	30.42	30.42	8-10	3	SSE	20	100			
45	26	1133	43 58 30	87 02 45	16.7	16.6	18.3	6.2	32.0	4.0	103.6	30.42	30.42	8-10	3	SSE	20	100			
46	26	1208	43 57 30	86 56 50	16.0	15.1	24.1	5.6	33.5	3.8	143.3	30.40	30.40	15+	2	SE	18-20	100			
47	26	1320	43 56 10	86 50 55	15.2	15.2	24.4	5.6	38.1	3.9	137.2	30.36	30.36	15+	1	ESE	15	100			
48	26	1455	43 58 30	86 38 20	12.9	12.2	13.7	4.1	32.0	3.9	73.2	30.36	30.36	15+	1	ESE	15	100			
49	26	1540	43 57 50	86 33 25	14.7	14.6	4.6	7.1	21.3	7.0	21.3	30.36	30.36	15+	1	ESE	15	100			
50	26	1555	43 57 35	86 30 20	14.2	14.2	3.0	10.5	12.8	10.5	12.8	30.36	30.36	15+	1	ESE	15	100			
51	26	1630	44 02 45	86 31 35	13.4	-	-	-	-	-	12.3	9.1	30.36	15+	1	ESE	15	100			
52	26	1700	44 07 00	86 30 00	16.2	16.2	11.3	4.9	33.5	4.5	45.7	30.36	30.36	15+	1	ESE	15	100			
53	26	1730	44 11 20	86 28 00	16.3	16.3	11.3	5.2	24.4	4.4	88.4	30.36	30.36	15+	1	ESE	15	100			
54	26	1810	44 16 30	86 25 20	15.4	15.2	6.7	4.5	30.5	4.5	30.5	30.36	30.36	15+	1	ESE	15	100			
55	26	1840	44 20 50	86 23 20	16.6	16.4	6.7	5.3	24.4	4.5	54.9	30.36	30.36	15+	1	ESE	15	100			
56	26	1910	44 25 00	86 20 20	16.7	16.6	10.1	5.4	32.0	4.7	114.3	30.36	30.36	15+	1	ESE	15	100			
57	26	1940	44 29 00	86 19 20	16.7	16.6	12.2	5.2	24.4	4.7	54.9	30.36	30.36	15+	1	ESE	15	100			
58	26	2010	44 33 20	86 17 10	16.1	16.1	11.0	4.8	22.9	4.8	33.5	30.28	30.28	15+	1	E	15	100			
59	26	2025	44 35 30	86 16 10	16.1	16.1	7.6	6.2	16.8	5.2	36.6	30.28	30.28	15+	1	E	15	100			
60	27	1005	44 45 20	86 18 10	16.7	16.6	16.1	5.4	39.6	5.4	54.9	29.92	29.92	3	2	SSE	18	100			

Continued

Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Surface Temperature (°C)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)
						Metalimnion		Deepest		Depth (meters)	Temperature (°C)				Direction	Velocity (mph)	
						Upper limits	Lower limits	Upper limits	Deepest reading								
61	Sept. 28	1110	44°41'50"	86°20'00"	16.5	16.1	24.4	6.1	46.3	4.7	140.2	30.12	15+	1	NW	15	25
62	28	1222	44 42 45	86 19 15	16.4	16.1	19.8	5.3	41.1	4.6	86.9	30.13	15+	1	NW	15	25
63	28	1448	44 40 10	86 32 45	17.1	16.6	32.0	5.3	51.8	4.4	137.2	30.13	15+	1	SW	1-3	0
64	28	1448	44 40 10	86 32 45	17.1	16.6	32.0	5.3	51.8	4.4	137.2	30.13	15+	1	SW	1-3	0
65	28	1710	44 34 45	86 18 50	15.2	14.1	14.6	5.4	21.3	4.2	48.8	30.12	15+	1	SSW	1-3	0
66	28	1710	44 34 45	86 18 50	15.2	14.1	14.6	5.4	21.3	4.2	48.8	30.12	15+	1	SSW	1-3	0
67	29	0831	44 34 45	86 18 50	15.2	15.0	15.3	5.1	33.5	4.9	48.8	29.88	10-12	2	SSE	20	100
68	Oct. 1	0830	44 35 55	86 15 30	15.0	14.8	16.8	13.7	21.3	13.7	21.3	30.38	15+	1	S	12-15	50
69	1	0845	44 33 45	86 16 00	15.3	15.2	19.8	5.6	54.9	5.6	54.9	30.38	15+	1	S	12-15	50
70	1	0917	44 29 35	86 17 20	15.6	15.3	22.9	13.9	25.0	13.8	25.0	30.38	15+	1	S	12-15	50
71	1	0917	44 29 35	86 17 20	15.6	15.3	22.9	13.9	25.0	13.8	25.0	30.37	15+	1	SSE	15	50
72	1	1110	44 29 35	86 19 00	15.6	15.4	18.3	5.3	39.6	5.3	45.7	30.37	15+	1	SSE	15	50
73	1	1110	44 29 35	86 19 00	15.6	15.4	18.3	5.3	39.6	5.3	45.7	30.38	15+	1	S	15	75
74	1	1359	44 29 35	86 20 10	15.8	15.7	21.3	5.2	33.5	4.4	88.4	30.36	15+	1	SW	15	75
75	1	1607	44 35 25	86 19 10	15.1	14.9	27.4	5.0	45.7	5.0	45.7	30.33	15+	1	SW	15	100
76	2	1325	44 36 10	86 15 10	15.0	--	--	--	--	14.8	20.1	30.42	15+	1	N	15	0
77	2	1351	44 34 00	86 18 30	15.5	15.2	20.7	8.4	45.7	8.4	45.7	30.42	15+	1	N	15	0
78	2	1622	44 34 00	86 18 30	15.3	15.0	23.8	5.8	45.7	5.8	45.7	30.41	15+	1	N	10-12	0
79	2	1806	44 35 30	86 18 30	15.9	15.3	25.9	5.1	39.6	5.1	45.7	30.41	15+	1	N	10-12	0
80	2	1825	44 34 00	86 18 30	15.1	15.0	21.6	5.6	39.6	5.6	45.7	30.41	15+	1	NE	10-12	0
81	2	1955	44 35 00	86 18 30	15.6	15.1	21.6	4.5	39.0	4.4	45.7	30.41	15+	1	NE	10-12	0
82	2	2016	44 34 00	86 18 30	15.0	15.0	19.8	5.4	41.8	5.4	45.7	30.41	15+	1	ENE	10-12	0
83	2	2208	44 35 30	86 18 30	15.5	15.0	19.8	4.5	35.1	4.4	45.7	30.41	15+	1	E	12-15	0
84	2	2226	44 34 00	86 18 30	15.0	14.9	19.8	4.7	38.1	4.6	45.7	30.40	15+	1	E	15	0
85	2	2356	44 35 30	86 18 30	15.5	14.9	21.3	4.6	33.5	4.3	45.7	30.40	15+	1	E	15	0

Continued

Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)	
					Metalimnion			Deepest						Direction	Velocity (mph)		
					Upper limits (meters)	Lower limits (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Reading							
					Surface temperature (°C)	Upper limits (meters)	Lower limits (meters)	Temperature (°C)	Depth (meters)	Temperature (°C)	Reading						
Cruise X 1	Oct. 14	0822	44°38'55"	86°16'30"	14.6	-	-	14.6	15.2	14.6	15.2	29.81	15+	1	N	12	75
2	14	0850	44 41 50	86 20 00	15.0	13.8	48.2	5.6	61.0	4.5	140.2	29.81	15+	1	N	12	75
3	14	0915	44 42 45	86 19 15	14.7	14.4	48.2	5.4	73.2	5.1	97.5	29.81	15+	1	N	12	75
4	14	1000	44 48 55	86 16 30	14.7	14.2	53.3	5.4	73.2	4.9	88.4	29.81	15+	1	N	12	75
5	14	1030	44 52 35	86 12 45	14.7	-	-	-	-	14.5	27.4	29.81	15+	1	N	12	75
6	14	1100	44 56 10	86 08 50	14.6	14.5	29.9	7.3	48.8	6.4	70.1	29.81	15+	1	N	12	75
7	14	1130	44 58 20	86 03 40	14.6	14.5	28.0	8.1	38.1	6.0	86.9	29.81	15+	1	N	12	75
8	14	1200	45 00 15	85 57 40	14.9	-	-	-	-	14.6	44.2	29.81	15+	1	N	12	75
9	14	1230	45 03 20	85 53 05	14.9	13.2	64.6	11.1	70.1	11.1	70.1	29.82	15+	1	N	10-12	75
10	14	1300	45 06 45	85 48 45	15.0	14.4	64.6	5.4	76.2	4.9	118.9	29.82	15+	1	N	10-12	75
11	14	1330	45 10 10	85 44 25	15.1	14.7	58.8	6.7	76.2	5.0	131.1	29.82	15+	1	N	10-12	75
12	14	1400	45 13 45	85 39 55	15.1	14.6	46.9	7.3	71.0	6.1	89.3	29.82	15+	1	N	10-12	75
13	14	1430	45 16 35	85 35 00	14.9	-	-	-	-	13.9	54.9	29.79	15+	1	N	10-12	75
14	14	1459	45 18 20	85 29 40	15.2	14.8	53.3	8.9	64.6	6.7	91.4	29.79	15+	1	N	10-12	75
15	14	1606	45 22 00	85 24 20	15.1	-	-	-	-	15.0	44.8	29.79	15+	1	N	10-12	75
16	14	1606	45 22 00	85 24 20	15.3	-	-	-	-	15.0	43.6	29.79	15+	1	N	10-12	75
17	14	1631	45 20 35	85 20 00	15.3	15.0	56.4	6.7	100.6	6.7	100.6	29.79	15+	1	N	10-12	75
18	14	1640	45 20 00	85 18 10	15.2	-	-	-	-	15.0	36.0	29.79	15+	1	N	10-12	75
19	15	1016	45 17 12	85 11 20	14.5	14.1	24.4	12.5	30.2	12.5	30.2	29.74	15+	1	NW	15-18	100
20	15	1233	45 15 45	85 07 00	15.0	14.2	21.3	11.7	29.0	11.5	32.9	29.75	15+	1	NW	12-15	100
21	16	0922	45 17 07	85 10 25	14.6	-	-	-	-	13.6	25.6	29.72	4-6	1	N	12-15	100
22	17	0806	45 19 50	85 17 50	14.7	13.8	44.2	11.7	51.8	11.7	51.8	29.65	15+	2	N	18	25
23	17	0821	45 20 50	85 24 45	14.8	14.7	53.3	11.2	64.0	11.2	64.0	29.66	15+	2	NE	20	25
24	17	0912	45 22 00	85 24 20	14.9	14.8	49.7	9.3	51.8	9.3	51.8	29.66	15+	2	NE	20	25
25	17	1110	45 18 20	85 29 40	14.7	12.8	61.0	6.6	82.3	6.5	88.4	29.66	15+	2	NNE	20-25	25

Continued

Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)			
					Metalimnion		Deepest reading		Upper limits Temperature (°C)	Depth (meters)				Lower limits Temperature (°C)	Depth (meters)		Temperature (°C)	Direction	Velocity (mph)
					Upper limits Temperature (°C)	Depth (meters)	Lower limits Temperature (°C)	Depth (meters)											
26	Oct. 19	0813	45°20'00"	85°17'45"	13.9	13.8	23.8	8.0	45.7	7.0	72.5	29.96	15+	2	NW	15-18	100		
27	19	0826	45 21 00	85 20 00	14.0	14.0	37.8	6.6	64.0	6.5	71.6	29.96	15+	2	NW	15-18	100		
28	19	0920	45 23 20	85 25 10	14.1	-	-	-	-	14.1	48.8	29.96	15+	2	NW	15-18	100		
29	19	0950	45 25 45	85 30 40	13.9	13.8	45.7	9.9	54.9	9.9	54.9	29.97	15+	2	NW	15-18	75		
30	19	1020	45 28 10	85 35 55	14.0	13.5	42.1	6.9	57.9	4.6	131.1	29.97	15+	2	NW	15-18	75		
31	19	1050	45 30 30	85 41 15	13.6	13.5	32.0	11.9	33.5	11.9	33.5	29.97	15+	2	NW	15-18	75		
32	19	1121	45 32 50	85 46 40	13.8	13.6	37.5	6.6	64.6	6.1	74.1	29.97	15+	2	NW	15-18	75		
33	19	1205	45 35 20	85 50 50	13.6	13.2	42.1	5.6	71.6	5.6	75.6	29.97	15+	2	NW	15-18	75		
34	19	1235	45 38 00	85 56 10	13.4	13.3	33.5	9.0	46.6	9.0	46.6	29.97	15+	2	NW	15-18	75		
35	19	1305	45 40 45	86 01 20	12.9	12.0	41.1	6.2	56.4	5.1	85.3	29.97	15+	2	NW	15-18	75		
36	19	1416	45 43 50	86 07 05	12.3	12.3	41.8	5.7	65.5	4.6	94.5	29.96	15+	1	WSW	15-18	25		
37	19	1443	45 45 00	86 07 45	12.3	12.2	37.5	5.5	59.4	4.8	74.7	29.94	15+	1	WSW	15-18	25		
38	19	1555	45 48 10	86 09 50	12.3	12.2	25.9	9.6	33.5	9.6	33.5	29.94	15+	1	WSW	15-18	25		
39	19	1626	45 52 30	86 09 45	12.0	-	-	-	-	11.9	15.2	29.94	15+	1	WSW	15-18	25		
40	19	1641	45 54 35	86 13 55	11.3	-	-	-	-	11.3	12.8	29.94	15+	1	WSW	15-18	25		
41	20	0822	45 55 15	86 14 10	11.0	-	-	-	-	11.0	12.8	29.91	10-12	1	Var	1-3	100		
42	20	0837	45 53 15	86 13 00	11.5	-	-	-	-	11.4	19.2	29.91	10-12	1	Var	1-3	100		
43	20	0907	45 49 00	86 10 20	12.7	12.6	27.4	11.1	34.1	11.1	34.1	29.90	10-12	2	WSW	15	100		
44	20	1020	45 43 50	86 07 05	12.6	12.4	48.8	5.9	64.0	4.8	94.5	29.90	10-12	2	WSW	15	100		
45	20	1100	45 40 00	86 07 25	12.3	12.2	45.1	5.8	67.1	4.1	115.8	29.90	10-12	2	WSW	15	100		
46	20	1130	45 35 35	86 07 45	13.3	13.3	46.3	7.1	52.7	4.9	96.0	29.89	10-12	3	SW	15	100		
47	20	1200	45 31 10	86 08 00	13.3	13.3	46.3	6.7	54.9	3.9	134.1	29.89	10-12	3	SW	15	100		
48	20	1230	45 26 50	86 08 20	13.1	13.0	45.1	4.9	67.1	3.9	137.2	29.89	10-12	3	SW	15	100		
49	20	1300	45 22 25	86 08 45	13.4	13.3	39.0	5.4	54.9	4.0	126.5	29.89	10-12	3	SW	15	100		
50	20	1330	45 18 00	86 09 00	13.3	13.2	29.0	4.9	35.7	4.1	73.2	29.88	10-12	3	SW	15	100		

Continued

Appendix Table 2.--(Continued)

Cruise and BF cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution							Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)			
					Surface temperature (°C)	Upper limits		Metalimnion		Depth (meters)	Temperature (°C)				Depth (meters)	Temperature (°C)		Deepest reading	Direction	Velocity (mph)
						Temperature (°C)	Depth (meters)	Lower limits	Temperature (°C)											
51	Oct. 20	1400	45°13'35"	86°09'20"	13.0	12.9	30.2	5.5	39.0	3.9	126.5	29.88	5-7	3	SW	15	100			
52	20	1430	45 09 05	86 09 45	13.1	12.9	21.9	5.7	32.0	3.8	106.7	29.88	5-7	3	SW	15	100			
53	20	1500	45 04 35	86 10 10	13.2	13.1	16.8	4.4	40.5	4.0	70.1	29.88	5-7	3	SW	15	100			
54	20	1530	45 00 20	86 10 25	12.4	-	-	-	-	12.3	14.6	29.88	5-7	3	SW	15	100			
55	20	1600	44 56 10	86 12 40	12.9	12.8	19.8	8.2	24.4	8.2	24.4	29.88	5-7	3	NNW	15	100			
56	20	1630	44 52 00	86 14 00	12.8	12.7	12.8	5.9	38.7	4.3	106.7	29.88	5-7	3	NNW	15	100			
57	20	1700	44 47 50	86 15 15	12.7	12.6	17.4	4.9	26.5	4.0	57.9	29.88	5-7	3	NNW	15	100			
58	20	1730	44 43 25	86 15 40	12.0	11.8	5.5	8.6	8.5	7.3	32.9	29.88	5-7	3	NNW	15	100			
59	20	1800	44 38 55	86 15 50	8.7	-	-	-	-	8.6	10.1	29.95	5-7	3	NNW	15	100			
60	21	0825	44 38 55	86 16 30	8.3	-	-	-	-	5.9	14.6	30.20	15+	2	N	18-20	75			
61	21	0910	44 41 50	86 20 00	8.2	7.8	41.1	4.8	57.9	4.4	143.3	30.23	15+	3	N	25	75			
62	21	1051	44 42 45	86 19 15	10.0	9.6	15.2	6.6	27.4	4.7	103.6	30.27	15+	2	NE	18-20	75			
63	21	1905	44 34 45	86 14 30	7.2	-	-	-	-	5.5	22.9	30.32	15+	1	-	-	0			
64	21	1924	44 34 45	86 14 15	7.2	-	-	-	-	6.1	16.8	30.32	15+	1	-	-	0			
65	21	1941	44 34 45	86 13 15	7.1	-	-	-	-	7.0	9.1	30.32	15+	1	-	-	0			
66	21	2042	44 34 45	86 18 50	7.6	6.4	18.3	4.4	28.3	4.2	49.4	30.32	15+	1	-	-	0			
67	21	2042	44 34 45	86 18 50	7.6	6.4	18.3	4.4	28.3	4.2	49.4	30.32	15+	1	-	-	0			
68	21	2216	44 34 45	86 15 50	8.0	7.2	12.2	4.5	29.0	4.4	49.4	30.32	15+	1	SSE	3-6	0			
69	22	0824	44 36 35	86 16 30	10.2	10.2	8.5	6.1	21.3	6.1	21.3	30.32	15+	1	SSE	3-6	0			
70	22	0938	44 34 45	86 18 50	11.3	11.2	13.7	4.7	18.9	4.0	51.2	30.32	15+	1	SSE	3-6	0			
71	22	0938	44 34 45	86 18 50	11.3	11.2	13.7	4.7	18.9	4.0	49.4	30.32	15+	1	SSE	3-6	0			
Cruise XI																				
1	Nov. 2	0821	44 38 55	86 16 30	10.6	-	-	-	-	10.6	16.5	30.00	15+	1	WNW	12-15	100			
2	2	0908	44 41 50	86 20 00	10.6	-	-	-	-	5.0	137.2	30.01	15+	1	W	12-15	100			
3	2	0908	44 41 50	86 20 00	10.6	-	-	-	-	5.0	137.2	30.01	15+	1	W	12-15	100			
4	2	0919	44 41 50	86 20 00	10.8	-	-	-	-	5.0	137.2	30.01	15+	1	W	12-15	100			
5	2	0919	44 41 50	86 20 00	10.8	-	-	-	-	5.0	137.2	30.01	15+	1	W	12-15	100			

Continued

Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution							Wind				
					Surface temperature (°C)	Metalimnion		Deepest reading		Barometer (inches)	Visibility (miles)	Sea	Direction	Velocity (mph)	Cloud coverage (percent)	
						Upper limits (meters)	Lower limits (meters)	Temperature (°C)	Depth (meters)							Temperature (°C)
6	Nov. 2	0950	44°42'45"	86°79'15"	10.6	-	-	-	9.4	97.5	30.01	15+	1	W	12-15	100
7	2	0950	44 42 45	86 19 15	10.6	-	-	-	9.4	97.5	30.01	15+	1	W	12-15	100
8	2	0956	44 42 45	86 19 15	10.5	-	-	-	8.5	100.6	30.01	15+	1	W	12-15	100
9	2	0956	44 42 45	86 19 15	10.5	-	-	-	8.5	100.6	30.01	15+	1	W	12-15	100
10	2	1040	44 46 55	86 18 10	10.5	-	-	-	10.5	48.8	30.02	15+	1	W	12-15	100
11	2	1048	44 46 55	86 18 10	10.4	-	-	-	10.4	47.2	30.02	15+	1	W	12-15	100
12	2	1048	44 46 55	86 18 10	10.4	-	-	-	10.4	48.8	30.02	15+	1	W	12-15	100
13	4	0833	44 37 55	86 17 05	10.0	-	-	-	10.0	24.4	30.16	15+	1	WNW	12-15	100
14	4	0844	44 38 10	86 18 45	10.4	-	-	-	8.7	73.2	30.16	15+	1	WNW	12-15	100
15	4	0935	44 38 55	86 23 55	10.0	10.0	64.6	5.9	73.2	4.0	134.1	15+	1	WNW	12-15	100
16	4	1005	44 39 50	86 30 15	10.3	10.3	48.8	5.6	59.4	4.0	134.1	15+	1	WNW	12-15	100
17	4	1020	44 40 10	86 32 45	10.1	10.1	48.8	4.7	61.0	3.8	131.1	15+	1	W	12-15	100
18	4	1051	44 40 10	86 32 45	10.3	10.2	50.3	4.5	67.1	3.7	249.9	15+	1	W	12-15	100
19	4	1051	44 40 10	86 32 45	10.3	10.2	50.3	4.5	67.1	3.7	246.9	15+	1	W	12-15	100
20	4	1057	44 40 10	86 32 45	10.3	10.1	50.3	4.5	73.2	3.7	249.9	15+	1	W	12-15	100
21	4	1057	44 40 10	86 32 45	10.3	10.1	50.3	4.5	73.2	3.7	245.9	15+	1	W	12-15	100
22	4	1103	44 40 10	86 32 45	10.3	10.2	48.8	4.4	73.2	3.7	249.9	15+	1	W	12-15	100
23	4	1103	44 40 10	86 32 45	10.3	10.2	48.8	4.4	73.2	3.7	249.9	15+	1	W	12-15	100
24	4	1140	44 41 05	86 39 10	10.5	10.3	45.7	5.1	54.9	3.8	137.2	15+	1	W	12-15	100
25	4	1153	44 41 30	86 42 20	10.3	10.1	44.2	4.4	61.0	3.8	129.5	15+	1	WSW	12-15	100
26	4	1153	44 41 30	86 42 20	10.4	10.4	44.2	4.9	61.0	3.8	262.1	15+	1	WSW	12-15	100
27	4	1245	44 42 20	86 47 55	10.3	10.1	44.2	4.8	59.4	3.9	137.2	15+	1	WSW	12-15	100
28	4	1315	44 43 15	86 54 15	10.3	10.1	42.7	4.4	57.9	3.8	137.2	15+	1	WSW	12-15	100
29	4	1345	44 44 05	86 59 25	10.0	9.7	36.6	4.8	45.7	3.8	137.2	15+	1	WSW	12-15	100
30	4	1415	44 45 00	87 05 50	7.3	7.1	55.8	4.3	73.2	3.9	106.7	15+	1	WSW	12-15	100

Continued

Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Surface Temperature (°C)	Temperature distribution						Barom- eter (inches)	Visi- bility (miles)	Sea	Wind		Cloud coverage (percent)
						Metalimnion			Deepest						Direction	Velocity (mph)	
						Upper limits Temperature (°C)	Depth (meters)	Lower limits Temperature (°C)	Depth (meters)	Temperature (°C)	reading (meters)						
31	Nov. 4	1439	44°45'40"	87°11'00"	6.7	-	-	-	-	4.6	70.1	30.15	15+	1	SSW	10-12	75
32	4	1522	44 46 40	87 17 25	6.5	-	-	-	-	6.2	10.7	30.15	15+	1	SSW	10-12	75
33	6	1415	44 44 10	87 14 10	6.0	-	-	-	-	5.9	45.7	29.60	2-6	2	SW	20-25	100
34	6	1527	44 42 15	87 11 45	7.4	7.3	44.2	4.9	64.6	4.7	91.4	29.64	10-12	3	WSW	30	100
35	7	1000	44 45 30	87 17 25	5.6	-	-	-	-	5.6	12.8	29.76	15+	1	SW	15-18	100
36	7	1100	44 37 30	87 21 50	6.1	-	-	-	-	6.1	16.1	29.76	15+	1	SW	15-18	100
37	7	1130	44 33 20	87 24 15	5.4	-	-	-	-	5.4	30.5	29.76	15+	1	SW	15-18	100
38	7	1300	44 20 50	87 28 30	6.8	-	-	-	-	6.8	16.8	29.80	2	1	SW	15-18	100
39	7	1430	44 08 40	87 31 00	6.5	-	-	-	-	6.5	15.2	29.80	2	1	SW	15-18	100
40	8	0908	44 05 20	87 36 35	5.6	-	-	-	-	5.6	12.8	30.01	15+	1	WNW	15-18	100
41	8	0923	44 05 00	87 33 20	5.1	-	-	-	-	5.1	16.4	30.01	15+	1	WNW	15-18	100
42	8	0951	44 04 10	87 27 00	7.7	7.6	42.1	4.9	51.8	4.5	73.2	30.02	15+	2	NW	20-25	100
43	8	1040	44 03 00	87 21 20	8.3	8.2	38.1	4.0	50.3	3.8	82.3	30.02	15+	2	NW	20-25	100
44	8	1110	44 01 50	87 15 20	8.0	7.9	44.8	3.9	64.0	3.8	125.0	30.02	15+	2	NW	20-25	100
45	8	1140	44 00 35	87 09 00	7.8	7.5	48.8	4.1	59.4	3.8	121.9	30.01	15+	3	NNW	25	100
46	8	1210	43 59 20	87 03 10	7.2	-	-	-	-	3.9	115.8	30.01	15+	3	NNW	25	100
47	8	1240	43 58 45	86 56 45	8.5	8.4	48.8	4.3	63.1	3.8	121.9	30.01	15+	3	NNW	25	100
48	8	1255	43 58 10	86 43 45	8.9	8.4	53.3	4.1	68.6	3.8	143.3	30.01	15+	3	NNW	25	100
49	8	1430	43 57 00	86 47 50	9.3	-	-	-	-	3.9	134.1	30.00	15+	3	NW	20-25	100
50	8	1500	43 56 00	86 41 45	8.6	8.0	52.7	4.7	67.7	4.0	128.0	30.00	15+	3	NW	20-25	100
51	8	1556	44 00 20	86 35 15	9.9	-	-	-	-	5.9	76.2	29.98	15+	3	NW	25	100
52	8	1645	43 58 55	86 32 30	10.2	-	-	-	-	10.2	21.3	29.98	15+	3	NW	25	100
53	8	1700	43 57 55	86 29 50	10.0	-	-	-	-	10.0	15.2	29.98	15+	3	NW	25	100
54	9	1040	44 00 50	86 33 55	10.9	-	-	-	-	10.9	45.7	29.89	8-10	3	SW	20	100
55	9	1112	44 05 05	86 31 20	10.9	-	-	-	-	9.9	54.9	29.89	8-10	3	SW	20	100

Continued

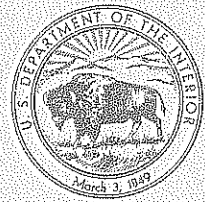
Appendix Table 2.--(Continued)

Cruise and BT cast number	Month and day	Time (EST)	Latitude (North)	Longitude (West)	Temperature distribution							Wind					
					Metalimnion				Deepest reading			Barom- eter (inches)	Visi- bility (miles)	Sea	Direction	Velocity (mph)	Cloud coverage (percent)
					Surface (°C)	Upper limits (°C)	Depth (meters)	Lower limits (°C)	Depth (meters)	Temperature (°C)	Depth (meters)						
56	Nov. 9	1140	44°09'30"	86°29'00"	10.5	10.5	57.0	5.6	70.1	5.4	102.0	29.87	8-10	3	SW	18-20	100
57	9	1210	44 13 55	86 26 40	9.9	9.4	77.7	5.8	89.9	5.8	89.9	29.87	8-10	3	SW	18-20	100
58	9	1240	44 18 20	86 24 20	10.3	-	-	-	-	10.1	41.1	29.87	8-10	3	SW	18-20	100
59	9	1310	44 22 10	86 22 40	9.4	-	-	-	-	8.7	80.8	29.87	8-10	3	SW	18-20	100
60	9	1340	44 26 50	86 21 35	10.1	9.2	73.2	5.1	109.7	5.1	109.7	29.87	8-10	3	SW	18-20	100
61	9	1425	44 33 40	86 18 30	10.1	-	-	-	-	10.0	51.8	29.78	12-15	3	SW	25	100
62	9	1445	44 36 15	86 16 20	10.0	-	-	-	-	9.8	28.3	29.78	12-15	3	SSW	25-30	100
63	11	0850	44 38 15	86 18 20	9.9	-	-	-	-	9.9	53.3	29.33	3-5	1	SE	12-15	100
64	11	0930	44 38 25	86 26 40	8.9	8.8	60.4	5.4	82.3	4.4	131.1	29.32	5-7	2	S	18	100
65	11	1035	44 40 10	86 32 45	9.0	8.9	61.0	4.6	68.6	3.7	246.9	29.36	10	1	S	15-18	100
66	11	1621	44 46 45	86 17 00	9.9	-	-	-	-	9.9	54.9	29.48	15+	1	NNW	10-12	50
67	12	1929	44 34 15	86 18 50	10.6	-	-	-	-	10.2	54.7	29.98	15+	1	N	8-10	50
68	12	2239	44 36 50	86 16 45	10.4	-	-	-	-	9.9	25.6	30.03	15+	1	E	15	50

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