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ENVIRONMENTAL OBSERVATIONS ON CONTINENTAL SHELF NOVA SCOTIA TO LONG ISLAND, DECEMBER, 1964 ALBATROSS IV CRUISE 64-14

John B. Colton, Robert R. Marak, and Samuel R. Nickerson

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ENVIRONMENTAL OBSERVATIONS ON CONTINENTAL SHELF NOVA SCOTIA TO LONG ISLAND, DECEMBER, 1964

ALBATROSS IV CRUISE 64-14

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Introduction

This report lists results obtained during an environmental survey of Continental Shelf waters in an area bounded by longitudes 64°30' W. and 72°30' W. (Albatross IV, Cruise 64-14, 3-18 December 1964). This is the second of a series of cruises being undertaken on a quarterly basis to measure the seasonal and annual variations in temperature, salinity, dissolved oxygen, and chlorophyll. The cruise track and station and section locations are shown in Figure 1.

Procedures

At each station a surface temperature reading, bathythermograph lowering, and Nansen bottle cast was made. The Nansen bottle depths were 1, 10, 20, 30, 40, 50, 75, 100, 150, 200, and 250 meters. A bathythermograph lowering was made midway between stations separated by a distance greater than 15 miles. Five drift bottles were released at all stations, and 5 sea-bed drifters were released at stations shoaler than 275 meters. Dissolved oxygen determinations were made at sea. All other determinations were made ashore.

Methods

Temperature

Temperature was measured with a bucket thermometer, standard reversing thermometers, and bathythermographs.

Salinity

Salinity was determined by electrical conductivity using a Hytech Model 621 Salinometer.

Dissolved Oxygen

Dissolved oxygen was determined polarographically (Carritt and Kanwisher, 1959) using a Jarrell Ash Model 26-601 dissolved oxygen analyzer.

Chlorophyll

Chlorophyll (within the upper 100 meters of the water column) was determined by fluorescence according to the method of Yentsch and Menzel (1963) from frozen extracts of 125 ml sea water. The specific absorption value (k) used was 36.7 (Richards, 1952). A G.K. Turner Model 110 fluorometer was used for these determinations.

Data

Values of all parameters measured are tabulated by station and depth in Table 1. In addition, the bottom temperature is included where obtained.

The surface temperature and bottom temperature distributions are shown in Figure 2. The surface salinity and density distributions are shown in Figure 3. Vertical profiles of temperature, salinity, dissolved oxygen, chlorophyll, and density for Sections A through H are presented in Figures 4 - 9.

References

Carritt, D. E. and J. W. Kanwisher, (1959). An electrode system for measuring dissolved oxygen. Analytical Chemistry, 31: 5-9.

Richards, F. A. (1952). The estimation and characterization of plankton populations by pigment analysis. I. The absorption spectra of some pigments in diatoms, dinoflagellates, and brown algae. J. Mar. Res., 11: 147-155.

Yentsch, C. S. and D. W. Menzel (1963). A method for the determination of phytoplankton chlorophyll and phaeophytin by fluorescence. Deep-Sea Res., 10: 221-231.

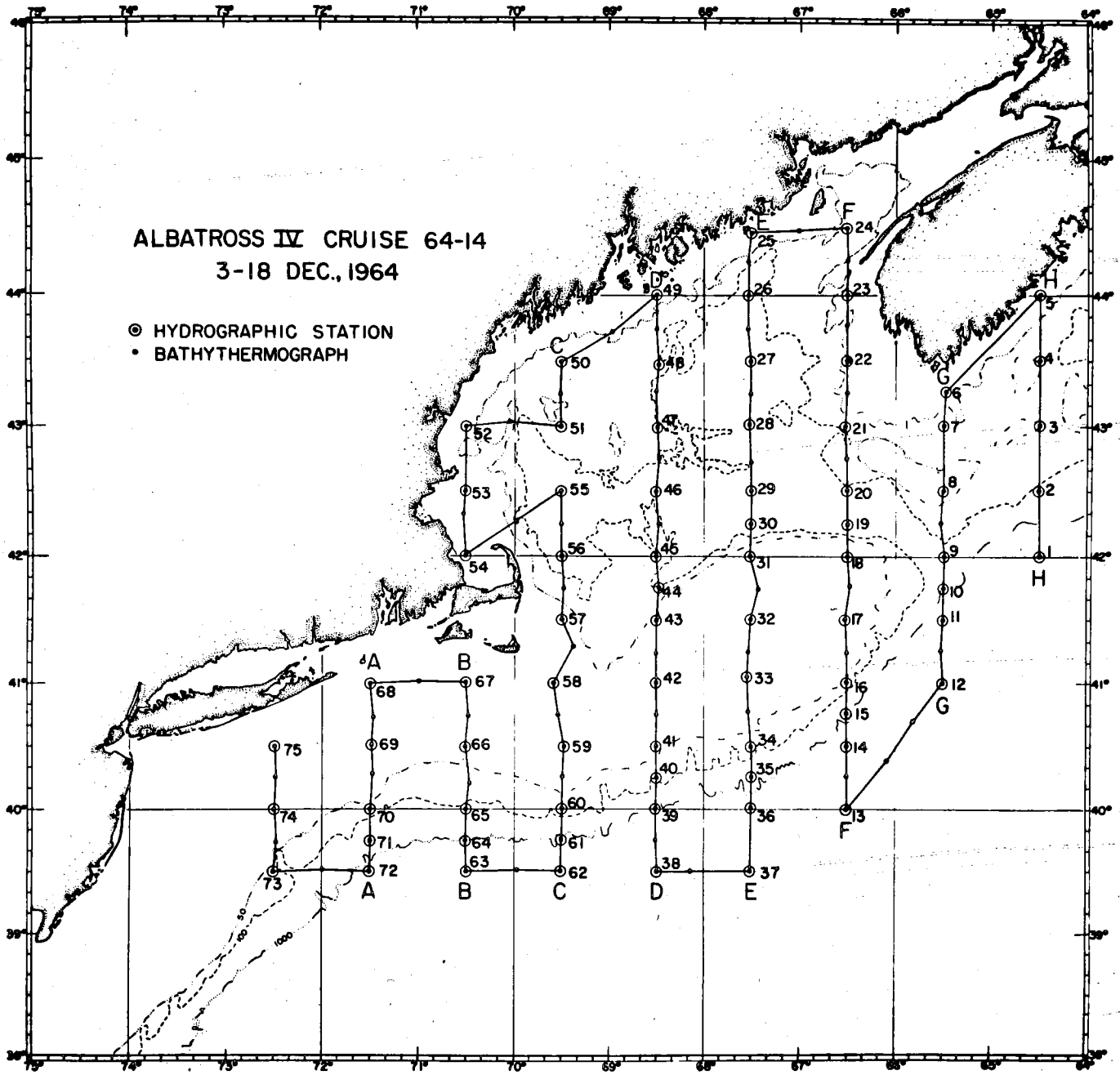
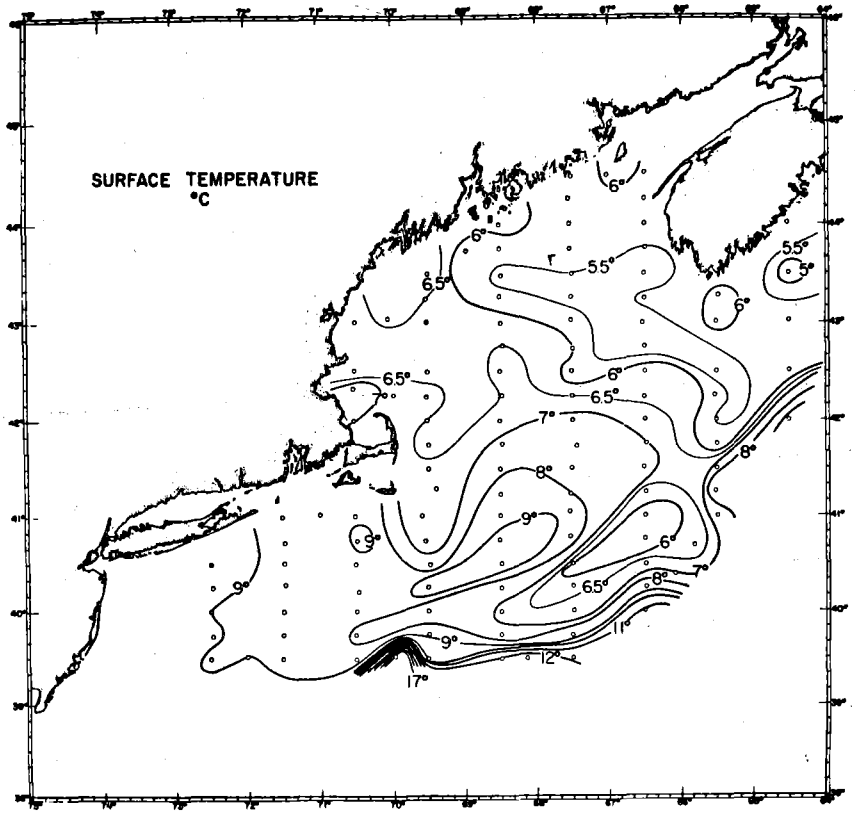

ALBATROSS IV CRUISE 64-14
3-18 DEC., 1964
HYDROGRAPHIC STATION
BATHYTHERMOGRAPH

FIGURE I



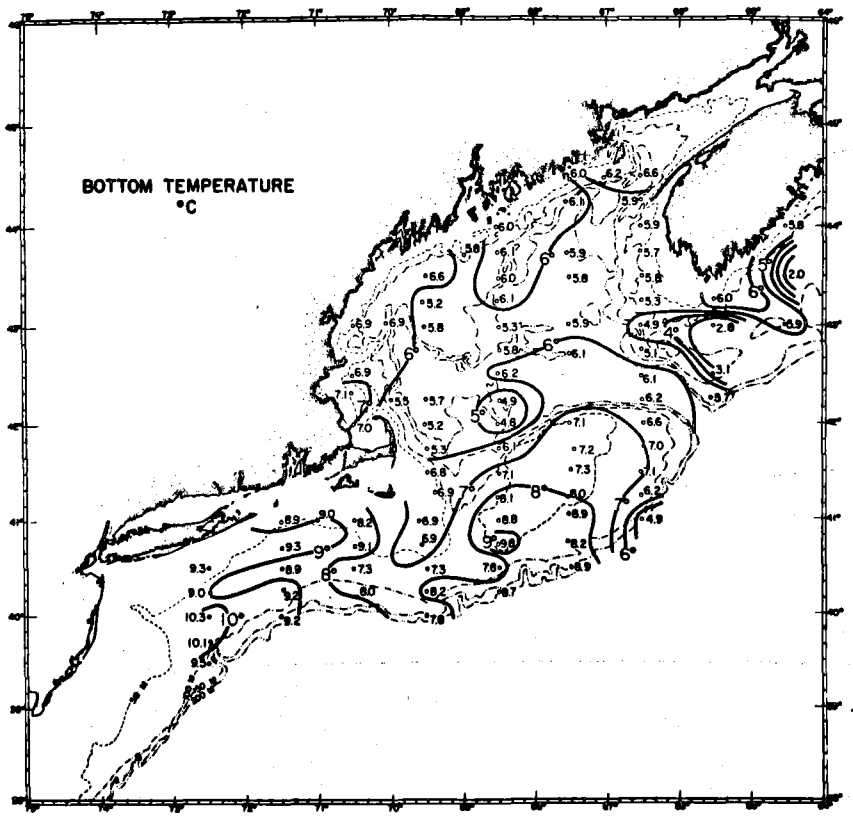
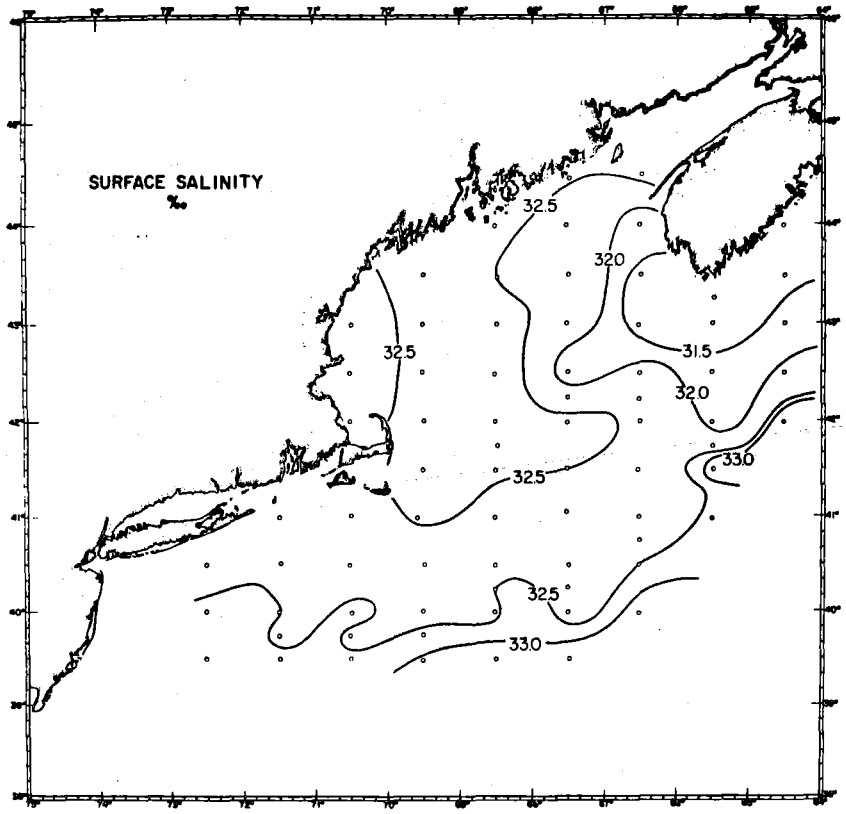


FIGURE 2


SURFACE SALINITY
‰
32.5
32.0
32.5
31.5
32.0
33.0
32.5
32.5
33.0

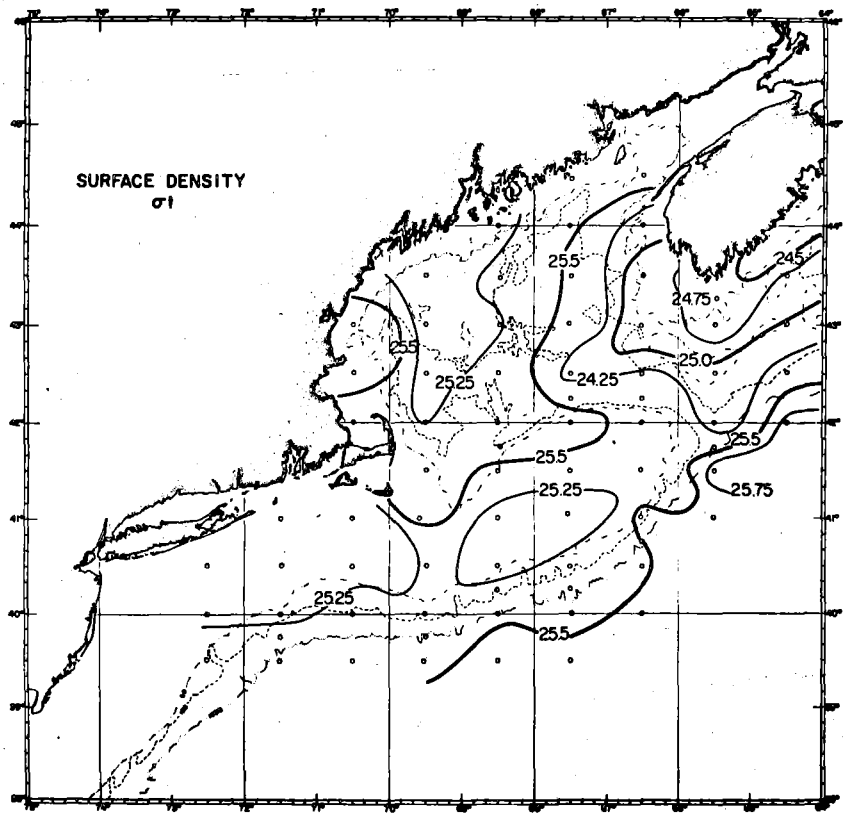

SURFACE DENSITY
σt
25.5
24.5
24.75
25.5
25.25
24.25
25.0
25.5
25.5
25.25
25.75
25.25
25.5

FIGURE 3

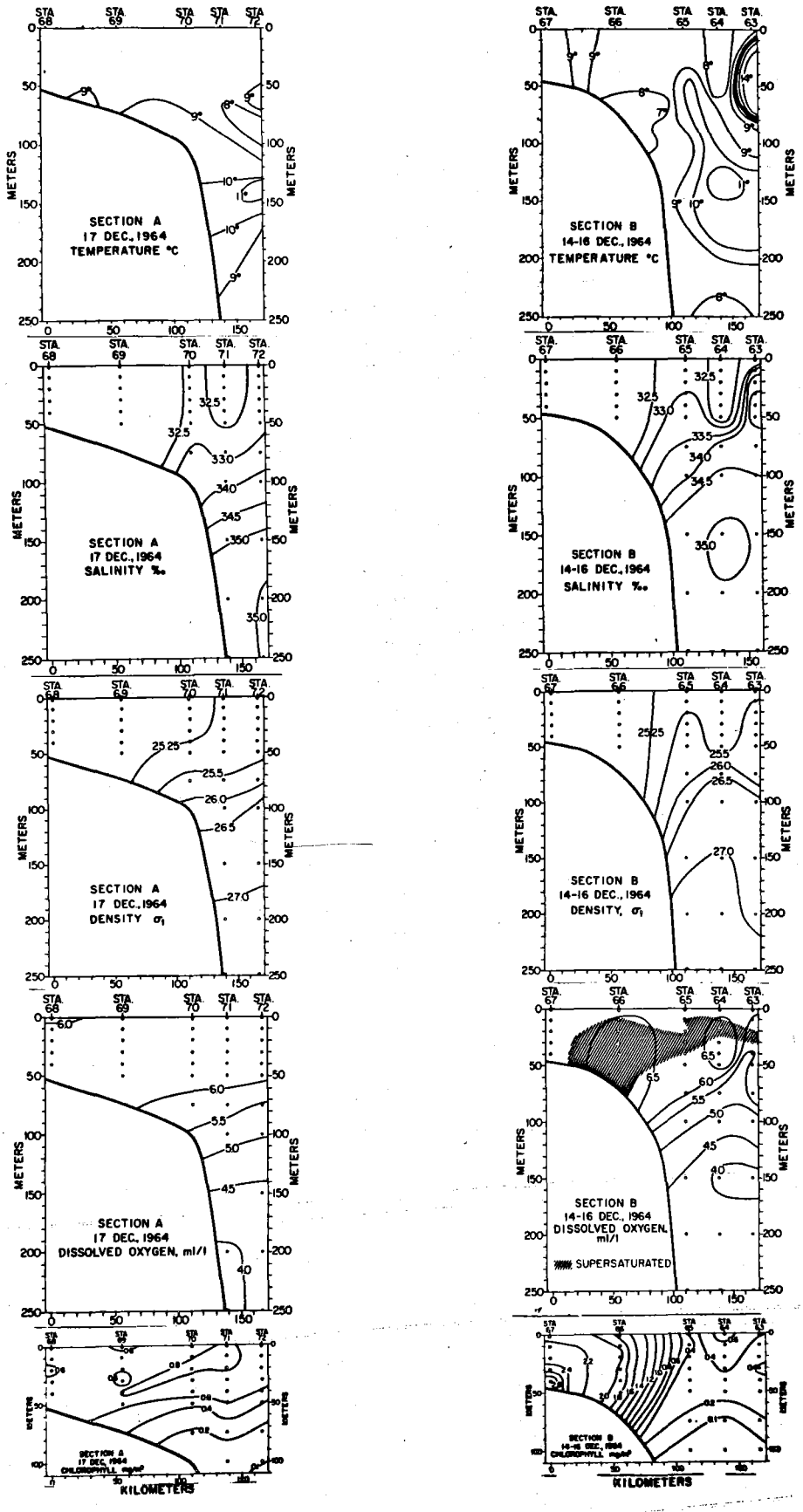

SECTION A
17 DEC., 1964
TEMPERATURE °C
SECTION B
14-16 DEC., 1964
TEMPERATURE °C
SECTION A
17 DEC., 1964
SALINITY ‰
SECTION B
14-16 DEC., 1964
SALINITY ‰
SECTION A
17 DEC., 1964
DENSITY σt
SECTION B
14-16 DEC., 1964
DENSITY, σt
SECTION A
17 DEC., 1964
DISSOLVED OXYGEN, ml/l
SECTION B
14-16 DEC., 1964
DISSOLVED OXYGEN, ml/l
SUPERSATURATED
STA. 68
STA. 69
STA. 70
STA. 71
STA. 72
STA. 67
STA. 66
STA. 65
STA. 64
STA. 63
METERS
KILOMETERS

FIGURE 4

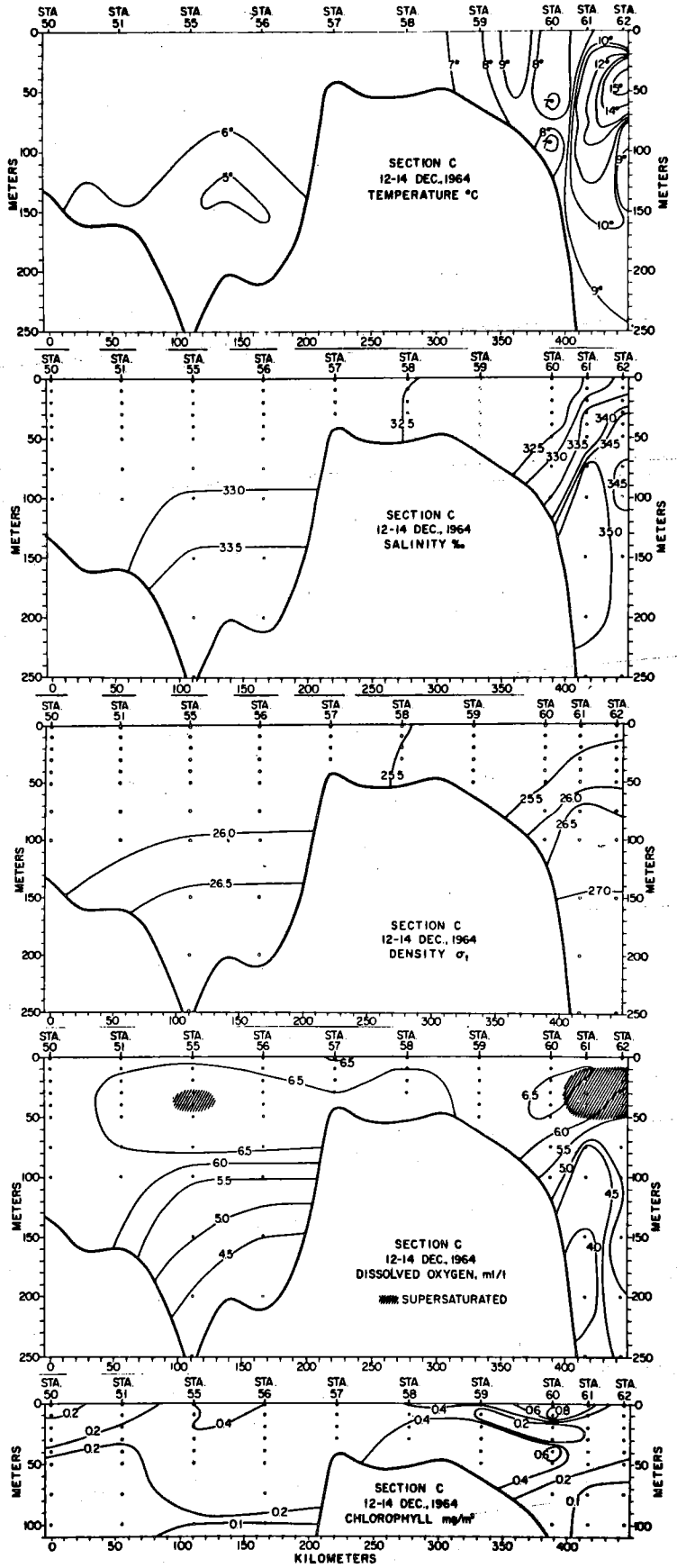

SECTION C
12-14 DEC., 1964
TEMPERATURE °C
SECTION C
12-14 DEC., 1964
SALINITY ‰
SECTION C
12-14 DEC., 1964
DENSITY σ_t
SECTION C
12-14 DEC., 1964
DISSOLVED OXYGEN, ml/l
SUPERSATURATED
SECTION C
12-14 DEC., 1964
CHLOROPHYLL mg/m³
STA. 50
STA. 51
STA. 55
STA. 56
STA. 57
STA. 58
STA. 59
STA. 60
STA. 61
STA. 62
METERS
KILOMETERS

FIGURE 5

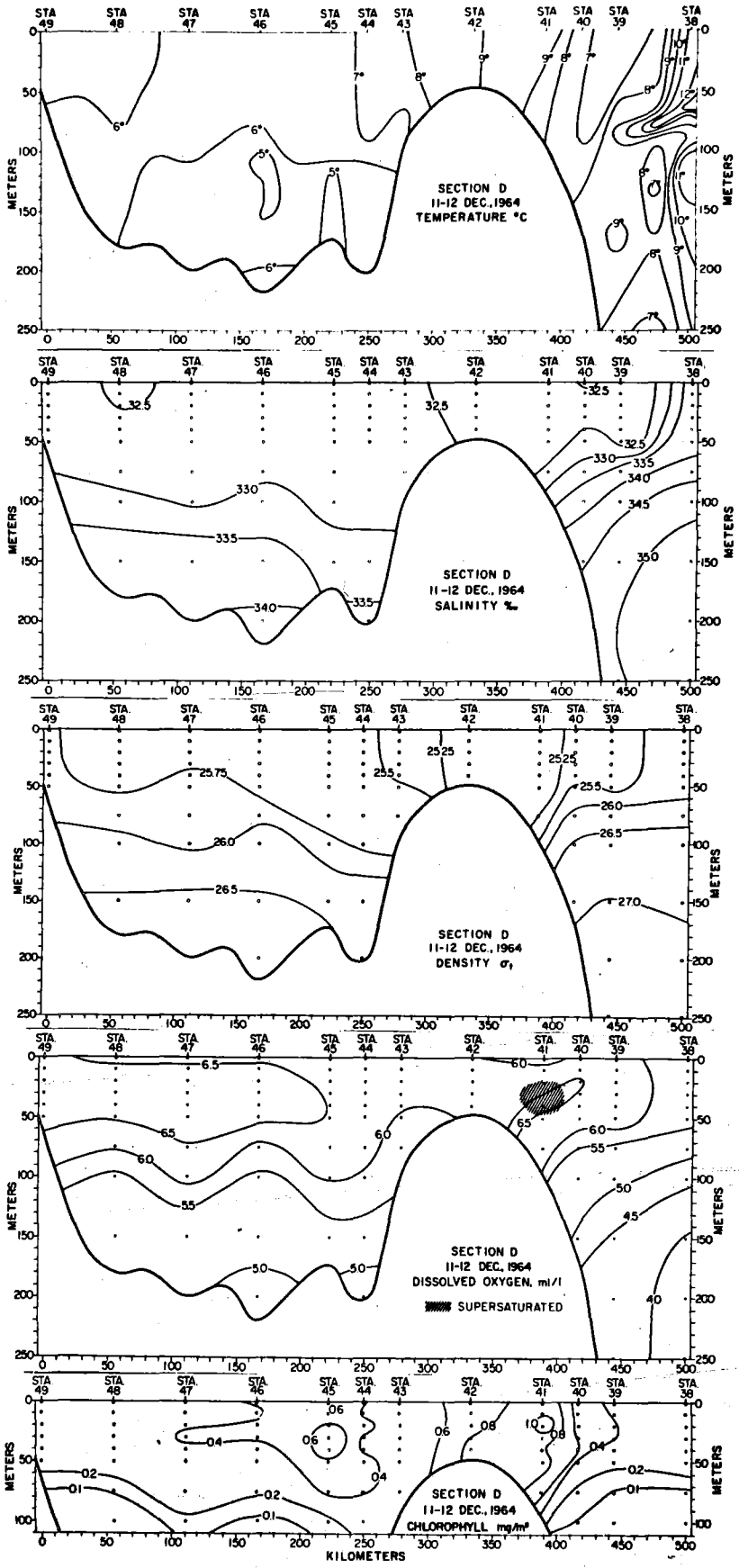

SECTION D
11-12 DEC., 1964
TEMPERATURE °C
SECTION D
11-12 DEC., 1964
SALINITY ‰
SECTION D
11-12 DEC., 1964
DENSITY σ_t
SECTION D
11-12 DEC., 1964
DISSOLVED OXYGEN, ml/l
SUPERSATURATED
SECTION D
11-12 DEC., 1964
CHLOROPHYLL mg/m³
METERS
KILOMETERS

FIGURE 6

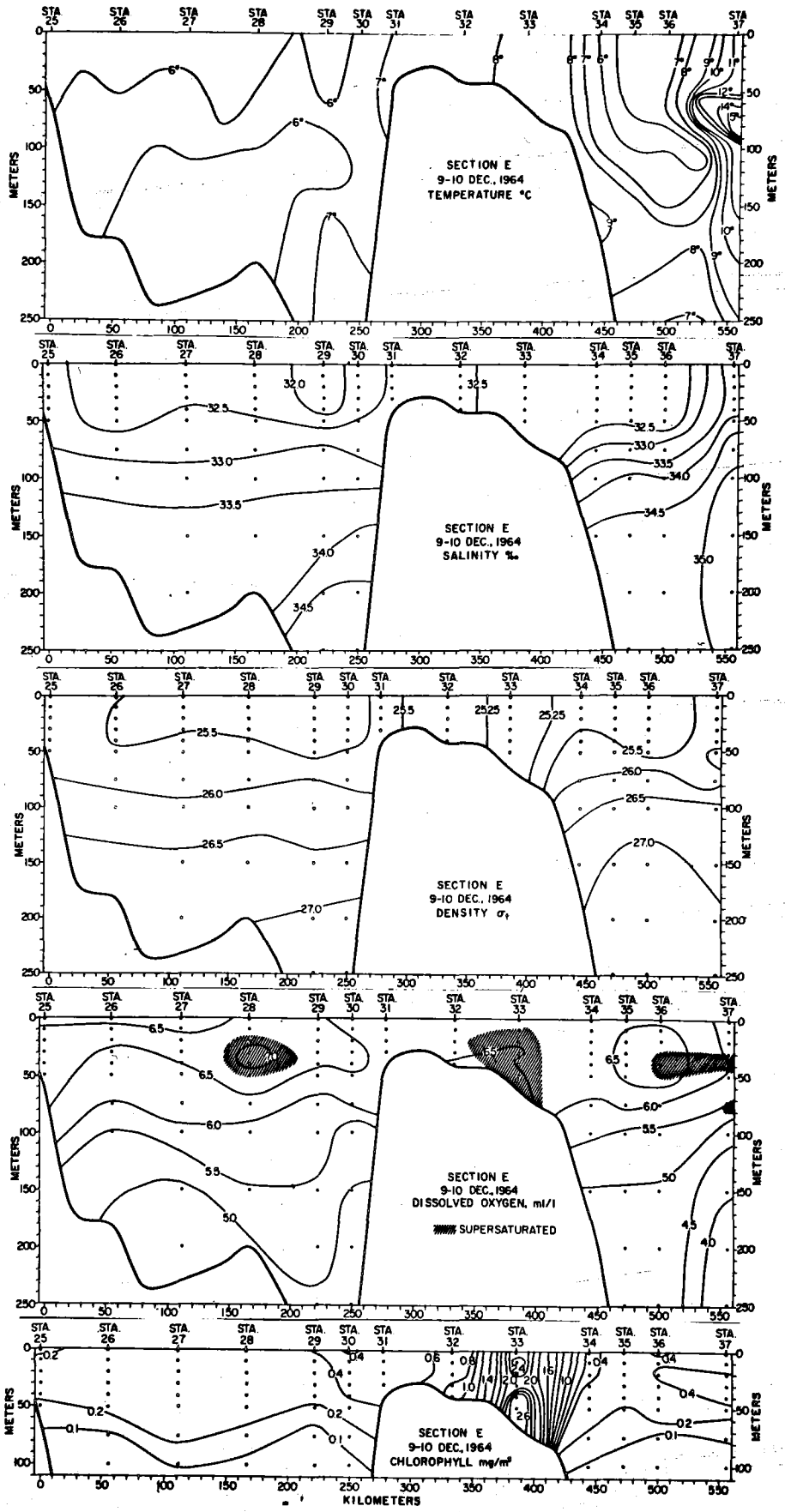

SECTION E
9-10 DEC., 1964
TEMPERATURE °C
SECTION E
9-10 DEC., 1964
SALINITY ‰
SECTION E
9-10 DEC., 1964
DENSITY σ_t
SECTION E
9-10 DEC., 1964
DISSOLVED OXYGEN, ml/l
SUPERSATURATED
SECTION E
9-10 DEC., 1964
CHLOROPHYLL mg/m³
METERS
KILOMETERS

FIGURE 7

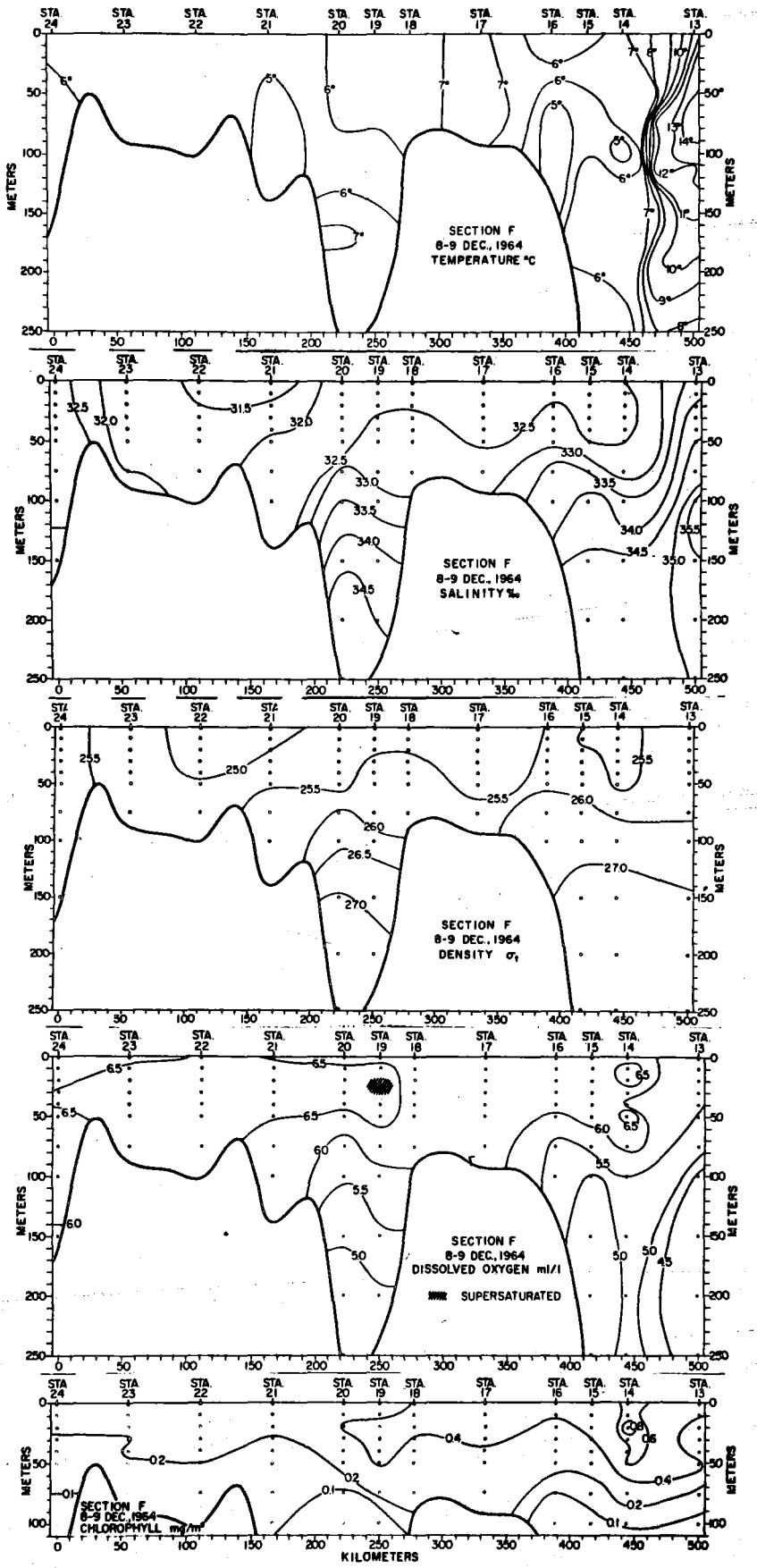

SECTION F
8-9 DEC., 1964
TEMPERATURE °C
SECTION F
8-9 DEC., 1964
SALINITY ‰
SECTION F
8-9 DEC., 1964
DENSITY σ_t
SECTION F
8-9 DEC., 1964
DISSOLVED OXYGEN ml/l
SUPERSATURATED
SECTION F
8-9 DEC., 1964
CHLOROPHYLL mg/m³
METERS
KILOMETERS

FIGURE 8

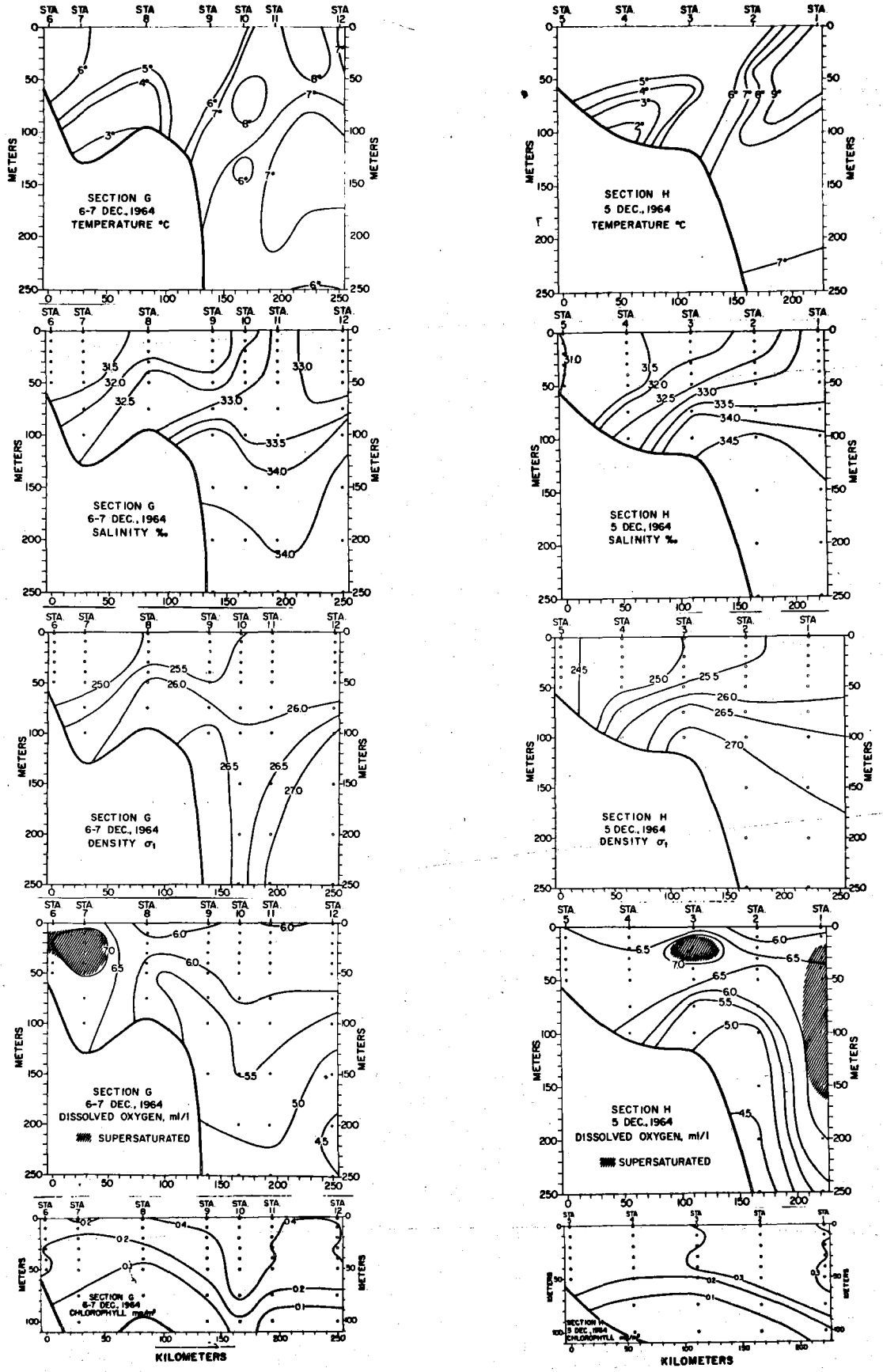

SECTION G
6-7 DEC., 1964
TEMPERATURE °C
SECTION H
5 DEC., 1964
TEMPERATURE °C
SECTION G
6-7 DEC., 1964
SALINITY ‰
SECTION H
5 DEC., 1964
SALINITY ‰
SECTION G
6-7 DEC., 1964
DENSITY σ_t
SECTION H
5 DEC., 1964
DENSITY σ_t
SECTION G
6-7 DEC., 1964
DISSOLVED OXYGEN, ml/l
SUPERSATURATED
SECTION H
5 DEC., 1964
DISSOLVED OXYGEN, ml/l
SUPERSATURATED
SECTION G
6-7 DEC., 1964
CHLOROPHYLL mg/m³
SECTION H
5 DEC., 1964
CHLOROPHYLL mg/m³
METERS
KILOMETERS

FIGURE 9

ALB. IV CRUISE NO. 64-14

TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l
1	5·XII·64	1120	42°00'	64°30'	1	9.1	33.31	5.80	0.29	
					10	9.1	33.30	6.13	0.35	
					20	9.1	33.30	6.37	0.29	
					30	9.0	33.32	6.35	0.30	
					40	9.0	33.32	6.95	0.23	
					50	9.0	33.32	7.59	0.26	
					75	8.3	33.67	7.53	0.39	
					100	7.2	34.13	6.77	0.18	
					150	7.7	34.57	6.77		
					200	7.3	34.90	6.47		
					250	6.7	34.80	5.85		
					BOTTOM					
2	5·XII·64	1525	42°30'	64°30'	1	5.9	32.27	5.52	0.35	
					10	5.9	32.27	5.97	0.35	
					20	6.0	32.31	6.04	0.34	
					30	6.3	32.56	6.67	0.30	
					40	7.9	32.83	6.35	0.39	
					50	8.0	33.04	6.31	0.38	
					75	7.2	33.55	6.00	0.16	
					100	8.1	34.55	4.90	0.02	
					150	7.2	34.82	4.63		
					200	7.1	34.83	4.49		
					250	6.7	34.96	4.31		
					BOTTOM					
3	5·XII·64	2000	43°00'	64°30'	1	5.7	31.71	6.34	0.33	
					10	5.5	31.66	7.04	0.26	
					20	5.4	31.73	7.08	0.29	
					30	5.7	32.01	7.09	0.35	
					40	5.8	32.10	6.68	0.32	
					50	5.0	32.49	6.62	0.20	
					75	5.1	33.98	5.34	0.04	
					100	5.9	34.46	5.19	0.08	
					150					
					200					
					250					
					BOTTOM	5.9 (118M)				
4	5·XII·64	2350	43°30'	64°30'	1	5.1	31.46	6.18	0.24	
					10	5.0	31.37	6.21	0.29	
					20	5.0	31.38	6.42	0.23	
					30	5.0	31.37	6.95	0.24	
					40	5.0	31.43	6.98	0.24	
					50	5.0	31.44	6.80	0.20	
					75	2.9	32.39	6.57	0.07	
					100	2.0	32.66	6.45	0.06	
					150					
					200					
					250					
					BOTTOM	2.0 (107M)				

ALB. IV CRUISE NO. 64-14

TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
5	6·XII·64	0315	44°00'	64°30'	1	5.9	31.01	6.50	0.26				
					10	5.8	31.00	6.66	0.29				
					20	5.8	31.00	6.70	0.25				
					30	5.8	31.00	6.80	0.25				
					40	5.8	31.00	6.75	0.29				
					50	5.8	31.01	6.78	0.29				
					75								
					100								
					150								
					200								
					250								
					BOTTOM	5.8 (57M)							
6	6·XII·64	0845	43°15'	65°28'	1	6.0	31.18	6.63	0.25				
					10	6.0	31.18	6.96	0.24				
					20	6.0	31.19	7.00	0.23				
					30	6.0	31.18	6.93	0.18				
					40	6.0	31.18	6.76	0.21				
					50	6.0	31.20	6.77	0.21				
					75								
					100								
					150								
					200								
					250								
					BOTTOM	6.0 (70M)							
7	6·XII·64	1155	43°00'	65°30'	1	6.0	31.26	6.55	0.16				
					10	6.0	31.25	7.16	0.24				
					20	6.0	31.25	7.22	0.18				
					30	6.0	31.26	7.14	0.17				
					40	6.0	31.27	7.25	0.17				
					50	5.9	31.38	7.18	0.14				
					75	4.7	31.94	6.75	0.09				
					100	3.3	32.40	6.66	0.05				
					150								
					200								
					250								
					BOTTOM	2.8 (130M)							
8	7·XII·64	1800	42°30'	65°30'	1	5.4	31.69	5.87	0.39				
					10	5.4	31.68	5.99	0.35				
					20	5.4	31.68	6.20	0.29				
					30	5.4	32.21	6.04	0.13				
					40	5.0	32.51	5.64	0.11				
					50	4.2	32.84	5.51	0.08				
					75	3.1	32.95	5.84	0.08				
					100								
					150								
					200								
					250								
					BOTTOM	3.1 (98M)							

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
9	7-XII-64	2110	42°00'	65°30'	1	5.5	31.85	5.91	0.43				
					10	5.5	31.85	6.23	0.56				
					20	5.4	31.90	6.23	0.35				
					30	5.8	31.97	6.34	0.29				
					40	5.5	32.00	6.39	0.34				
					50	5.1	32.24	5.99	0.28				
					75	4.9	33.06	5.61	0.12				
					100	7.4	34.32	5.16	0.05				
					150		34.33						
					200								
					250		34.88						
					BOTTOM								
10	7-XII-64	2310	41°45'	65°30'	1	5.9	32.34	6.15	0.45				
					10	6.0	32.43	6.41	0.44				
					20	6.8	32.73	6.47	0.50				
					30	7.1	32.80	6.33	0.58				
					40	7.3	32.92	6.25	0.45				
					50	7.9	32.97	6.36	0.59				
					75	8.4	33.23	6.13	0.46				
					100	7.9	33.47	5.72	0.18				
					150	6.1	34.38	5.55					
					200	6.2	34.66	5.06					
					250	6.9	34.89	4.61					
					BOTTOM								
11	8-XII-64	0045	41°30'	65°30'	1	7.9	33.07	5.98	0.41				
					10	7.9	33.05	6.24	0.49				
					20	7.9	33.05	6.28	0.41				
					30	7.9	33.05	6.28	0.35				
					40	7.9	33.05	6.25	0.43				
					50	7.8	33.08	6.17	0.33				
					75	7.3	33.09	5.98	0.18				
					100	6.3	33.48	5.63	0.03				
					150	7.4	34.05						
					200	7.1	34.27	5.33					
					250	6.3	34.82	4.75					
					BOTTOM								
12	8-XII-64	0410	41°00'	65°30'	1	7.0	32.65	6.06	0.43				
					10	7.0	32.63	6.33	0.39				
					20	7.0	32.66	6.39	0.37				
					30	7.0	32.67	6.09	0.46				
					40	7.2	32.79	6.32	0.39				
					50	7.3	32.86	6.33	0.39				
					75	6.9	33.38	5.87	0.15				
					100	6.4	34.37	5.33	0.02				
					150	7.6	34.76	4.74					
					200	6.7	34.80	4.48					
					250	6.0	34.80	4.54					
					BOTTOM								

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l
13	8·XII·64	1130	40°00'	66°30'	1	11.2	33.82	5.55	0.45	
					10	11.2	33.86	5.74	0.41	
					20	12.6	34.27	5.66	0.30	
					30	13.3	34.32	5.61	0.29	
					40	13.8	34.39	5.61	0.29	
					50	14.0	34.51	5.42	0.43	
					75	14.3	34.76	5.24	0.16	
					100	13.8	35.50	4.37	0.06	
					150	11.1	35.35	4.27		
					200	9.4	35.18	4.14		
					250	7.8	35.04	4.21		
					BOTTOM					
14	8·XII·64	1510	40°30'	66°30'	1	6.9	32.50	6.31	0.67	
					10	6.9	32.47	6.52	0.60	
					20	6.9	32.48	6.58	0.82	
					30	6.9	32.48	6.39	0.62	
					40	6.9	32.49	5.81	0.57	
					50	6.9	32.50	6.50	0.60	
					75	6.1	32.85	6.16	0.27	
					100	4.9	33.64	5.50	0.11	
					150	6.7	34.54	5.11		
					200	6.2	34.71	5.04		
					250	5.3	34.71	5.15		
					BOTTOM					
15	8·XII·64	1625	40°45'	66°30'	1	5.2	32.27	6.14	0.40	
					10	5.7	32.26	6.46	0.43	
					20	6.1	32.44	6.44	0.46	
					30	6.1	32.45	6.31	0.40	
					40	6.0	32.46	6.38	0.33	
					50	5.6	32.50	6.28	0.25	
					75	5.9	33.45	5.55	0.13	
					100	5.9	34.17	4.98	0.07	
					150	6.6	34.55	4.79		
					200	6.1	34.74	4.64		
					250	5.1	34.74	4.72		
					BOTTOM					
16	8·XII·64	1820	41°00'	66°30'	1	5.2	32.29	6.33	0.41	
					10	5.2	32.34	6.41	0.41	
					20	5.9	32.57	6.38	0.37	
					30	6.2	32.71	6.27	0.35	
					40	6.0	32.81	6.15	0.33	
					50	5.7	32.85	5.97	0.25	
					75	4.9	33.80	5.30	0.10	
					100	4.9	33.72	5.43	0.09	
					150					
					200					
					250					
					BOTTOM	4.9 (133m)				

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l
17	8.XII.64	2135	41°30'	66°31'	1	7.2	32.42	6.01	0.40	
					10	7.2	32.41	6.24	0.45	
					20	7.2	32.40	6.36	0.40	
					30	7.2	32.41	6.23	0.48	
					40	7.2	32.40	6.23	0.36	
					50	7.2	32.40	6.22	0.46	
					75	7.2	32.91	6.08	0.36	
					100					
					150					
					200					
					250					
					BOTTOM	7.1 (88 M)				
18	9.XII.64	0105	42°00'	66°30'	1	6.7	32.42	6.13	0.40	
					10	6.7	32.42	6.28	0.44	
					20	6.7	32.47	6.25	0.47	
					30	6.7	32.64	6.04	0.39	
					40	6.7	32.69	5.98	0.28	
					50	6.6	32.70	6.17	0.30	
					75	6.6	32.70	6.30	0.23	
					100					
					150					
					200					
					250					
					BOTTOM	6.6 (88 M)				
19	9.XII.64	0245	42°15'	66°30'	1	6.4	32.31	6.39	0.37	
					10	6.4	32.32	6.73	0.36	
					20	6.7	32.42	6.79	0.51	
					30	6.8	32.55	6.75	0.48	
					40	6.9	32.59	6.63	0.45	
					50	6.9	32.61	6.63	0.41	
					75	6.8	32.66	6.34	0.24	
					100	5.2	33.29	5.81	0.08	
					150	6.2	34.24	5.46		
					200	6.2	34.46	4.94		
					250					
					BOTTOM	6.2 (239 M)				
20	9.XII.64	0435	42°30'	66°30'	1	6.4	32.13	6.23	0.25	
					10	6.4	32.13	6.56	0.27	
					20	6.6	32.14	6.60	0.41	
					30	6.5	32.18	6.40	0.34	
					40	6.6	32.25	6.54	0.30	
					50	6.8	32.35	6.45	0.26	
					75	6.7	33.16	5.69	0.08	
					100	5.8	33.54	5.58	0.06	
					150	6.5	34.40	5.04		
					200	6.8	34.70	4.72		
					250	6.2	34.70	4.69		
					BOTTOM	6.1 (265 M)				

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
21	9.XII.64	0740	43°00'	66°31'	1	5.3	31.48	6.46	0.29				
					10	5.2	31.44	6.81	0.24				
					20	5.2	31.61	6.79	0.32				
					30	5.1	31.78	6.65	0.19				
					40	5.0	31.95	6.65	0.18				
					50	4.9	32.18	6.51	0.12				
					75	4.9	32.31	6.43	0.13				
					100	4.9	32.40	6.27	0.11				
					150								
					200								
					250								
					BOTTOM	4.9(141 m)							
22	9.XII.64	1035	43°30'	66°30'	1	5.3	31.44	6.52	0.24				
					10	5.3	31.47	6.51	0.23				
					20	5.3	31.51	6.65	0.24				
					30	5.3	31.53	6.70	0.25				
					40	5.3	31.53	6.70	0.28				
					50	5.3	31.69	6.57	0.20				
					75	5.8	31.76	6.56	0.18				
					100								
					150								
					200								
					250								
					BOTTOM	5.8(99 m)							
23	9.XII.64	1400	44°00'	66°30'	1	5.9	31.88	6.33	0.24				
					10	5.7	31.90	6.72	0.23				
					20	5.7	31.92	6.70	0.23				
					30	5.8	31.95	6.72	0.19				
					40	5.8	31.97	6.72	0.24				
					50	5.9	31.97	6.73	0.18				
					75	5.9	32.00	6.70	0.20				
					100								
					150								
					200								
					250								
					BOTTOM	5.9(90 m)							
24	9.XII.64	1635	44°30'	66°30'	1	5.9	32.59	6.04	0.29				
					10	6.0	32.59	6.27	0.22				
					20	6.0	32.60	6.40	0.23				
					30	6.0	32.61	6.51	0.18				
					40	6.0	32.65	6.51	0.15				
					50	6.1	32.74	6.38	0.13				
					75	6.4	32.91	6.20	0.10				
					100	6.5	32.95	6.20	0.11				
					150	6.6	33.06	5.96					
					200								
					250								
					BOTTOM	6.6(158 m)							

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
25	9.XII.64	2105	44°28'	67°29'	1	5.6	32.53	6.16	0.18				
					10	5.8	32.53	6.60	0.23				
					20	5.9	32.54	6.59	0.22				
					30	5.9	32.55	6.84	0.25				
					40	5.9	32.56	6.73	0.24				
					50	6.0	32.58	6.92	0.15				
					75								
					100								
					150								
					200								
					250								
					BOTTOM	6.0(67m)							
26	9.XII.64	2400	44°00'	67°32'	1	5.9	32.37	6.42	0.29				
					10	5.9	32.34	6.63	0.32				
					20	5.9	32.34	6.56	0.25				
					30	5.9	32.34	6.43	0.29				
					40	5.9	32.33	6.43	0.34				
					50	5.9	32.37	6.26	0.27				
					75	6.2	32.81	5.99	0.09				
					100	6.2	33.44	5.41	0.08				
					150								
					200								
					250								
					BOTTOM								
27	10.XII.64	0240	43°30'	67°30'	1	5.5	32.25	6.20	0.32				
					10	5.6	32.24	6.47	0.31				
					20	5.8	32.24	6.55	0.29				
					30	5.9	32.38	6.54	0.36				
					40	6.2	32.55	6.50	0.41				
					50	6.3	32.71	6.30	0.26				
					75	6.4	32.81	6.38	0.24				
					100	6.2	33.20	5.87	0.12				
					150	5.1	33.70	4.80					
					200	5.6	33.85	4.91					
					250								
					BOTTOM	5.8(230m)							
28	10.XII.64	0550	43°01'	67°31'	1	5.7	32.15	6.63	0.35				
					10	5.8	32.15	6.85	0.33				
					20	5.8	32.15	6.96	0.34				
					30	5.8	32.17	7.16	0.36				
					40	5.8	32.38	7.09	0.37				
					50	6.2	32.64	6.86	0.25				
					75	6.2	32.95	6.41	0.17				
					100	6.0	33.43	5.65	0.08				
					150	5.9	33.93	5.49					
					200								
					250								
					BOTTOM	5.9(199m)							

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l
29	10.XII.64	0935	42°30'	67°30'	1	5.6	31.98	6.54	0.41	
					10	5.7	31.96	6.68	0.35	
					20	5.8	31.96	6.75	0.30	
					30	5.8	31.97	6.75	0.35	
					40	5.9	31.97	6.88	0.33	
					50	5.9	32.29	6.05	0.13	
					75	6.2	33.03	5.98	0.08	
					100	6.2	33.43	5.73	0.05	
					150	6.6	33.89	5.40		
					200	7.1	34.56	5.08		
					250	7.1	34.63	4.96		
					BOTTOM					
30	10.XII.64	1125	42°15'	67°30'	1	6.4	32.34	6.08	0.38	
					10	6.5	32.31	6.39	0.50	
					20	6.5	32.31	6.52	0.47	
					30	6.5	32.31	6.64	0.45	
					40	6.6	32.33	6.56	0.45	
					50	6.8	32.52	6.49	0.29	
					75	6.8	32.83	6.10	0.17	
					100	6.2	33.47	5.16	0.07	
					150	6.2	34.05	5.02		
					200	7.1	34.56	4.81		
					250	7.1	34.71	4.74		
					BOTTOM					
31	10.XII.64	1305	42°00'	67°30'	1	7.1	32.63	6.03	0.47	
					10	7.1	32.61	6.31	0.50	
					20	7.1	32.61	6.33	0.49	
					30	7.1	32.61	6.15	0.56	
					40	7.1				
					50					
					75					
					100					
					150					
					200					
					250					
					BOTTOM	7.1 (42M)				
32	10.XII.64	1535	41°30'	67°30'	1	7.3	32.50	6.31	0.68	
					10	7.3	32.50	6.40	0.74	
					20	7.3	32.50	6.53	0.65	
					30	7.3	32.50	6.49	0.81	
					40	7.3	32.50	6.51	0.93	
					50					
					75					
					100					
					150					
					200					
					250					
					BOTTOM	7.3 (42M)				

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l
33	10.XII.64	1830	41°03'	67°32'	1	8.9	32.34	6.32	2.28	
					10	8.9	32.34	6.48	2.51	
					20	8.9	32.37	6.48	2.25	
					30	8.9	32.34	6.52	2.17	
					40	8.9	32.34	6.43	2.69	
					50	8.9	32.34	6.52	2.69	
					75					
					100					
					150					
					200					
					250					
					BOTTOM	8.9 (64M)				
34	10.XII.64	2220	40°30'	67°30'	1	6.0	32.35	6.02	0.44	
					10	6.1	32.35	6.42	0.47	
					20	6.1	32.36	6.35	0.44	
					30	6.1	32.39	6.38	0.33	
					40	6.1	32.41	6.28	0.35	
					50	6.2	32.45	6.28	0.35	
					75	6.2	33.04	5.88	0.14	
					100	7.1	33.71	5.64	0.09	
					150	8.9	34.67	4.98		
					200					
					250					
					BOTTOM	8.9 (165M)				
35	10.XII.64	2350	40°15'	67°30'	1	6.3	32.38	6.04	0.33	
					10	6.2	32.37	6.68	0.32	
					20	6.2	32.36	6.60	0.29	
					30	6.2	32.38	6.76	0.33	
					40	6.2	32.40	6.52	0.26	
					50	6.2	32.46	6.52	0.19	
					75	5.7	33.05	6.07	0.12	
					100	5.9	34.03	5.42	0.07	
					150	8.1	34.73	4.97		
					200	8.1	34.83	4.78		
					250	7.3	34.87	4.80		
					BOTTOM					
36	11.XII.64	0130	40°00'	67°30'	1	6.8	32.27	6.47	0.41	
					10	6.8	32.25	6.63	0.37	
					20	6.8	32.25	6.63	0.48	
					30	6.8	32.25	6.76	0.37	
					40	6.8	32.28	6.84	0.37	
					50	7.0	32.37	6.80	0.34	
					75	6.7	33.38	5.98	0.08	
					100	6.0	34.00	5.40	0.04	
					150	7.0	34.71	4.83		
					200	7.9	34.82	4.83		
					250	7.0	34.81	4.82		
					BOTTOM					

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
37	11.XII.64	0930	39°30'	67°30'	1	11.8	33.81	5.88	0.32				
					10	11.8	33.79	5.93	0.37				
					20	11.8	33.77	5.94	0.50				
					30	11.7	33.74	5.97	0.50				
					40	11.2	33.72	6.03	0.60				
					50	11.3	34.27	5.80	0.24				
					75	15.5	34.93	5.48	0.11				
					100	11.7	35.12	4.63	0.04				
					150	11.1	35.25	4.03					
					200	9.8	35.18	3.83					
					250	8.8	35.09	3.88					
					BOTTOM								
38	11.XII.64	0855	39°30'	68°30'	1	12.0	33.86	5.71	0.32				
					10	12.0	33.85	5.79	0.29				
					20	12.0	33.86	5.84	0.34				
					30	12.0	33.86	5.90	0.36				
					40	12.0	33.89	5.82	0.37				
					50	12.1	33.93	5.76	0.33				
					75	10.0	34.26	5.16	0.09				
					100	10.9	34.91	4.55	0.04				
					150	10.9	35.21	3.95					
					200	9.7	35.14	3.78					
					250	8.8	35.07	3.87					
					BOTTOM								
39	11.XII.64	1210	40°00'	68°30'	1	6.9	32.45	6.14	0.30				
					10	6.9	32.43	6.44	0.26				
					20	6.9	32.43	6.44	0.41				
					30	6.9	32.44	6.38	0.41				
					40	6.9	32.44	6.38	0.26				
					50	6.9	32.48	6.32	0.23				
					75	8.7	33.81	5.48	0.09				
					100	8.7	34.41	5.05	0.04				
					150	8.8	34.83	4.40					
					200	8.9	35.02	4.32					
					250	7.2	34.96	4.16					
					BOTTOM								
40	11.XII.64	1410	40°15'	68°30'	1	7.1	32.50	6.18	0.57				
					10	7.1	32.49	6.44	0.55				
					20	7.1	32.48	6.52	0.54				
					30	7.1	32.49	6.46	0.53				
					40	7.1	32.50	6.46	0.64				
					50	7.1	32.56	6.26	0.34				
					75	6.8	33.34	5.50	0.15				
					100	7.1	33.88	5.25	0.10				
					150	8.3	34.48	4.98					
					200								
					250								
					BOTTOM	8.7 (165M)							

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
41	11·XII·64	1545	40°30'	68°30'	1	9.7	32.43	5.94	0.98				
					10	9.6	32.39	6.24	0.98				
					20	9.2	32.40	6.40	1.03				
					30	9.0	32.41	6.49	0.92				
					40	8.8	32.42	6.60	0.82				
					50	8.8	32.45	6.37	0.94				
					75	8.6	32.51	6.23	0.67				
					100								
					150								
					200								
					250								
					BOTTOM	7.8 (95 M)							
42	11·XII·64	1830	41°00'	68°30'	1	8.8	32.41	6.00	0.67				
					10	8.8	32.40	6.13	0.65				
					20	8.8	32.41	6.13	0.65				
					30	8.8	32.40	6.12	0.82				
					40	8.9	32.41	6.15	0.83				
					50								
					75								
					100								
					150								
					200								
					250								
					BOTTOM	8.8 (48 M)							
43	11·XII·64	2135	41°30'	68°30'	1	7.9	32.56	6.00	0.51				
					10	7.9	32.56	6.18	0.37				
					20	7.9	32.57	6.30	0.39				
					30	7.8	32.59	6.30	0.34				
					40	7.8	32.61	6.14	0.35				
					50	7.7	32.72	5.86	0.24				
					75	7.1	32.81	5.65	0.35				
					100								
					150								
					200								
					250								
					BOTTOM	7.1 (88 M)							
44	11·XII·64	2325	41°45'	68°29'	1	7.1	32.64	6.12	0.41				
					10	7.1	32.64	6.24	0.35				
					20	7.1	32.64	6.28	0.49				
					30	7.1	32.63	6.28	0.39				
					40	7.1	32.64	6.34	0.39				
					50	7.1	32.65	6.30	0.44				
					75	7.1	32.65	6.26	0.41				
					100	6.9	32.80	5.89	0.29				
					150	6.1	33.36	5.12					
					200	6.1	33.60	4.87					
					250								
					BOTTOM	6.1 (205 M)							

ALB. IV CRUISE NO. CA-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l
45	12.XII.64	0105	42°00'	68°30'	1	6.8	32.64	6.16	0.62	
					10	6.8	32.61	6.28	0.58	
					20	6.8	32.61	6.39	0.60	
					30	6.8	32.62	6.45	0.79	
					40	6.8	32.61	6.49	0.71	
					50	6.8	32.62	6.49	0.58	
					75	6.7	32.64	6.35	0.44	
					100	6.2	32.77	6.02	0.18	
					150	4.7	33.34	5.21		
					200					
					250					
					BOTTOM	4.8 (172 M)				
46	12.XII.64	0350	42°30'	68°30'	1	6.5	32.61	6.37	0.53	
					10	6.5	32.59	6.63	0.34	
					20	6.5	32.60	6.63	0.45	
					30	6.5	32.60	6.70	0.41	
					40	6.5	32.62	6.63	0.35	
					50	6.5	32.62	6.57	0.35	
					75	6.3	32.93	5.94	0.21	
					100	5.0	33.18	5.39	0.08	
					150	5.0	33.69	5.05		
					200	6.1	34.22	4.86		
					250					
					BOTTOM	6.2 (220 M)				
47	12.XII.64	0650	42°59'	68°29'	1	6.3	32.75	6.35	0.30	
					10	6.3	32.73	6.56	0.29	
					20	6.3	32.73	6.55	0.33	
					30	6.3	32.73	6.67	0.50	
					40	6.2	32.73	6.67	0.32	
					50	6.2	32.73	6.67	0.32	
					75	6.2	32.77	6.49	0.36	
					100	6.2	32.95	6.10	0.16	
					150	5.3	33.76	5.09		
					200					
					250					
					BOTTOM	5.3 (199 M)				
48	12.XII.64	1030	43°29'	68°29'	1	5.2	32.49	6.41	0.30	
					10	5.3	32.48	6.66	0.28	
					20	5.3	32.49	6.66	0.32	
					30	5.4	32.54	6.56	0.29	
					40	5.6	32.59	6.56	0.21	
					50	5.7	32.61	6.59	0.28	
					75	6.0	32.81	6.02	0.11	
					100	6.2	33.29	5.46	0.08	
					150	6.1	33.75	5.12		
					200					
					250					
					BOTTOM	6.0 (180 M)				

ALB. IV CRUISE NO. 64-14

TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
49	12.XII.64	1335	44°00'	68°30'	1	6.1	32.72	6.57	0.26				
					10	6.1	32.72	6.72	0.24				
					20	6.1	32.72	6.66	0.24				
					30	6.1	32.72	6.64	0.27				
					40	6.1	32.72	6.66	0.24				
					50	6.1	32.72	6.66	0.24				
					75								
					100								
					150								
					200								
					250								
					BOTTOM	6.0(62m)							
50	12.XII.64	1845	43°30'	69°30'	1	6.6	32.86	6.39	0.23				
					10	6.6	32.84	6.43	0.21				
					20	6.5	32.85	6.46	0.18				
					30	6.5	32.84	6.39	0.19				
					40	6.5	32.84	6.39	0.21				
					50	6.4	32.83	6.48	0.17				
					75	6.3	32.86	6.41	0.16				
					100	6.4	32.87	6.35	0.15				
					150								
					200								
					250								
					BOTTOM	6.6(135m)							
51	12.XII.64	2140	43°00'	69°30'	1	6.3	32.82	6.23	0.16				
					10	6.3	32.82	6.46	0.16				
					20	6.3	32.82	6.59	0.21				
					30	6.3	32.83	6.69	0.21				
					40	6.2	32.83	6.62	0.19				
					50	6.2	32.82	6.56	0.18				
					75	6.1	32.87	6.50	0.18				
					100	6.1	32.91	6.37	0.17				
					150	5.9							
					200								
					250								
					BOTTOM	5.8(157m)							
52	13.XII.64	0240	43°00'	70°30'	1	6.2	32.34	6.24	0.32				
					10	6.2	32.53	6.48	0.30				
					20	6.6	32.60	6.45	0.32				
					30	6.7	32.61	6.33	0.26				
					40	6.7	32.61	6.39	0.36				
					50	6.7	32.61	6.58	0.32				
					75	6.8	32.68	6.38	0.29				
					100								
					150								
					200								
					250								
					BOTTOM	6.9(90m)							

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
53	13.XII.64	0430	42°30'	70°30'	1	6.1	32.33	6.18	0.45				
					10	6.1	32.33	6.40	0.52				
					20	6.1	32.32	6.58	0.41				
					30	6.1	32.39	6.44	0.18				
					40	6.3	32.45	6.40	0.28				
					50	6.7	32.55	6.40	0.23				
					75	6.9							
					100								
					150								
					200								
					250								
					BOTTOM	6.9(77M)							
54	13.XII.64	0705	42°00'	70°30'	1	7.0	32.05	6.22	0.37				
					10	7.0	32.07	6.43	0.34				
					20	7.0	32.09	6.43	0.24				
					30	7.0	32.14	6.28	0.17				
					40								
					50								
					75								
					100								
					150								
					200								
					250								
					BOTTOM	7.0(39M)							
55	13.XII.64	1210	42°30'	69°30'	1	6.3	32.78	6.36	0.42				
					10	6.2	32.79	6.74	0.34				
					20	6.2	32.80	6.78	0.40				
					30	6.2	32.80	6.81	0.37				
					40	6.2	32.80	6.94	0.35				
					50	6.2	32.81	6.78	0.34				
					75	6.2	32.84	6.77					
					100	5.9	33.08	5.68	0.10				
					150	5.1	33.63	5.07					
					200	5.2	33.90	4.49					
					250	5.3	33.95	4.49					
					BOTTOM								
56	13.XII.64	1515	42°00'	69°30'	1	6.5	32.78	6.19	0.40				
					10	6.4	32.77	6.40	0.29				
					20	6.3	32.80	6.59	0.36				
					30	6.3	32.80	6.59	0.34				
					40	6.3	32.80	6.56	0.35				
					50	6.3	32.81	6.56	0.34				
					75	6.2	32.83	6.56	0.35				
					100	6.1	33.09	5.52	0.10				
					150	5.0	33.60	4.55					
					200	5.2	33.86	4.24					
					250								
					BOTTOM	5.2(212M)							

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l
57	13.VII.64	1810	41°30'	69°30'	1	6.8	32.62	6.54	0.27	
					10	6.8	32.61	6.48	0.39	
					20	6.8	32.61	6.48	0.35	
					30	6.8	32.61	6.50	0.38	
					40	6.8				
					50					
					75					
					100					
					150					
					200					
					250					
					BOTTOM	6.8 (42m)				
58	13.VII.64	2210	41°00'	69°35'	1	6.8	32.51	6.32	0.44	
					10	6.8	32.50	6.59	0.38	
					20	6.8	32.50	6.66	0.46	
					30	6.9	32.50	6.68	0.51	
					40	6.9				
					50					
					75					
					100					
					150					
					200					
					250					
					BOTTOM	6.9 (44m)				
59	14.VII.64	0100	40°30'	69°29'	1	7.9	32.41	6.29	0.57	
					10	7.8	32.43	6.42	0.11	
					20	7.7	32.48	6.29	0.49	
					30	7.7	32.48	6.27	0.48	
					40	7.6	32.49	6.40	0.50	
					50	7.5	32.48	6.33	0.45	
					75					
					100					
					150					
					200					
					250					
					BOTTOM	7.3 (64m)				
60	14.VII.64	0350	40°00'	69°30'	1	7.5	32.38	6.31	0.72	
					10	7.3	32.39	6.47	0.83	
					20	7.2	32.44	6.53	0.15	
					30	7.2	32.45	6.54	0.11	
					40	7.2	32.47	6.55	0.65	
					50	7.1	32.50	6.48	0.45	
					75	8.0	33.14	5.79	0.12	
					100	7.0	33.50	5.41	0.14	
					150					
					200					
					250					
					BOTTOM	7.8 (120m)				

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
61	14·XII·64	0545	39°45'	69°30'	1	8.5	32.69	6.36	0.63				
					10	8.6	32.68	6.52	0.40				
					20	11.2	33.28	6.33	0.26				
					30	11.2	33.68	6.11	0.23				
					40	11.3	33.74	6.09	0.33				
					50	11.3	33.74	6.04	0.30				
					75	11.8	35.22	4.46	0.06				
					100	11.8	35.13	4.34	0.04				
					150	10.4	35.20	3.99					
					200	9.6	35.06	3.96					
					250	8.0	34.94	4.13					
					BOTTOM								
62	14·XII·64				1	9.9	33.08	6.08	0.35				
					10	10.0	33.07	6.39	0.31				
					20	12.0	33.07	6.23	0.25				
					30	14.5	34.49	5.87	0.23				
					40	15.2	34.90	5.62	0.26				
					50	15.3	34.97	5.50	0.17				
					75	10.0	34.36	5.24	0.07				
					100	9.0	34.45	5.00	0.06				
					150	9.2	34.94	5.44					
					200	9.7							
					250	8.3	34.69	4.75					
					BOTTOM								
63	14·XII·64	1235	39°30'	70°30'	1	8.6	32.69	6.33	0.44				
					10	11.0	33.95	5.97	0.27				
					20	13.8	34.27	5.86	0.38				
					30	14.2	34.60	5.66	0.42				
					40	14.8	34.67	5.49	0.35				
					50	14.9	34.63	5.54	0.37				
					75	13.0	34.27	5.53	0.18				
					100	8.1	34.51	4.82	0.06				
					150	10.0	34.98	3.90					
					200	9.7	34.88	4.30					
					250	8.0	34.89	4.27					
					BOTTOM								
64	14·XII·64	1420	39°45'	70°30'	1	7.8	32.39	6.39	0.71				
					10	7.8	32.38	6.57	0.58				
					20	7.7	32.41	6.74	0.55				
					30	7.6	32.41	6.56	0.45				
					40	7.3	32.41	6.58	0.26				
					50	7.2	32.44	6.51	0.24				
					75	9.0	34.17	5.36	0.08				
					100	9.3	34.77	4.84	0.03				
					150	10.8	35.27	3.91					
					200	9.0	34.97	4.29					
					250	7.6	34.92	4.28					
					BOTTOM								

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
65	14.XII.64	1605	48°00'	70°30'	1	8.5	32.77	6.31	0.39				
					10	8.6	32.76	6.44	0.45				
					20	8.9	32.91	6.36	0.39				
					30	9.0	33.02	6.37	0.35				
					40	9.1	33.01	6.34	0.25				
					50	9.3	33.08	6.22	0.26				
					75	11.0	33.58	6.04	0.17				
					100	8.2	33.99	5.17	0.08				
					150	9.2	34.87	4.48					
					200	8.4	34.91	4.44					
					250	8.1	34.95	4.20					
					BOTTOM								
66	16.XII.64	2200			1	8.8	32.30	6.10	1.77				
					10	8.8	32.29	6.58	1.95				
					20	8.8	32.30	6.70	2.17				
					30	8.7	32.29	6.69	1.86				
					40	8.7	32.29	6.71	1.91				
					50	8.7	32.28		1.82				
					75								
					100								
					150								
					200								
					250								
					BOTTOM	7.3 (74m)							
67	17.XII.64	0055	41°00'	70°30'	1	8.8	32.27	6.05	2.17				
					10	8.8	32.27	6.24	2.25				
					20	8.8	32.27	6.24	2.21				
					30	8.8	32.27	6.35	2.43				
					40	8.5	32.26	6.24	2.90				
					50								
					75								
					100								
					150								
					200								
					250								
					BOTTOM	8.2 (47m)							
68	17.XII.64	0540	41°00'	71°30'	1	8.9	32.35	5.96	0.70				
					10	9.0	32.34	6.12	0.65				
					20	9.0	32.34	6.12	0.60				
					30	9.0	32.34	6.12	0.70				
					40	9.0	32.34	6.10	0.65				
					50	8.9							
					75								
					100								
					150								
					200								
					250								
					BOTTOM	8.9 (54m)							

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
69	17.XII.64	0910	40°31'	71°29'	1	8.9	32.48	6.12	0.55				
					10	8.9	32.47	6.22	0.70				
					20	8.9	32.47	6.19	0.65				
					30	8.9	32.47	6.26	0.51				
					40	8.8	32.48	6.33	0.81				
					50	8.8	32.47	6.27	0.62				
					75								
					100								
					150								
					200								
					250								
					BOTTOM	8.9 (67M)							
70	17.XII.64	1225	40°00'	71°30'	1	8.7	32.50	6.02	0.76				
					10	8.7	32.50	6.28	0.79				
					20	8.7	32.51	6.28	0.82				
					30	8.7	32.50	6.26	0.68				
					40	8.6	32.51	6.26	0.74				
					50	8.5	32.55	6.27	0.46				
					75	9.2	33.17	5.80	0.19				
					100	9.2							
					150								
					200								
					250								
					BOTTOM	9.2 (104M)							
71	17.XII.64	1410	39°45	71°30'	1	8.2	32.47	6.16	0.81				
					10	8.1	32.47	6.37	0.83				
					20	8.1	32.46	6.37	0.81				
					30	8.1	32.46	6.37	0.73				
					40	8.1	32.46	6.33	0.96				
					50	8.1	32.47	6.33	0.60				
					75	8.5	32.87	5.89	0.25				
					100	9.3	33.94	5.24	0.13				
					150	10.3	34.96						
					200	9.7	35.13	3.89					
					250	8.8	35.11	3.83					
					BOTTOM								
72	17.XII.64	1600	39°30'	71°30'	1	8.7	32.67	6.15	0.74				
					10	8.7	32.66	6.37	0.74				
					20	8.7	32.66	6.37	0.66				
					30	8.7	32.66	6.32	0.71				
					40	8.8	32.69	6.32	0.57				
					50	8.9	32.84	6.24	0.41				
					75	8.2	33.33	5.43	0.17				
					100	8.0	34.08	5.06	0.11				
					150	11.0	35.14	4.37					
					200	8.7	34.91	4.44					
					250	7.2	34.96	4.32					
					BOTTOM								

ALB. IV CRUISE NO. 64-14 TABLE 1

STA. NO.	DATE	TIME G.C.T.	LOCATION N. LAT	LOCATION W. LONG	DEPTH m.	T. °C	S. ‰	O_2 ml./l.	CHLOROPHYLL mg./m³	PO_4-P µg.at./l			
73	17.XII.64	2100	39°30'	72°30'	1	8.9	32.76	6.14	0.66				
					10	8.8	32.74	6.46	0.54				
					20	8.8	32.75	6.43	0.53				
					30	8.8	32.77	6.43	0.57				
					40	8.9	32.85	6.36	0.48				
					50	10.7	33.65	6.03	0.23				
					75	10.9	34.18	5.54	0.15				
					100	9.4	34.15	5.00	0.15				
					150								
					200								
					250								
					BOTTOM	9.5(110)							
74	17.XII.64	2400	40°00'	72°30'	1	9.0	32.58	7.06	0.57				
					10	9.0	32.57	6.19	0.66				
					20	9.0	32.57	6.13	0.64				
					30	9.0	32.58	6.12	0.67				
					40	8.8	32.61	6.18	0.66				
					50	8.7	32.66	6.20	0.54				
					75								
					100								
					150								
					200								
					250								
					BOTTOM	10.3(69m)							
75	18.XII.64	0255	40°30'	72°30'	1	9.3	32.44	5.86	2.12				
					10	9.3	32.43	6.03	2.08				
					20	9.3	32.43	6.10	2.46				
					30	9.3	32.43	6.10	2.03				
					40	9.3	32.43	6.10	2.25				
					50								
					75								
					100								
					150								
					200								
					250								
					BOTTOM	9.3(45m)							
					1								
					10								
					20								
					30								
					40								
					50								
					75								
					100								
					150								
					200								
					250								
					BOTTOM								