

AD 655638

SP-68

# SPECIAL PUBLICATION HANDBOOK OF OCEANOGRAPHIC TABLES

1966

*Compiled By*

Eugene L. Bialek, Oceanographic Analysis Division  
Marine Sciences Department

DDC  
RECEIVED  
AUG 7 1967  
B



U.S. NAVAL OCEANOGRAPHIC OFFICE  
WASHINGTON, D.C. 20390

For sale by authorized agents of the U.S. Naval Oceanographic Office; also by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

\$6.25

SECTION for	
CFSTI	WHITE SECTION <input checked="" type="checkbox"/>
DOC	BUFF SECTION <input type="checkbox"/>
UNANNOUNCED	<input type="checkbox"/>
Justification	
BY	
DISTRIBUTION AVAILABILITY CODES	
DATE, title, and/or SPECIAL	
124	

## **FOREWORD**

The "Handbook of Oceanographic Tables" has been published by the U.S. Naval Oceanographic Office in response to an increased demand for oceanographic information. The figures and tables included in this publication have been designed for and are intended to furnish oceanographers and oceanographic engineers with a ready reference of the more useful oceanographic tables.

The U.S. Naval Oceanographic Office intends to keep this publication as up-to-date as possible. Revisions and requirements for newer tables will be introduced as the need arises.

Suggestions for new tables and notification of errors in the current edition are welcome.

O. D. WATERS, Jr.  
*Rear Admiral, U.S. Navy*  
*Commander*  
*U.S. Naval Oceanographic Office*

## **PREFACE**

These tables are intended to supply the oceanographer and oceanographic engineer with a reference covering many aspects of the field of oceanography. Although this publication replaces H.O. Publication No. 614, *Processing Oceanographic Data*, it is only partly useful for the processing of oceanographic station data. For this purpose, the reader is referred to H.O. Publication No. 607, *Instruction Manual for Oceanographic Observations*.

The tables are divided into four sections:

General Mensuration Information Related to the Oceans,  
Data on Oceans not Related to Geography  
Data on Oceans Related to Geography  
Tables for Computation and Conversions

Every effort has been made to include the more commonly used tables; however, a publication such as this one needs comments, suggestions, and criticisms if in its future editions it is to be of maximum usefulness. We ask the cooperation of all users.

Permission of the Controller of Her Britannic Majesty's Stationery Office has been granted to the U.S. Naval Oceanographic Office to use data from "Tables of the Velocity of Sound in Pure Water and Sea Water" by D. J. Matthews.

# Contents

	<i>Page</i>
FOREWORD.....	iii
PREFACE.....	v
<b>SECTION I. GENERAL MENSURATION INFORMATION RELATED TO THE OCEANS.....</b>	<b>1</b>
Figure 1. Marsden Square Chart (1-degree breakdown included).....	2
Table 1. Areas of Quadrilaterals of Earth's Surface of 10° Extent in Latitude and Longitude.....	3
2. Areas of Quadrilaterals of Earth's Surface of 1° Extent in Latitude and Longitude.....	4
3. Areas of Quadrilaterals of Earth's Surface of 10' Extent in Latitude and Longitude.....	6
4. Length of a Degree of Latitude and Longitude.....	11
5. Conversion of Compass Points to Degrees.....	15
References.....	17
<b>SECTION II. DATA ON OCEANS NOT RELATED TO GEOGRAPHY.....</b>	<b>19</b>
Figure 1. Spectral Classification of Ocean Waves.....	20
2. Specific Heat of Sea Water as a Function of Temperature and Salinity at Atmospheric Pressure.....	20
3. Attenuation of Electromagnetic Energy in Sea Water.....	21
4. Relationship Between Temperature of Maximum Density and Freezing Point of Water of Varying Salinity.....	22
5. Colligative Properties of Sea Water.....	22
6. Cosmic Radiation Count Rate Versus Depth.....	23
7. Relationship Between Accumulated Frost Degree-Days and Ice Growth for Varying Initial Ice Thicknesses (Small Degree-Days Accumulations).....	24
8. Relationship Between Accumulated Frost Degree-Days and Ice Growth for Varying Initial Ice Thicknesses (Large Degree-Days Accumulations).....	25
9. Classification of Marine Environments.....	26
10. Composite of Ambient Ocean Noise Spectra.....	27
11. Nomenclature of Sediment Types.....	28
12. pH Range Versus Depth for World's Oceans.....	29
Table 1. Beaufort Scale with Corresponding Sea State Codes.....	30
2. Minimum Time that Wind Must Blow to Form Waves of Significant Height and Period.....	Faces 30
3. Deep-ocean Surface Waves.....	31
4. Extinction Values for Various Types of Water.....	32
5. Energy Distribution in Spectrum of Sunlight after Passing Through Water Layers of Different Thickness.....	32
6. Saturation Values of Oxygen in Sea Water.....	33
7. Enrichment Factors of Some Chemical Elements in Marine Organisms over Sea Water.....	33
8. Chemical Abundances in the Marine Hydrosphere.....	34
9. Natural Radioactivity of Sea Water.....	35
10. Physical Composition of Pelagic Sediments and Texture of Mineral Particles.....	36
11. Freezing Point of Sea Water for Values of Salinity.....	37
12. Ratio of Draft of Ice having Vertical Walls to the Height of Ice above Water.....	37
13. Animal Forms in Ocean.....	38
References.....	39

	<i>Page</i>
<b>SECTION III. DATA ON OCEANS RELATED TO GEOGRAPHY</b> .....	41
<b>Figure</b> 1. Average Surface Temperature, Salinity, and Density Variation with Latitude for all Oceans.....	42
2. Bathymorphic Curves of Oceans.....	43
3. Temperature-Salinity Relations of Principal Water Masses of Oceans.....	44
4. Pressure Changes with Depth.....	46
5. Mean Annual Maximum Salinity.....	Faces 46
6. Surface Currents of Oceans in July.....	Faces 46
7. World Map of Wind Regimes—February (Northern Hemisphere Winter, Southern Hemisphere Summer).....	47
8. World Map of Wind Regimes—August (Northern Hemisphere Summer, Southern Hemisphere Winter).....	48
9. Distribution of Major Types of Deep-Sea Sediments.....	49
<b>Table</b> 1. Dimensions of the Oceans.....	50
2. Dimensions of Individual Seas.....	51
3. Water Masses of World Oceans.....	52
4. Mean Annual Sea Surface Temperature (°C) for 10° Zones.....	53
5. Annual Sea Surface Temperature (°C) Variations.....	53
6. Surface Water Temperature Distribution of the World.....	54
7. Mean Vertical Temperature (°C) Distribution in the Three Oceans Between 40° N. and 40° S.....	60
8. Relative Frequency of Waves of Different Heights in Different Regions.....	61
9. Lengths of Storm Waves Observed in Different Oceans.....	61
10. Mean Density of Sea Water Column Above Estimated Depth.....	62
11. Tables of Velocity of Sound in Sea Water for Use in Echo Sounding and Sound Ranging.....	63
12. Current Factors for Values of Latitude.....	96
13. Geopotential Distances from the Sea Surface to Stated Isobaric Sur- faces in Sea Water.....	97
14. Areas Covered by Pelagic Sediments.....	98
15. Heat Budget of the Total Ocean.....	98
<b>References</b> .....	99
<b>SECTION IV. TABLES FOR COMPUTATION AND CONVERSIONS</b> .....	101
<b>Table</b> 1. Specific Volume of Sea Water for Salinity 35‰, Temperature 0° C., and Stated Values of Pressure.....	102
2. Temperature-Salinity Term of the Anomaly of Specific Volume for Each Unit of Salinity and Each Tenth of Degree Temperature.....	103
3. Temperature Interpolation for Table 2.....	266
4. Salinity Interpolation for Table 2.....	267
5. Temperature-Depth Term of Anomaly of Specific Volume for Values of Temperature and Depth.....	270
6. Salinity-Depth Term of Anomaly of Specific Volume for Values of Salinity and Depth.....	287
7. Sigma-T for Values of Temperature-Salinity Term of the Anomaly of Specific Volume.....	290
8. Temperature-Salinity Term of Anomaly of Specific Volume for Values of Sigma-T.....	292
9. Rapid Computation of Potential Temperature.....	295
10. Determining Density of Sea Water.....	302
11. Determining Electrical Conductivity of Sea Water.....	319
12. Sound Speeds.....	324
13. Oxygen Conversions.....	364
14. Phosphorus Conversions.....	370
15. Phosphate Conversions.....	371
16. Nitrite Conversions.....	372
17. Nitrate Conversions.....	373
18. Silicon Conversions.....	374
19. Silicon Dioxide Conversions.....	375
20. Silicate Conversions.....	376
21. Water Content and Porosity of Freshly Settled Sediment.....	377

	<i>Page</i>
Table 22. Conversion Chart for Diameter Expressed in Phi, Millimeters, and Microns.....	378
23. Formulas for Artificial Sea Water.....	379
24. Depth Conversions.....	380
25. Depth Conversion Factors (NODC Standard Depths).....	385
26. Velocity Conversions--Knots to Centimeters per Second.....	386
27. Velocity Conversions--Centimeters per Second to Knots.....	387
28. Conversion Factors.....	388
29. Miscellaneous Data.....	399
30. Comparison of Units for Underwater Sound Measurements.....	406
31. Distance Conversion--Nautical Miles to Kilometers, Kilometers to Nautical Miles.....	407
32. Conversion of Chlorosity to Salinity.....	409
33. Temperature Conversion--Centigrade to Fahrenheit, Fahrenheit to Centigrade.....	419
References.....	423
ALPHABETICAL INDEX.....	425

**SECTION I**  
**General Mensuration Information**  
**Related to the Oceans**

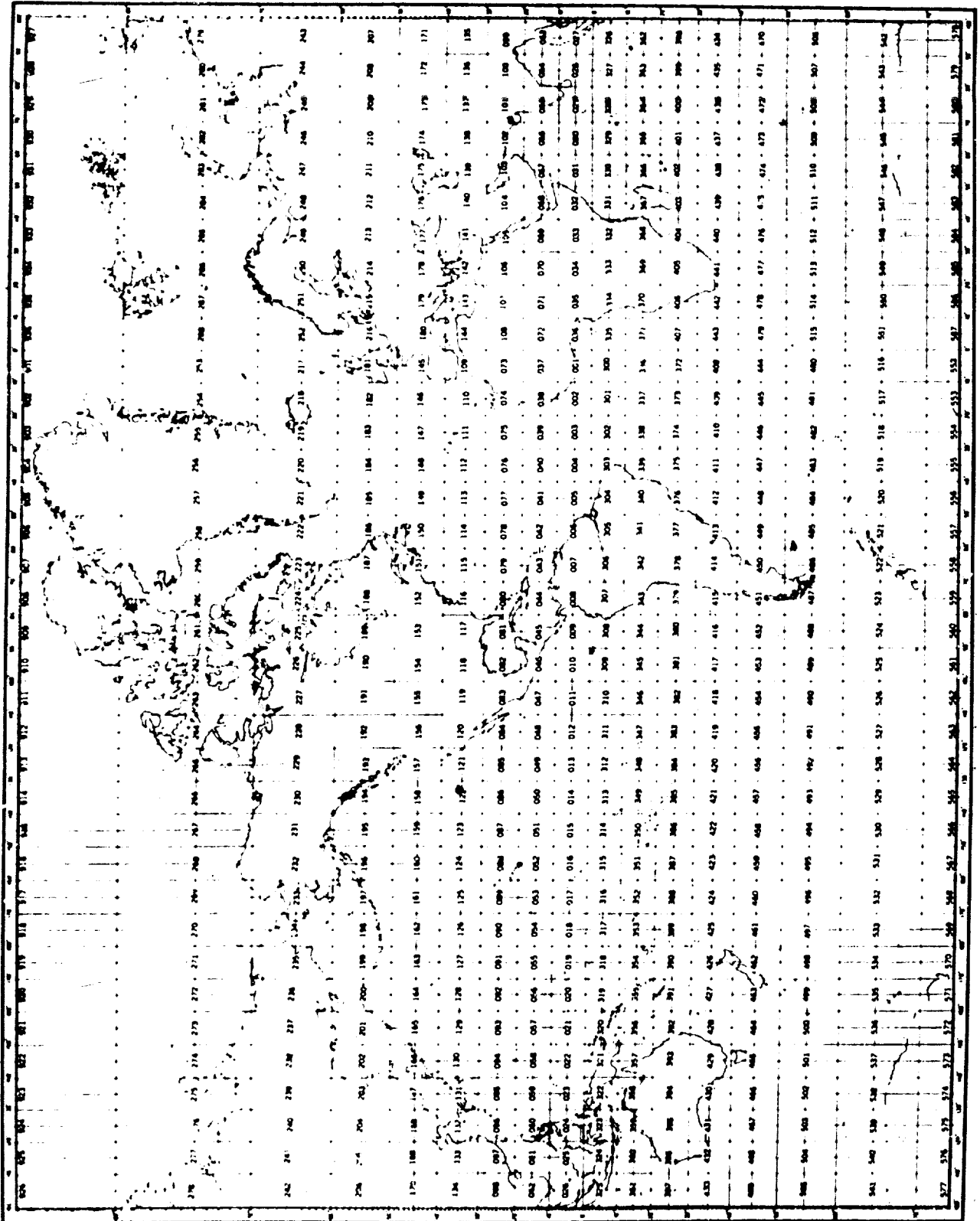


FIGURE 1. Marsden Square Chart (1 degree breakdown included)



		10°	West Long.										0°	East Long.										10°		
North Lat.	10°	00	09	08	07	06	05	04	03	02	01	00	00	01	02	03	04	05	06	07	08	09	00	100		
		90	99	98	97	96	95	94	93	92	91	90	90	91	92	93	94	95	96	97	98	99	90			
		80	89	88	87	86	85	84	83	82	81	80	80	81	82	83	84	85	86	87	88	89	80			
		70	79	78	77	76	75	74	73	72	71	70	70	71	72	73	74	75	76	77	78	79	70			
		60	69	68	67	66	65	64	63	62	61	60	60	61	62	63	64	65	66	67	68	69	60			
		50	59	58	57	56	55	54	53	52	51	50	50	51	52	53	54	55	56	57	58	59	50			
		40	49	48	47	46	45	44	43	42	41	40	40	41	42	43	44	45	46	47	48	49	40			
		30	39	38	37	36	35	34	33	32	31	30	30	31	32	33	34	35	36	37	38	39	30			
		20	29	28	27	26	25	24	23	22	21	20	20	21	22	23	24	25	26	27	28	29	20			
		10	19	18	17	16	15	14	13	12	11	10	10	11	12	13	14	15	16	17	18	19	10			
South Lat.	00	00	09	08	07	06	05	04	03	02	01	00	00	01	02	03	04	05	06	07	08	09	00	00		
		10	19	18	17	16	15	14	13	12	11	10	10	11	12	13	14	15	16	17	18	19	10			
		20	29	28	27	26	25	24	23	22	21	20	20	21	22	23	24	25	26	27	28	29	20			
		30	39	38	37	36	35	34	33	32	31	30	30	31	32	33	34	35	36	37	38	39	30			
		40	49	48	47	46	45	44	43	42	41	40	40	41	42	43	44	45	46	47	48	49	40			
		50	59	58	57	56	55	54	53	52	51	50	50	51	52	53	54	55	56	57	58	59	50			
		60	69	68	67	66	65	64	63	62	61	60	60	61	62	63	64	65	66	67	68	69	60			
		70	79	78	77	76	75	74	73	72	71	70	70	71	72	73	74	75	76	77	78	79	70			
		80	89	88	87	86	85	84	83	82	81	80	80	81	82	83	84	85	86	87	88	89	80			
		90	99	98	97	96	95	94	93	92	91	90	90	91	92	93	94	95	96	97	98	99	90			
	00	00	09	08	07	06	05	04	03	02	01	00	00	01	02	03	04	05	06	07	08	09	00	00		
		10°	West Long.										0°	East Long.										10°		

FIGURE 1.—Marsden Square Numbers (1 degree)—Continued

TABLE 1.—Areas of Quadrilaterals of Earth's Surface of 10° Extent in Latitude and Longitude\*

Middle latitude of quadrilateral.	Area in square miles.
0°	474653
5	472895
10	467631
15	458891
20	446728
25	431213
30	412442
35	390533
40	365627
45	337890
50	307514
55	274714
60	239730
65	202823
70	164279
75	124400
80	83504
85	41924

(Smithsonian Institution, 1920)

\*Statute miles.

TABLE 2.—Areas of Quadrilaterals of Earth's Surface of 1° Extent in Latitude and Longitude\*

Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles
0° 00'	4752.33	18° 00'	4525.59	36° 00'	3862.76
0 30	4752.16	18 30	4512.90	36 30	3838.56
1 00	4751.63	19 00	4499.87	37 00	3814.06
1 30	4750.75	19 30	4486.51	37 30	3789.26
2 00	4749.52	20 00	4472.81	38 00	3764.18
2 30	4747.93	20 30	4458.78	38 30	3738.80
3 00	4746.00	21 00	4444.41	39 00	3713.14
3 30	4743.71	21 30	4429.71	39 30	3687.18
4 00	4741.07	22 00	4414.67	40 00	3660.95
4 30	4738.08	22 30	4399.30	40 30	3634.42
5 00	4734.74	23 00	4383.60	41 00	3607.62
5 30	4731.04	23 30	4367.57	41 30	3580.54
6 00	4727.00	24 00	4351.21	42 00	3553.17
6 30	4722.61	24 30	4334.52	42 30	3525.54
7 00	4717.86	25 00	4317.51	43 00	3497.62
7 30	4712.76	25 30	4300.17	43 30	3469.44
8 00	4707.32	26 00	4282.50	44 00	3440.98
8 30	4701.52	26 30	4264.51	44 30	3412.26
9 00	4695.38	27 00	4246.20	45 00	3383.27
9 30	4688.89	27 30	4227.56	45 30	3354.01
10 00	4682.05	28 00	4208.61	46 00	3324.49
10 30	4674.86	28 30	4189.33	46 30	3294.71
11 00	4667.32	29 00	4169.74	47 00	3264.68
11 30	4659.43	29 30	4149.83	47 30	3234.39
12 00	4651.20	30 00	4129.60	48 00	3203.84
12 30	4642.63	30 30	4109.06	48 30	3173.04
13 00	4633.71	31 00	4088.21	49 00	3141.99
13 30	4624.44	31 30	4067.05	49 30	3110.69
14 00	4614.82	32 00	4045.57	50 00	3079.15
14 30	4604.87	32 30	4023.79	50 30	3047.37
15 00	4594.57	33 00	4001.69	51 00	3015.34
15 30	4583.92	33 30	3979.30	51 30	2983.08
16 00	4572.94	34 00	3956.59	52 00	2950.58
16 30	4561.61	34 30	3933.59	52 30	2917.85
17 00	4549.94	35 00	3910.28	53 00	2884.88
17 30	4537.93	35 30	3886.67	53 30	2851.68

\*Statute miles.

(Smithsonian Institution, 1929)

TABLE 2.—Areas of Quadrilaterals of Earth's Surface of 1° Extent in Latitude and Longitude—Continued

Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles
54° 00	2818.27	66° 00	1954.97	78° 00	1000.99
54 30	2784.62	66 30	1916.75	78 30	959.90
55 00	2750.76	67 00	1878.37	79 00	918.73
55 30	2716.67	67 30	1839.84	79 30	877.49
56 00	2682.37	68 00	1801.16	80 00	836.18
56 30	2647.85	68 30	1762.33	80 30	794.79
57 00	2613.13	69 00	1723.36	81 00	753.34
57 30	2578.19	69 30	1684.24	81 30	711.83
58 00	2543.05	70 00	1645.00	82 00	670.27
58 30	2507.70	70 30	1605.62	82 30	628.64
59 00	2472.16	71 00	1566.10	83 00	586.97
59 30	2436.42	71 30	1526.45	83 30	545.24
60 00	2400.48	72 00	1486.70	84 00	503.47
60 30	2364.34	72 30	1446.81	84 30	461.66
61 00	2328.02	73 00	1406.81	85 00	419.81
61 30	2291.51	73 30	1366.69	85 30	377.93
62 00	2254.82	74 00	1326.46	86 00	336.02
62 30	2217.94	74 30	1286.12	86 30	294.08
63 00	2180.89	75 00	1245.68	87 00	252.11
63 30	2143.66	75 30	1205.13	87 30	210.12
64 00	2106.26	76 00	1164.49	88 00	168.00
64 30	2068.68	76 30	1123.75	88 30	126.10
65 00	2030.94	77 00	1082.91	89 00	84.07
65 30	1993.04	77 30	1041.99	89 30	42.04

(Smithsonian Institution, 1929)

TABLE 3.—Areas of Quadrilaterals of Earth's Surface of 10' Extent in Latitude and Longitude\*

Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles
0° 05'	132.01	6° 05'	131.29	12 05	129.16
0 15	132.01	6 15	131.25	12 15	129.08
0 25	132.01	6 25	131.21	12 25	129.00
0 35	132.00	6 35	131.16	12 35	128.92
0 45	132.00	6 45	131.12	12 45	128.84
0 55	131.99	6 55	131.07	12 55	128.76
1 05	131.99	7 05	131.03	13 05	128.67
1 15	131.98	7 15	130.98	13 15	128.59
1 25	131.97	7 25	130.93	13 25	128.50
1 35	131.96	7 35	130.88	13 35	128.41
1 45	131.95	7 45	130.84	13 45	128.33
1 55	131.94	7 55	130.79	13 55	128.24
2 05	131.93	8 05	130.73	14 05	128.14
2 15	131.91	8 15	130.68	14 15	128.05
2 25	131.90	8 25	130.63	14 25	127.96
2 35	131.88	8 35	130.57	14 35	127.87
2 45	131.86	8° 45	130.51	14° 45	127.77
2 55	131.84	8 55	130.46	14 55	127.67
3 05	131.82	9 05	130.40	15 05	127.58
3 15	131.80	9 15	130.34	15 15	127.48
3 25	131.78	9 25	130.28	15 25	127.38
3 35	131.76	9 35	130.22	15 35	127.28
3 45	131.74	9 45	130.15	15 45	127.18
3 55	131.71	9 55	130.09	15 55	127.08
4 05	131.68	10 05	130.02	16 05	126.98
4 15	131.66	10 15	129.96	16 15	126.87
4 25	131.63	10 25	129.89	16 25	126.77
4 35	131.60	10 35	129.82	16 35	126.66
4 45	131.57	10 45	129.76	16 45	126.55
4 55	131.54	10 55	129.68	16 55	126.44
5 05	131.50	11 05	129.61	17 05	126.33
5 15	131.47	11 15	129.54	17 15	126.22
5 25	131.44	11 25	129.47	17° 25'	126.11
5 35	131.40	11 35	129.39	17 35	126.00
5 45	131.36	11 45	129.32	17 45	125.88
5 55	131.33	11 55	129.24	17 55	125.77
:					

\*Statute miles.

(Smithsonian Institution, 1929)

TABLE 3.—Areas of Quadrilaterals of Earth's Surface of 10' Extent in Latitude and Longitude—Continued

Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles
18 05	125.65	24 05	120.79	30 05	114.62
18 15	125.54	24 15	120.64	30 15	114.43
18 25	125.42	24 25	120.48	30 25	114.24
18 35	125.30	24 35	120.33	30 35	114.04
18 45	125.18	24 45	120.17	30 45	113.85
18 55	125.06	24 55	120.01	30 55	113.66
19 05	124.94	25 05	119.85	31 05	113.47
19 15	124.81	25 15	119.69	31 15	113.27
19 25	124.69	25 25	119.53	31 25	113.07
19 35	124.56	25 35	119.37	31 35	112.88
19 45	124.44	25 45	119.21	31 45	112.68
19 55	124.31	25 55	119.04	31 55	112.48
20 05	124.18	26 05	118.87	32 05	112.28
20 15	124.05	26 15	118.71	32 15	112.08
20 25	123.92	26 25	118.54	32 25	111.87
20 35	123.79	26 35	118.37	32 35	111.67
20 45	123.66	26 45	118.21	32 45	111.47
20 55	123.52	26 55	118.04	32 55	111.26
21 05	123.39	27 05	117.87	33 05	111.06
21 15	123.25	27 15	117.69	33 15	110.85
21 25	123.12	27 25	117.52	33 25	110.64
21 35	122.98	27 35	117.35	33 35	110.43
21 45	122.84	27 45	117.17	33 45	110.22
21 55	122.70	27 55	116.99	33 55	110.01
22 05	122.56	28 05	116.82	34 05	109.80
22 15	122.42	28 15	116.64	34 15	109.59
22 25	122.28	28 25	116.46	34 25	109.37
22 35	122.13	28 35	116.28	34 35	109.16
22 45	121.99	28 45	116.10	34 45	108.94
22 55	121.84	28 55	115.92	34 55	108.73
23 05	121.69	29 05	115.73	35 05	108.51
23 15	121.55	29 15	115.55	35 15	108.29
23° 25'	121.40	29° 25'	115.37	35 25	108.07
23 35	121.25	29 35	115.18	35 35	107.85
23 45	121.10	29 45	114.99	35 45	107.63
23 55	120.94	29 55	114.81	35 55	107.41

TABLE 3.—Areas of Quadrilaterals of Earth's Surface of 10' Extent in Latitude and Longitude—Continued

Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles
36 05	107.19	42 05	98.57	48 05	88.85
36 15	106.96	42 15	98.32	48 15	88.57
36 25	106.74	42 25	98.06	48 25	88.28
36 35	106.51	42 35	97.80	48 35	88.00
36 45	106.29	42 45	97.55	48 45	87.71
36 55	106.06	42 55	97.29	48 55	87.42
37 05	105.83	43 05	97.03	49 05	87.13
37 15	105.60	43 15	96.77	49 15	86.84
37 25	105.37	43 25	96.50	49 25	86.55
37 35	105.14	43 35	96.24	49 35	86.26
37 45	104.91	43 45	95.98	49 45	85.97
37 55	104.68	43 55	95.71	49 55	85.68
38° 05'	104.44	44 05	95.45	50 05	85.39
38 15	104.21	44 15	95.19	50 15	85.09
38 25	103.97	44 25	94.92	50 25	84.80
38 35	103.74	44 35	94.65	50 35	84.50
38 45	103.50	44 45	94.38	50 45	84.21
38 55	103.26	44 55	94.11	50 55	83.91
39 05	103.02	45 05	93.84	51 05	83.61
39 15	102.78	45 15	93.58	51 15	83.31
39 25	102.54	45 25	93.30	51 25	83.01
39 35	102.30	45 35	93.03	51 35	82.71
39 45	102.06	45 45	92.75	51 45	82.41
39 55	101.82	45 55	92.48	51 55	82.11
40 05	101.57	46 05	92.21	52 05	81.81
40 15	101.33	46 15	91.94	52 15	81.51
40 25	101.08	46 25	91.66	52 25	81.20
40 35	100.83	46 35	91.38	52 35	80.90
40 45	100.59	46° 45'	91.10	52° 45'	80.60
40 55	100.34	46 55	90.82	52 55	80.29
41 05	100.09	47 05	90.55	53 05	79.98
41 15	99.84	47 15	90.27	53 15	79.68
41 25	99.59	47 25	89.99	53 25	79.37
41 35	99.33	47 35	89.70	53 35	79.06
41 45	99.08	47 45	89.42	53 45	78.75
41 55	98.83	47 55	89.14	53 55	78.44

TABLE 3.—Areas of Quadrilaterals of Earth's Surface of 10' Extent in Latitude and Longitude—(Continued)

Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles
54 05	78.13	60 05	66.51	66 05	54.13
54 15	77.82	60 15	66.18	66 15	53.78
54 25	77.51	60 25	65.84	66 25	53.42
54 35	77.19	60 35	65.51	66 35	53.06
54 45	76.88	60 45	65.17	66 45	52.71
54 55	76.57	60 55	64.84	66 55	52.35
55 05	76.25	61 05	64.50	67 05	52.00
55 15	75.94	61 15	64.16	67 15	51.64
55 25	75.62	61° 25	63.82	67° 25'	51.28
55 35	75.30	61 35	63.48	67 35	50.93
55 45	74.99	61 45	63.14	67 45	50.57
55 55	74.67	61 55	62.80	67 55	50.21
56 05	74.35	62 05	62.46	68 05	49.85
56 15	74.03	62 15	62.12	68 15	49.49
56 25	73.71	62 25	61.78	68 25	49.13
56 35	73.39	62 35	61.44	68 35	48.77
56 45	73.07	62 45	61.10	68 45	48.41
56 55	72.75	62 55	60.75	68 55	48.05
57 05	72.43	63 05	60.41	69 05	47.69
57 15	72.10	63 15	60.06	69 15	47.33
57 25	71.78	63 25	59.72	69 25	46.97
57 35	71.46	63 35	59.37	69 35	46.60
57 45	71.13	63 45	59.03	69 45	46.24
57 55	70.80	63 55	58.68	69 55	45.88
58 05	70.48	64 05	58.33	70° 05'	45.51
58 15	70.15	64 15	57.99	70 15	45.15
58 25	69.82	64 25	57.64	70 25	44.78
58 35	69.49	64 35	57.29	70 35	44.42
58° 45	69.17	64 45	56.94	70 45	44.05
58 55	68.84	64 55	56.59	70 55	43.69
59 05	68.51	65 05	56.24	71 05	43.32
59 15	68.18	65 15	55.89	71 15	42.95
59 25	67.84	65 25	55.54	71 25	42.58
59 35	67.51	65 35	55.19	71 35	42.22
59 45	67.18	65 45	54.83	71 45	41.85
59 55	66.85	65 55	54.48	71 55	41.48

TABLE 3.—Areas of Quadrilaterals of Earth's Surface of 10' Extent in Latitude and Longitude—Continued

Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles	Middle latitude of quadrilateral	Area in square miles
72 05	41.11	78 05	27.62	84 05	13.79
72 15	40.74	78 15	27.24	84 15	13.40
72 25	40.37	78 25	26.85	84 25	13.02
72 35	40.00	78 35	26.47	84 35	12.63
72 45	39.63	78 45	26.09	84 45	12.24
72 55	39.26	78 55	25.71	84 55	11.86
73 05	38.89	79 05	25.33	85 05	11.47
73 15	38.52	79 15	24.95	85 15	11.08
73 25	38.15	79 25	24.57	85 25	10.69
73 35	37.78	79 35	24.18	85 35	10.30
73 45	37.41	79 45	23.80	85 45	9.92
73 55	37.03	79 55	23.42	85 55	9.53
74 05	36.66	80 05	23.04	86 05	9.14
74 15	36.29	80 15	22.65	86 15	8.75
74 25	35.91	80 25	22.27	86 25	8.36
74 35	35.54	80 35	21.89	86 35	7.97
74 45	35.17	80 45	21.50	86 45	7.59
74 55	34.79	80 55	21.12	86 55	7.20
75 05	34.42	81 05	20.73	87 05	6.81
75 15	34.04	81 15	20.35	87 15	6.42
75 25	33.66	81 25	19.97	87 25	6.03
75 35	33.29	81 35	19.58	87 35	5.64
75 45	32.91	81 45	19.20	87 45	5.25
75 55	32.53	81 55	18.81	87 55	4.86
76 05'	32.16	82 05	18.43	88 05	4.47
76 15	31.78	82 15	18.04	88 15	4.09
76 25	31.40	82 25	17.65	88 25	3.70
76 35	31.03	82 35	17.27	88 35	3.31
76 45	30.65	82 45	16.88	88 45	2.92
76 55	30.27	82 55	16.50	88 55	2.53
77 05	29.89	83 05	16.11	89 05	2.14
77 15	29.51	83 15	15.73	89 15	1.75
77 25	29.13	83 25	15.34	89 25	1.36
77 35	28.76	83 35	14.95	89 35	0.97
77 45	28.37	83 45	14.57	89 45	0.58
77 55	27.99	83 55	14.18	89 55	0.19



TABLE 4.—Length of ... Degree ... Longitude ... Lat.

Lat. °	Degree of latitude					Degree of longitude					Lat. °	
	Nautical miles	Statute miles	Feet	Meters	Nautical miles	Statute miles	Feet	Meters	Nautical miles	Statute miles		Feet
0	59.702	68.703	362 752	110 567	60.109	69.172	365 226	111 321	69.172	69.172	365 226	111 321
1	.702	.704	755	568	60.100	69.161	365 170	111 304	69.161	69.161	365 170	111 304
2	.703	.704	758	569	60.072	69.129	365 003	111 253	69.129	69.129	365 003	111 253
3	.703	.705	762	570	60.027	69.077	364 727	111 169	69.077	69.077	364 727	111 169
4	.705	.707	772	573	59.963	69.004	364 340	111 051	69.004	69.004	364 340	111 051
5	59.707	68.709	362 781	110 576	59.882	68.910	363 844	110 900	68.910	68.910	363 844	110 900
6	.709	.711	795	580	59.782	68.795	363 237	110 715	68.795	68.795	363 237	110 715
7	.711	.714	808	584	59.664	68.660	362 522	110 497	68.660	68.660	362 522	110 497
8	.714	.717	824	589	59.528	68.503	361 695	110 245	68.503	68.503	361 695	110 245
9	.717	.720	844	595	59.373	68.325	360 757	109 959	68.325	68.325	360 757	109 959
10	59.720	68.724	362 863	110 601	59.202	68.128	359 714	109 641	68.128	68.128	359 714	109 641
11	.724	.728	886	608	59.012	67.909	358 559	109 289	67.909	67.909	358 559	109 289
12	.728	.733	913	616	58.804	67.670	357 296	108 904	67.670	67.670	357 296	108 904
13	.733	.738	939	624	58.578	67.410	355 924	108 486	67.410	67.410	355 924	108 486
14	.737	.744	968	633	58.335	67.130	354 448	108 036	67.130	67.130	354 448	108 036
15	59.743	68.750	363 001	110 643	58.074	66.830	352 863	107 553	66.830	66.830	352 863	107 553
16	.748	.756	034	653	57.795	66.509	351 167	107 036	66.509	66.509	351 167	107 036
17	.754	.763	067	663	57.499	66.168	349 366	106 487	66.168	66.168	349 366	106 487
18	.760	.770	106	675	57.185	65.807	347 460	105 906	65.807	65.807	347 460	105 906
19	.766	.777	142	686	56.855	65.427	345 452	105 294	65.427	65.427	345 452	105 294
20	59.773	68.785	363 185	110 699	56.506	65.026	343 356	104 649	65.026	65.026	343 356	104 649
21	.780	.793	228	712	56.141	64.605	341 115	103 972	64.605	64.605	341 115	103 972
22	.787	.801	270	725	55.758	64.165	338 792	103 264	64.165	64.165	338 792	103 264
23	.795	.810	316	739	55.359	63.705	336 364	102 524	63.705	63.705	336 364	102 524
24	.802	.819	362	753	54.943	63.227	333 838	101 754	63.227	63.227	333 838	101 754
25	59.810	68.828	363 411	110 768	54.510	62.729	331 207	100 952	62.729	62.729	331 207	100 952
26	.818	.837	461	783	54.060	62.211	328 474	100 110	62.211	62.211	328 474	100 110
27	.827	.847	513	799	53.595	61.675	325 646	99 257	61.675	61.675	325 646	99 257
28	.836	.857	566	815	53.113	61.120	322 716	98 364	61.120	61.120	322 716	98 364
29	.845	.868	621	832	52.614	60.547	319 688	97 441	60.547	60.547	319 688	97 441

TABLE 4.—Length of a Degree of Latitude and Longitude—Continued

		Degree of latitude						Degree of longitude					
Lat. °	Nautical miles	Statute miles	Feet	Meters	Nautical miles	Statute miles	Feet	Meters	Nautical miles	Statute miles	Feet	Meters	Lat. °
30	59.853	68.878	363 674	110 848	52.100	59.955	316 561	96 488	59.955	59.955	316 561	96 488	30
31	.863	.889	733	866	51.569	59.345	313 339	95 506	59.345	59.345	313 339	95 506	31
32	.872	.899	789	883	51.024	58.716	310 022	94 495	58.716	58.716	310 022	94 495	32
33	.882	.911	848	901	50.462	58.070	306 610	93 455	58.070	58.070	306 610	93 455	33
34	.892	.922	907	919	49.885	57.407	303 106	92 387	57.407	57.407	303 106	92 387	34
35	59.902	68.934	363 969	110 938	49.293	56.725	299 507	91 290	49.293	56.725	299 507	91 290	35
36	.912	.945	364 028	956	48.686	56.026	295 820	90 166	48.686	56.026	295 820	90 166	36
37	.922	.957	090	975	48.064	55.311	292 040	89 014	48.064	55.311	292 040	89 014	37
38	.932	.968	153	110 994	47.427	54.578	288 172	87 835	47.427	54.578	288 172	87 835	38
39	.943	.980	215	111 013	46.776	53.829	284 215	86 629	46.776	53.829	284 215	86 629	39
40	59.953	68.993	364 281	111 033	46.110	53.063	280 170	85 396	46.110	53.063	280 170	85 396	40
41	.964	69.004	343	052	45.431	52.280	276 039	84 137	45.431	52.280	276 039	84 137	41
42	.974	.017	409	072	44.737	51.482	271 827	82 853	44.737	51.482	271 827	82 853	42
43	.985	.029	471	091	44.030	50.668	267 529	81 543	44.030	50.668	267 529	81 543	43
44	59.995	.041	537	111	43.309	49.839	263 149	80 208	43.309	49.839	263 149	80 208	44
45	60.006	69.053	364 602	111 131	42.575	48.994	258 690	78 849	42.575	48.994	258 690	78 849	45

TABLE 4—Length of 1° Degree of Latitude and Longitude—Continued

Lat. °	Degree of latitude					Degree of longitude					Lat. °
	Nautical miles	Statute miles	Feet	Meters	Nautical miles	Statute miles	Feet	Meters	Nautical miles	Statute miles	
45	60.006	69.053	364 602	111 131	42.575	48.994	258 690	78 849	45		
46	.017	.066	668	151	41.829	48.135	254 153	77 466	46		
47	.027	.078	730	170	41.068	47.260	249 534	76 058	47		
48	.038	.090	796	190	40.296	46.372	244 842	74 628	48		
49	.049	.103	861	210	39.511	45.468	240 072	73 174	49		
50	60.059	69.114	364 924	111 229	38.714	44.551	235 229	71 698	50		
51	.070	.127	364 989	249	37.905	43.620	230 314	70 200	51		
52	.080	.139	365 052	268	37.084	42.676	225 328	68 680	52		
53	.091	.150	114	287	36.253	41.719	220 275	67 140	53		
54	.101	.162	176	306	35.409	40.748	215 150	65 578	54		
55	60.111	69.174	365 239	111 325	34.555	39.765	209 960	63 996	55		
56	.121	.185	298	343	33.691	38.770	204 708	62 395	56		
57	.130	.196	357	361	32.816	37.763	199 389	60 774	57		
58	.140	.208	416	379	31.931	36.745	194 012	59 135	58		
59	.150	.219	475	397	31.036	35.715	188 576	57 478	59		
60	60.159	69.229	365 531	111 414	30.131	34.674	183 077	55 802	60		
61	.169	.241	590	432	29.217	33.622	177 526	54 110	61		
62	.177	.250	642	448	28.294	32.560	171 916	52 400	62		
63	.186	.260	695	464	27.362	31.488	166 256	50 675	63		
64	.195	.270	747	480	26.422	30.406	160 544	48 934	64		
65	60.203	69.280	365 800	111 496	25.474	29.314	154 780	47 177	65		
66	.211	.290	849	511	24.518	28.215	148 973	45 407	66		
67	.219	.298	895	525	23.554	27.105	143 117	43 622	67		
68	.227	.307	941	539	22.583	25.998	137 214	41 823	68		
69	.234	.316	365 987	553	21.605	24.862	131 273	40 012	69		
70	60.241	69.324	366 029	111 566	20.620	23.729	125 288	38 188	70		
71	.248	.331	969	578	19.629	22.589	119 268	36 535	71		
72	.254	.339	108	590	18.632	21.441	113 208	34 806	72		
73	.261	.346	148	602	17.629	20.286	107 113	32 648	73		
74	.267	.353	184	613	16.621	19.126	100 987	30 781	74		

TABLE 4. Length of a Degree of Latitude and Longitude (Continued)

Lat. °	Degree of latitude					Degree of longitude				
	Nautical miles	Statute miles	Feet	Meters	Lat. °	Nautical miles	Statute miles	Feet	Meters	
75	60.272	69.359	366 216	111 623	75	15.606	17.959	94 826	28 903	
76	.277	.365	246	632	76	14.588	16.788	88 638	27 017	
77	.282	.371	279	642	77	13.565	15.611	82 424	25 123	
78	.287	.376	305	650	78	12.538	14.428	76 181	23 220	
79	.291	.381	331	658	79	11.507	13.242	69 918	21 311	
80	60.295	69.385	366 354	111 665	80	10.472	12.051	63 628	19 394	
81	.298	.389	374	671	81	9.434	10.857	57 323	17 472	
82	.301	.393	394	677	82	8.394	9.659	51 001	15 545	
83	.304	.396	410	682	83	7.350	8.458	44 659	13 612	
84	.307	.399	426	687	84	6.304	7.254	38 304	11 675	
85	60.309	69.401	366 440	111 691	85	5.257	6.049	31 939	9 735	
86	.310	.403	449	694	86	4.207	4.842	25 564	7 792	
87	.311	.405	456	696	87	3.157	3.633	19 180	5 846	
88	.312	.406	463	698	88	2.105	2.422	12 789	3 898	
89	.313	.406	466	699	89	1.052	1.211	6 394	1 949	
90	60.313	69.406	366 466	111 699	90	0.000	0.000	0	0	

Table A.—Conversion of Compass Points to Degrees

	Points 32	Angular measure ° ' "	Points 8
<b>North to East</b>			
North	0	0 00 00	
N 1/4 E	1 1/4	2 48 45	
N 1/2 E	1 1/2	5 37 30	
N 3/4 E	3 3/4	8 26 15	
N by E	1	11 15 00	E
N by E 1/4 E	1 1/4	15 03 45	
N by E 1/2 E	1 1/2	17 52 30	
N by E 3/4 E	1 3/4	19 41 15	
NNE	2	22 30 00	
NNE 1/4 E	2 1/4	25 18 45	
NNE 1/2 E	2 1/2	28 07 30	
NNE 3/4 E	2 3/4	30 56 15	
NNE by N	3	33 45 00	
NE 3/4 N	3 1/4	36 33 45	
NE 1/2 N	3 1/2	39 22 30	
NE 1/4 N	3 3/4	42 11 15	
NE	4	45 00 00	1
NE 1/4 E	4 1/4	47 48 45	
NE 1/2 E	4 1/2	50 37 30	
NE 3/4 E	4 3/4	53 26 15	
NE by E	5	56 15 00	
NE by E 1/4 E	5 1/4	59 03 45	
NE by E 1/2 E	5 1/2	61 52 30	
NE by E 3/4 E	5 3/4	64 41 15	
ENE	6	67 30 00	
ENE 1/4 E	6 1/4	70 18 45	
ENE 1/2 E	6 1/2	73 07 30	
ENE 3/4 E	6 3/4	75 56 15	
E by N	7	78 45 00	2
E 3/4 N	7 1/4	81 33 45	
E 1/2 N	7 1/2	84 22 30	
E 1/4 N	7 3/4	87 11 15	
<b>East to South</b>			
East	E 1/4	90 00 00	
E 1/4 S	E 1/4	92 48 45	
E 1/2 S	E 1/2	95 37 30	
E 3/4 S	E 3/4	98 26 15	
E by S	9	101 15 00	.2
ESE 3/4 E	9 1/4	104 03 45	
ESE 1/2 E	9 1/2	106 52 30	
ESE 1/4 E	9 3/4	109 41 15	
ESE	10	112 30 00	
SE by E 3/4 E	10 1/4	115 18 45	
SE by E 1/2 E	10 1/2	118 07 30	
SE by E 1/4 E	10 3/4	120 56 15	
SE by E	11	123 45 00	
SE 3/4 E	11 1/4	126 33 45	
SE 1/2 E	11 1/2	129 22 30	
SE 1/4 E	11 3/4	132 11 15	
SE	12	135 00 00	3
SE 1/4 S	12 1/4	137 48 45	
SE 1/2 S	12 1/2	140 37 30	
SE 3/4 S	12 3/4	143 26 15	
SE by S	13	146 15 00	
SSE 3/4 E	13 1/4	149 03 45	
SSE 1/2 E	13 1/2	151 52 30	
SSE 1/4 E	13 3/4	154 41 15	
SSE	14	157 30 00	
S by E 3/4 E	14 1/4	160 18 45	
S by E 1/2 E	14 1/2	163 07 30	
S by E 1/4 E	14 3/4	165 56 15	
S by E	15	168 45 00	
S 3/4 E	15 1/4	171 33 45	
S 1/2 E	15 1/2	174 22 30	
S 1/4 E	15 3/4	177 11 15	
South	16	180 00 00	4

TABLE 5.—Conversion of Compass Points to Degrees—Continued

Compass Point	Points 32	Angular measure • ° ' "	Compass Point	Points 32	Angular measure • ° ' "
South to West			West to North		
South	16	180 00 00	West	24	270 00 00
S 1/4 W	16 1/4	182 48 45	W 1/4 N	24 1/4	272 48 45
S 1/2 W	16 1/2	185 37 30	W 1/2 N	24 1/2	275 37 30
S 3/4 W	16 3/4	188 25 15	W 3/4 N	24 3/4	278 25 15
S by W	17	191 15 00	W by N	25	281 15 00
S by W 1/4 W	17 1/4	194 03 45	WNW 3/4 W	25 1/4	284 03 45
S by W 1/2 W	17 1/2	196 52 30	WNW 1/2 W	25 1/2	286 52 30
S by W 3/4 W	17 3/4	199 41 15	WNW 1/4 W	25 3/4	289 41 15
SSW	18	202 30 00	WNW	26	292 30 00
SSW 1/4 W	18 1/4	205 18 45	NW by W 3/4 W	26 1/4	295 18 45
SSW 1/2 W	18 1/2	208 07 30	NW by W 1/2 W	26 1/2	298 07 30
SSW 3/4 W	18 3/4	210 56 15	NW by W 1/4 W	26 3/4	300 56 15
SW by S	19	213 45 00	NW by W	27	303 45 00
SW 3/4 S	19 1/4	216 33 45	NW 3/4 W	27 1/4	306 33 45
SW 1/2 S	19 1/2	219 22 30	NW 1/2 W	27 1/2	309 22 30
SW 1/4 S	19 3/4	222 11 15	NW 1/4 W	27 3/4	312 11 15
SW	20	225 00 00	NW	28	315 00 00
SW 1/4 W	20 1/4	227 48 45	NW 1/4 N	28 1/4	317 48 45
SW 1/2 W	20 1/2	230 37 30	NW 1/2 N	28 1/2	320 37 30
SW 3/4 W	20 3/4	233 26 15	NW 3/4 N	28 3/4	323 26 15
SW by W	21	236 15 00	NW by N	29	326 15 00
SW by W 1/4 W	21 1/4	239 03 45	NNW 3/4 W	29 1/4	329 03 45
SW by W 1/2 W	21 1/2	241 52 30	NNW 1/2 W	29 1/2	331 52 30
SW by W 3/4 W	21 3/4	244 41 15	NNW 1/4 W	29 3/4	334 41 15
WSW	22	247 30 00	NNW	30	337 30 00
WSW 1/4 W	22 1/4	250 18 45	N by W 3/4 W	30 1/4	340 18 45
WSW 1/2 W	22 1/2	253 07 30	N by W 1/2 W	30 1/2	343 07 30
WSW 3/4 W	22 3/4	255 56 15	N by W 1/4 W	30 3/4	345 56 15
W by S	23	258 45 00	N by W	31	348 45 00
W 3/4 S	23 1/4	261 33 45	N 3/4 W	31 1/4	351 33 45
W 1/2 S	23 1/2	264 22 30	N 1/2 W	31 1/2	354 22 30
W 1/4 S	23 3/4	267 11 15	N 1/4 W	31 3/4	357 11 15
			North	32	360 00 00

### References

**Tables 1, 2, and 3**

Smithsonian Institution, *Smithsonian Geographical Tables*, Miscellaneous Collection 854. 3d Edition, 2d Printing, Washington, D.C. 1929.

**Tables 4 and 5**

U.S. Navy Hydrographic Office, *American Practical Navigator* (Bowditch), H.O. Pub. No. 9. Washington, D.C. 1958.

**SECTION II**

**Data on Oceans Not Related to  
Geography**



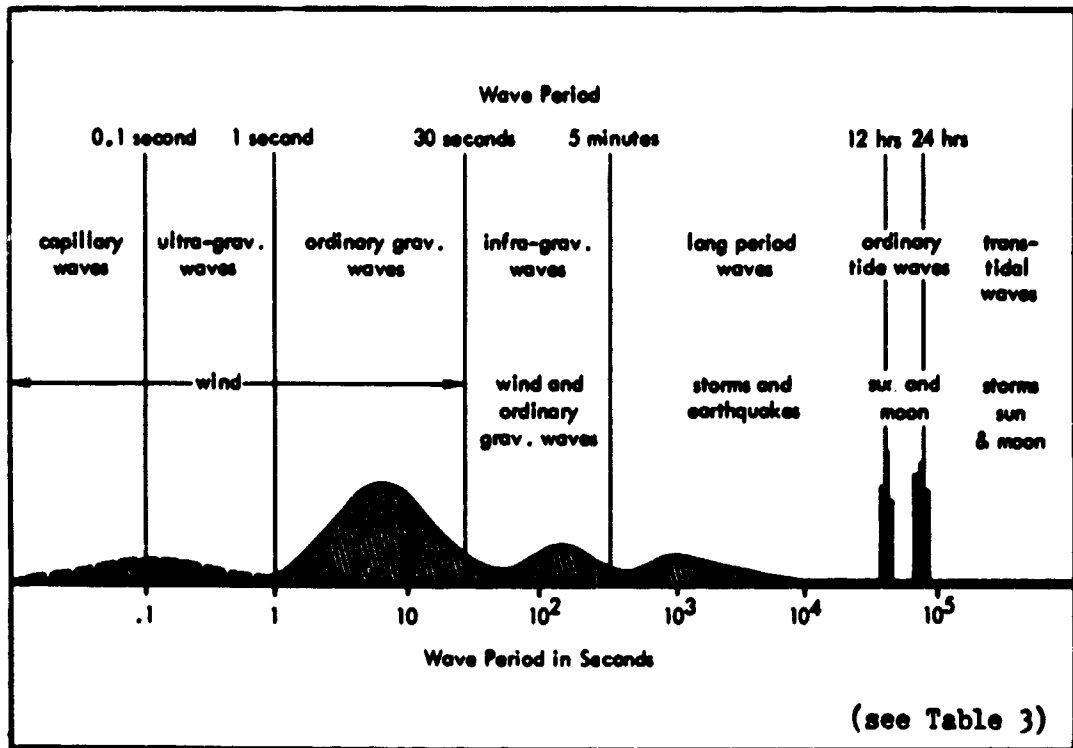


FIGURE 1.—Spectral Classification of Ocean Waves. (The Relative Amplitude is Indicated by the Curve)

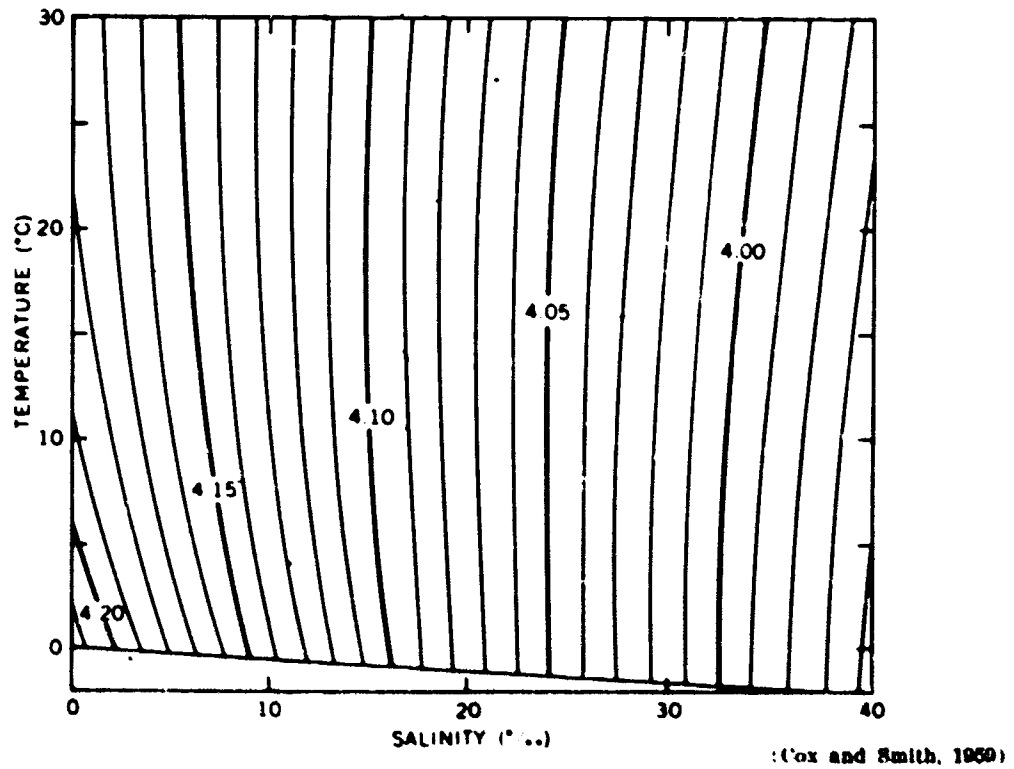


FIGURE 2.—Specific Heat of Sea Water as a Function of Temperature and Salinity at Atmospheric Pressure

Specific Heat of Sea Water,  $c_p$ , in Absolute Joules per gram per degree Celsius as a Function of Temperature (°C) and Salinity (‰) at Atmospheric Pressure

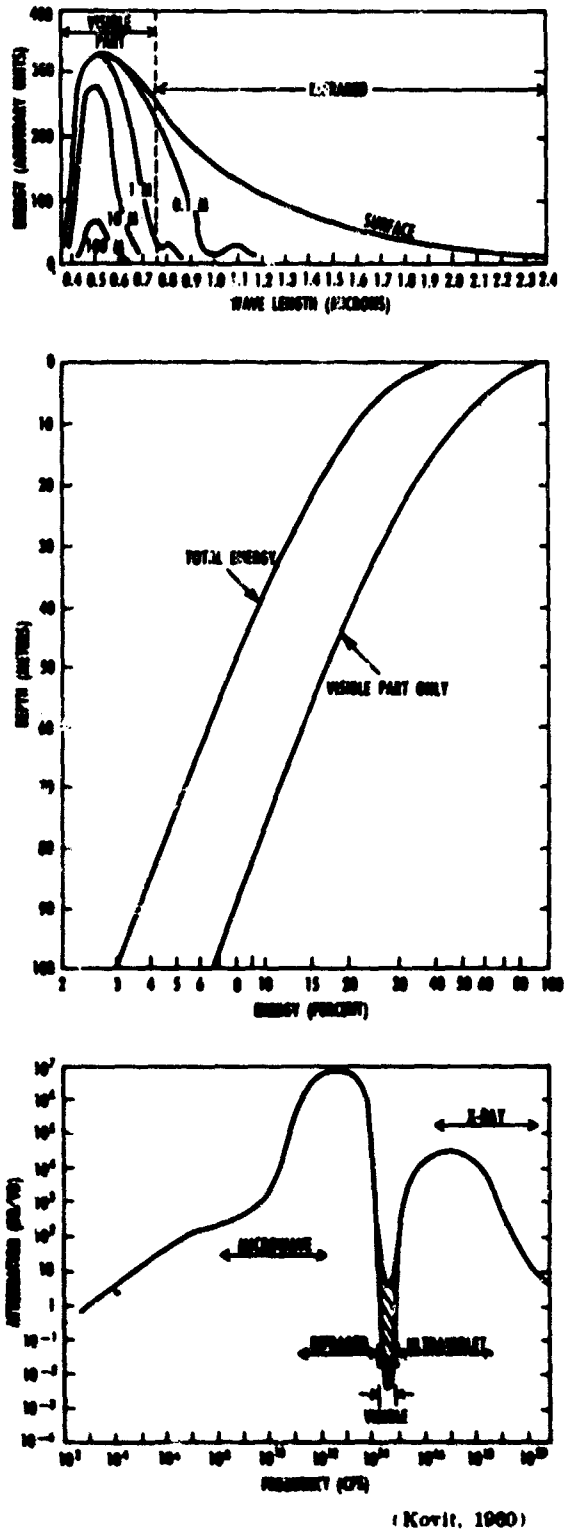


FIGURE 3.—Attenuation of Electromagnetic Energy in Sea Water

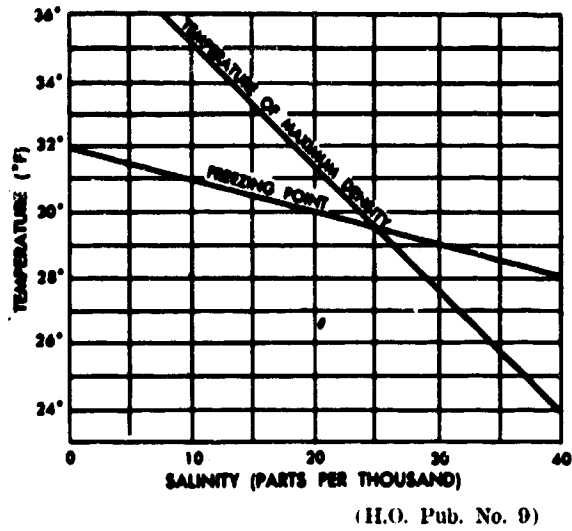


FIGURE 4.—Relationship Between Temperature of Maximum Density and Freezing Point for Water of Varying Salinity

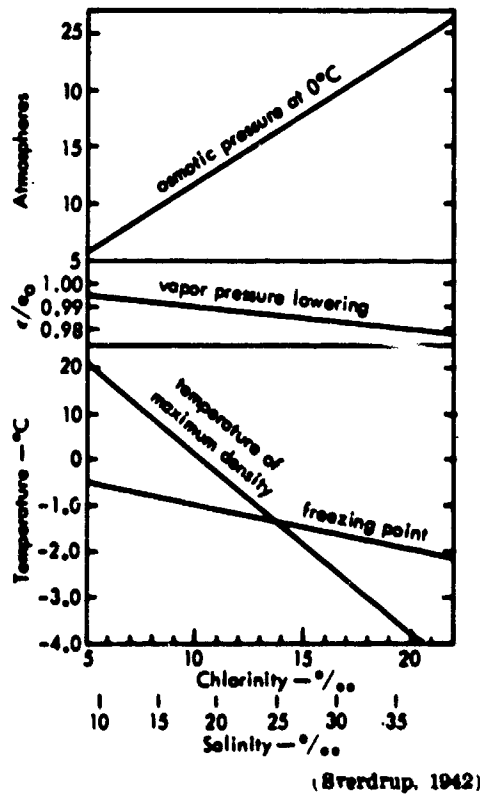
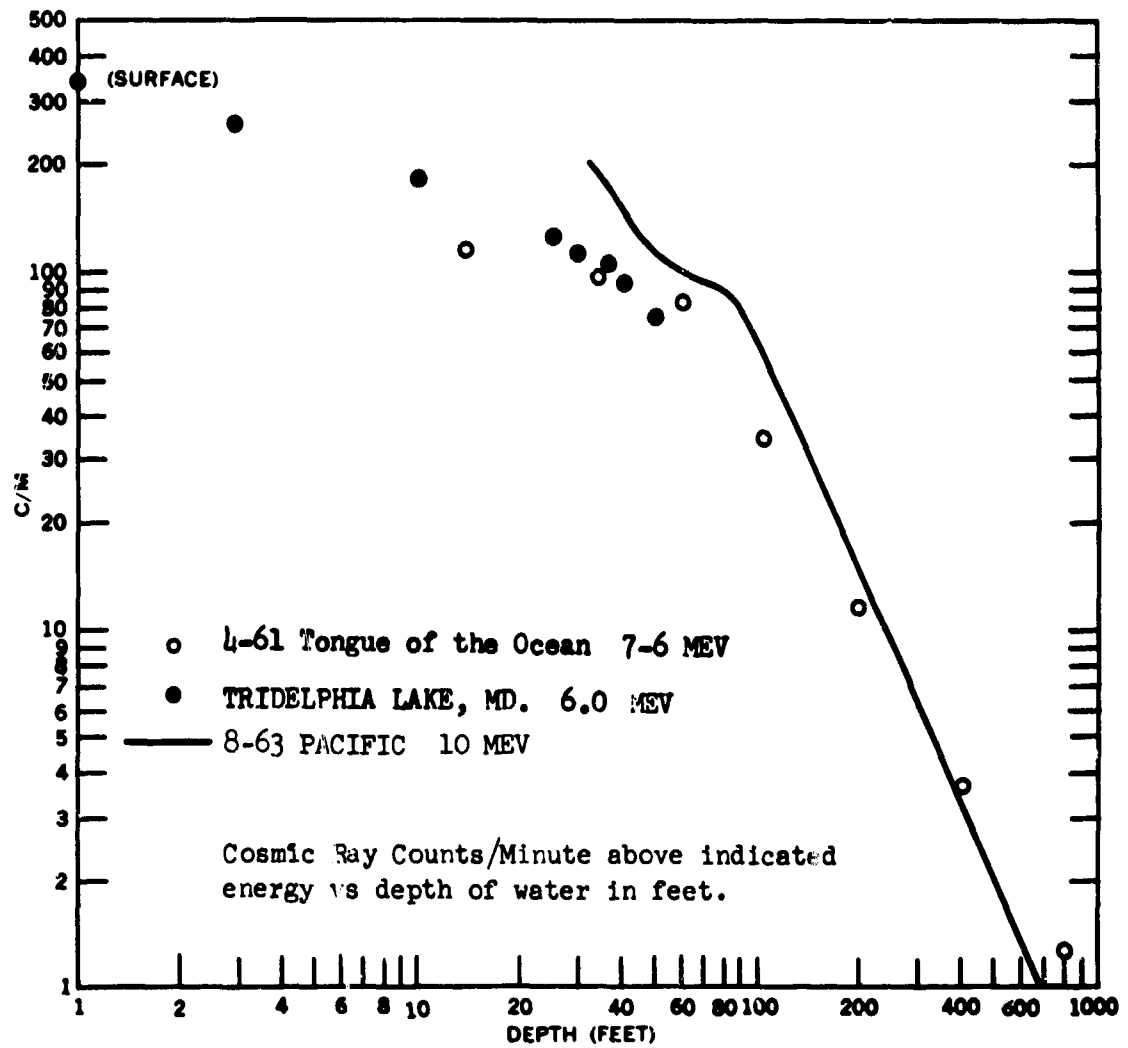


FIGURE 5.—Colligative Properties of Sea Water



(Naval Ordnance Laboratory)

FIGURE 8.—Cosmic Radiation Count Rate Versus Depth

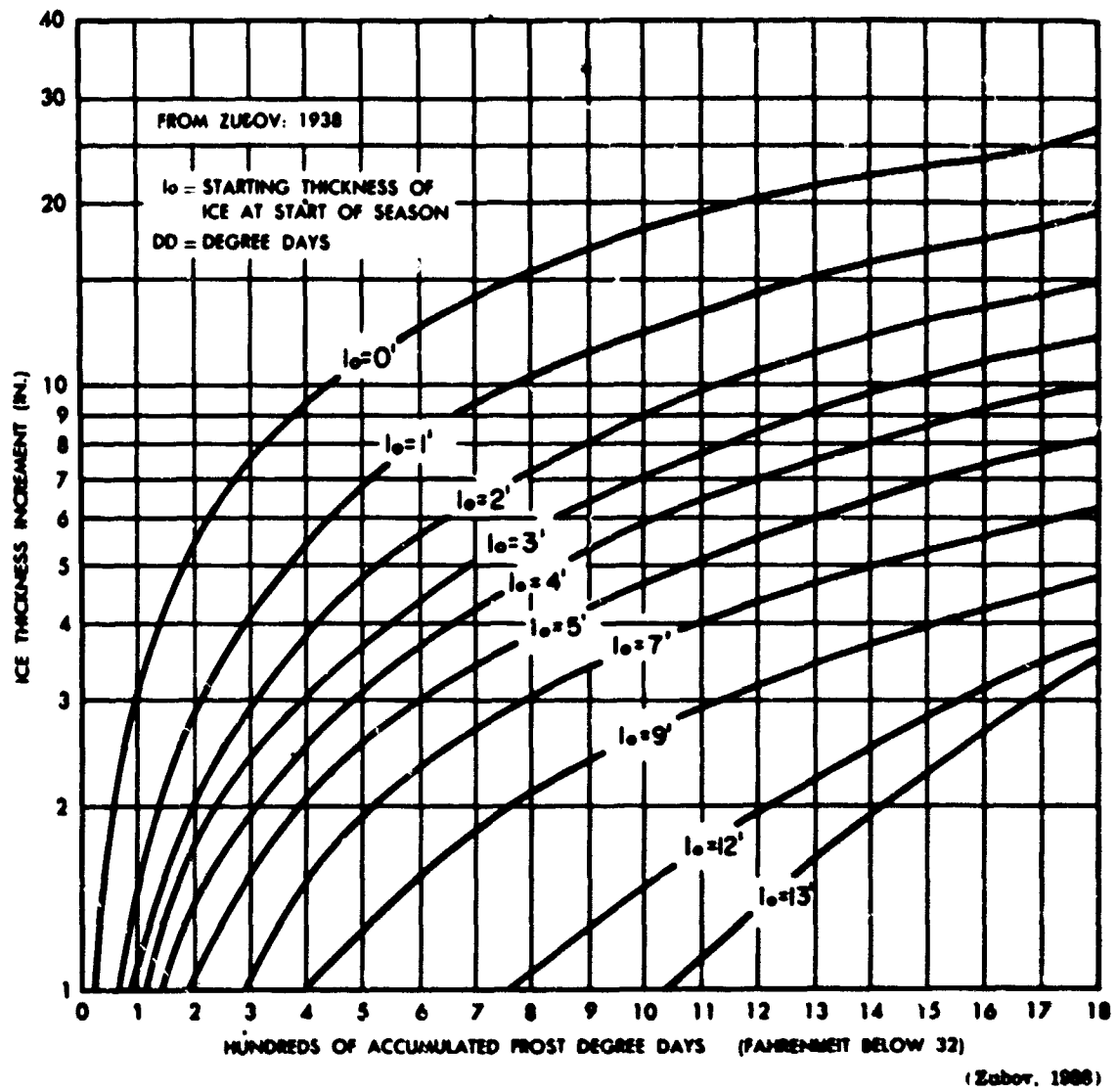


FIGURE 7.—Relationship Between Accumulated Frost Degree-Days and Ice Growth for Varying Initial Ice Thicknesses (Small Degree-Days Accumulations)

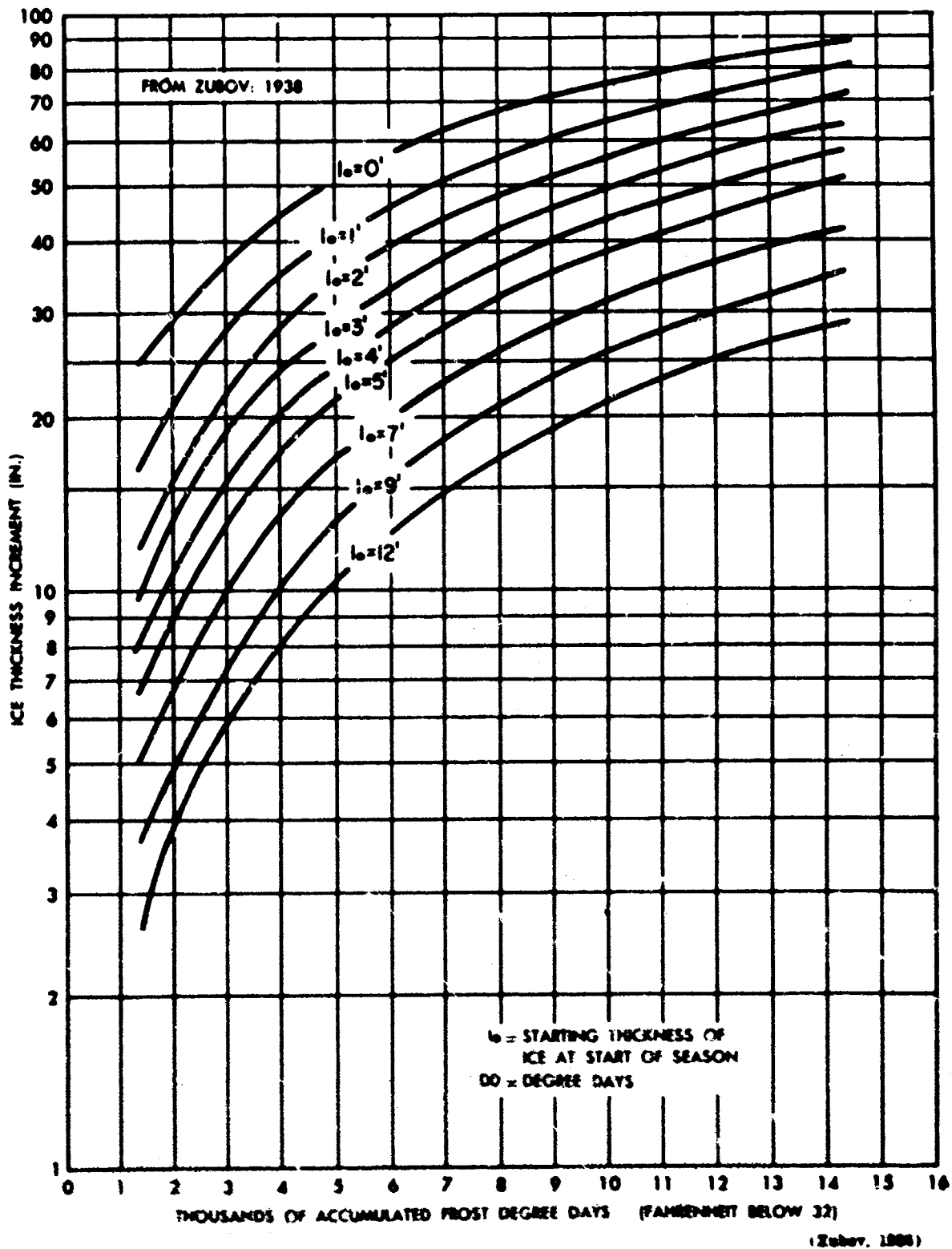


FIGURE R.—Relationship Between Accumulated Frost Degree-Days and Ice Growth for Varying Initial Ice Thicknesses (Large Degree-Days Accumulations)

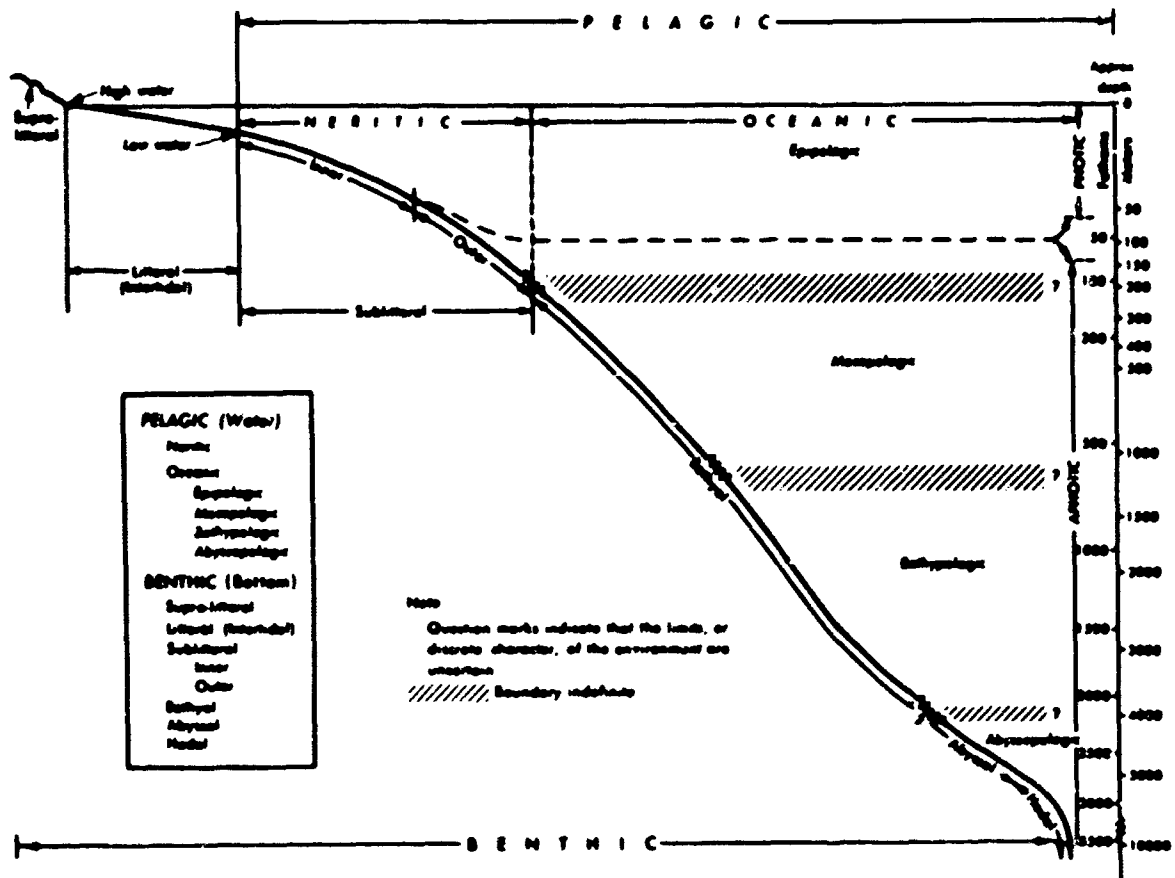


FIGURE D.—Classification of Marine Environments (Hedgepeth, 1957)

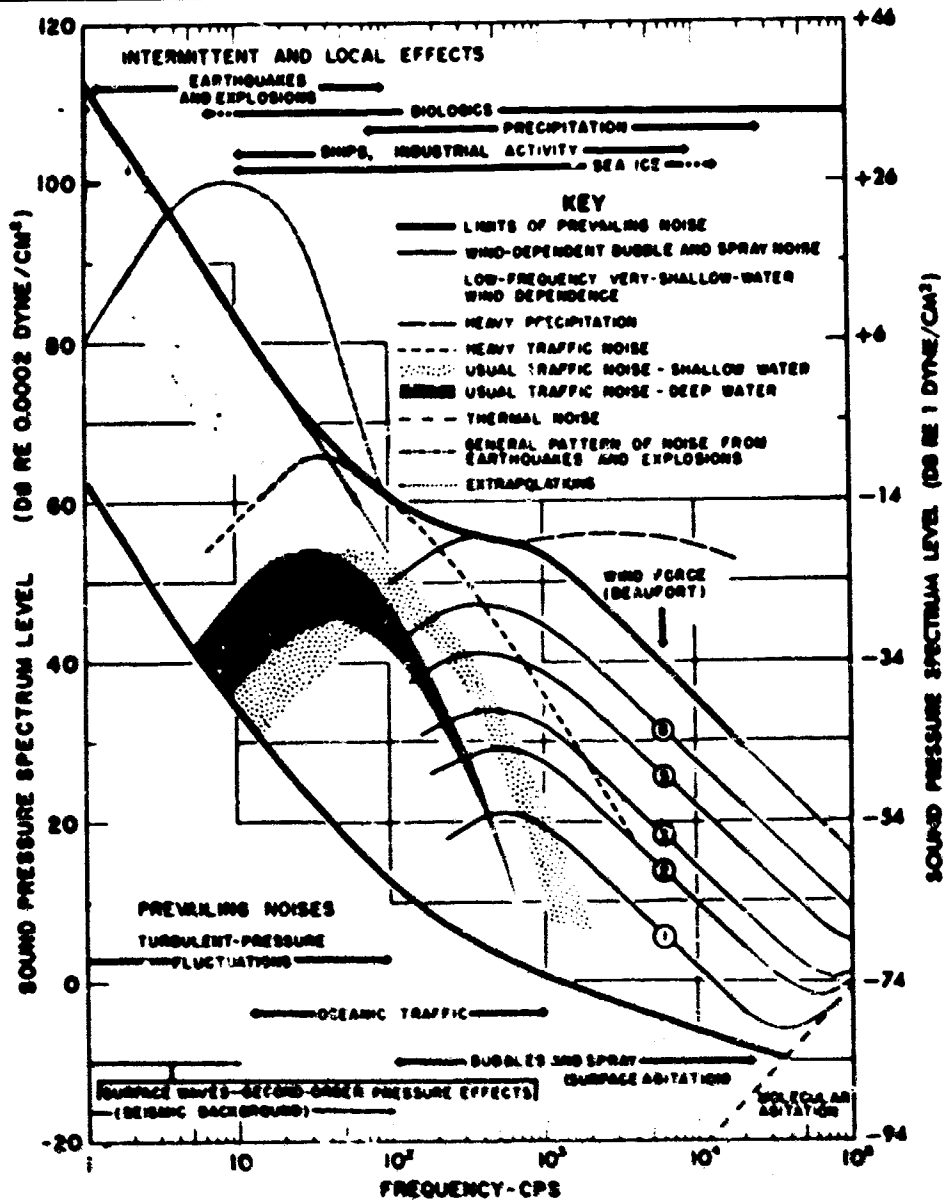


FIGURE 10.—Composite of Ambient Ocean Noise Spectra (Wenz, 1962)



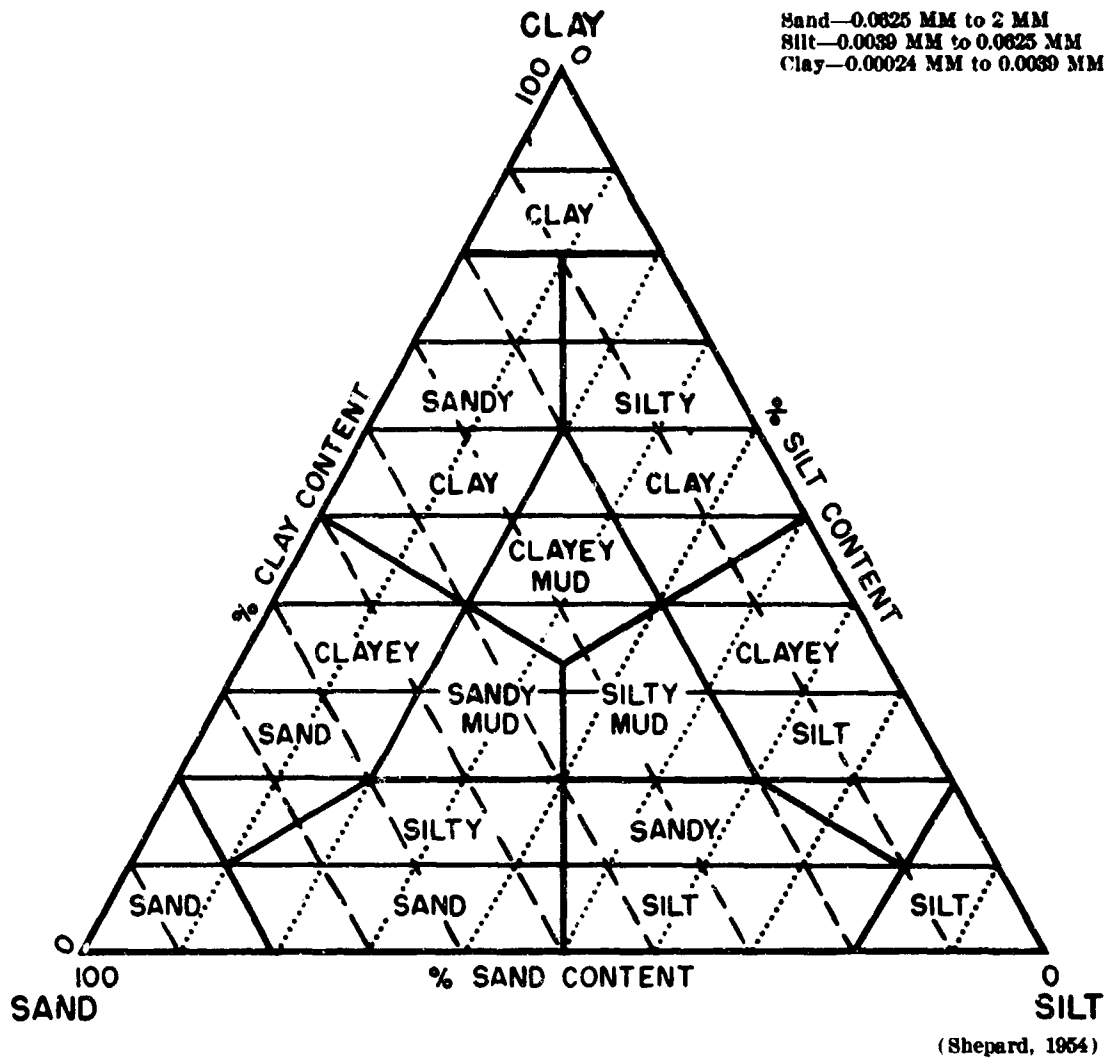


FIGURE 11.—Nomenclature of Sediment Types

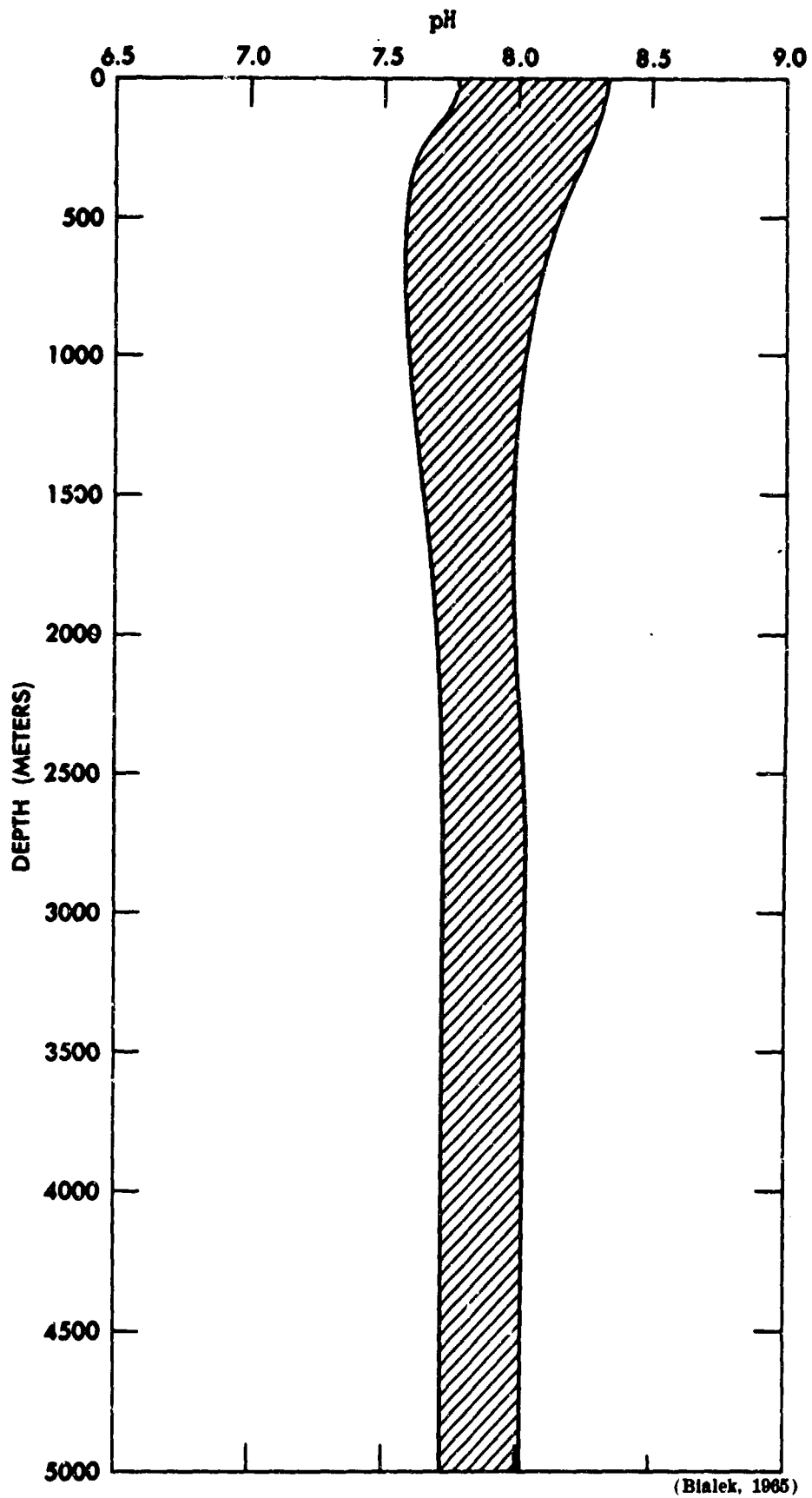


FIGURE 12.—pH Range vs Depth for World's Oceans

TABLE 1.—Beaufort Scale with Corresponding Sea State Codes

Beaufort number	Wind speed				Seaman's term	U. S. Weather Bureau term	Estimating wind speed		Effects observed on land	WMO Code	
	knots	mph	meters per second	kts per hour			Effects observed at sea	Terms and height of waves, in feet			Code
0	under 1	under 1	0.0-0.2	under 1	Calm	Light air	Sea like mirror.	Sea like mirror.	Calm; smoke rises vertically.	Calm, glassy, 0	0
1	1-3	1-3	0.3-1.5	1-3	Light breeze	Light air	Ripples with appearance of scales; no foam crests.	Ripples with appearance of scales; no foam crests.	Smoke drift indicates wind direction; waves do not move.	Rippled, 0-1	1
2	4-6	4-7	1.6-3.3	6-11	Gentle breeze	Light breeze	Small wavelets; crests of glassy appearance, not breaking.	Small wavelets; crests of glassy appearance, not breaking.	Wind felt on face; leaves rustle; waves begin to move.	Smooth, 1-3	2
3	7-10	8-12	3.4-5.4	12-18	Moderate breeze	Moderate breeze	Large wavelets; crests begin to break; scattered whitecaps.	Large wavelets; crests begin to break; scattered whitecaps.	Leaves, small twigs in constant motion; light flags extended.	Slight, 3-4	3
4	11-16	13-18	5.5-7.9	20-28	Fresh breeze	Moderate breeze	Small waves, becoming longer; numerous whitecaps.	Small waves, becoming longer; numerous whitecaps.	Twigs, leaves, and loose paper raised up; small branches move.	Moderate, 4-8	4
5	17-21	19-24	8.0-10.7	29-38	Strong breeze	Fresh breeze	Moderate waves, taking longer form; many whitecaps; some spray.	Moderate waves, taking longer form; many whitecaps; some spray.	Larger branches of trees in motion; whistling heard in wires.	Rough, 8-13	5
6	22-27	25-31	10.8-12.8	38-49	Moderate gale	Strong breeze	Sea heaps up; white foam from breaking waves begins to be blown in streaks.	Sea heaps up; white foam from breaking waves begins to be blown in streaks.	Whole trees in motion; resistance felt in walking against wind.	Very rough, 15-20	6
7	28-33	32-38	13.0-17.1	50-61	Fresh gale	Moderate gale	Moderately high waves of greater length; edges of crests begin to break into spindrift; foam is blown in well-marked streaks.	Moderately high waves of greater length; edges of crests begin to break into spindrift; foam is blown in well-marked streaks.	Twigs and small branches broken off trees; progress generally impeded.		
8	34-40	38-46	17.2-20.7	63-74	Strong gale	Strong gale	High waves; sea begins to roll; dense streaks of foam; spray may reduce visibility.	High waves; sea begins to roll; dense streaks of foam; spray may reduce visibility.	Slight structural damage occurs; alleys blown from roofs.		
9	41-47	47-54	20.8-23.4	75-88	Whole gale	Whole gale	Very high waves with overhauling crests; sea takes appearance of foam as blown in very dense streaks; rolling is heavy and visibility reduced.	Very high waves with overhauling crests; sea takes appearance of foam as blown in very dense streaks; rolling is heavy and visibility reduced.	Sudden experienced on land; trees broken or uprooted; considerable structural damage occurs.		
10	48-55	55-63	24.4-26.4	88-102	Storm	Storm	Exceptionally high waves; sea covered with white foam patches; visibility still more reduced.	Exceptionally high waves; sea covered with white foam patches; visibility still more reduced.	Very rarely experienced on land; usually accompanied by widespread damage.		
11	56-63	64-72	28.1-31.6	100-117	Hurricane	Hurricane	Air filled with foam; sea completely white with driving spray; visibility greatly reduced.	Air filled with foam; sea completely white with driving spray; visibility greatly reduced.			
12	64-71	72-82	32.7-36.9	118-133							
13	72-80	82-93	37.0-41.4	134-150							
14	81-90	86-97	41.2-45.6	147-163							
15	90-99	100-111	45.0-49.5	161-177							
16	100-108	112-123	51.0-55.5	184-201							
17	109-115	124-136	56.1-61.2	207-223							

Note: Since January 1, 1954, weather map symbols have been based upon wind speed in knots, at five-knot intervals, rather than upon Beaufort number.

(H.O. Pub. No. 9)

TABLE 2.—Minimum Time that Wind Must Blow to Form Waves of Significant Height.  
 Minimum Time (T) in hours that wind must blow to form waves of H significant height (in feet) and L in nautical miles. Based upon the relationships given in I.O. Pub. No. 004, Techniques for Forecasting Ocean Waves. See also I.O. Pub. No. 003, Observing and Forecasting Ocean Waves.

Fetch:	BEAUFORT NUMBER																		
	3			4			5			6			7			8			*
	T	H	P	T	H	P	T	H	P	T	H	P	T	H	P	T	H	P	
10	4.4	1.8	2.1	3.7	2.6	2.4	3.2	3.5	2.8	2.7	5.0	3.1	2.5	6.0	3.4	2.3	7.3	3.9	2.0
20	7.1	2.0	2.5	6.2	3.2	2.9	5.4	4.9	3.3	4.7	7.0	3.8	4.2	8.6	4.3	3.9	10.0	4.4	3.5
30	9.8	2.0	2.8	8.3	3.8	3.3	7.2	5.8	3.7	6.2	8.0	4.2	5.8	10.0	4.6	5.2	12.1	5.0	4.7
40	12.0	2.0	3.0	10.3	3.9	3.6	8.9	6.2	4.1	7.8	9.0	4.6	7.1	11.2	4.9	6.5	14.0	5.4	5.8
50	14.0	2.0	3.2	12.4	4.0	3.8	11.0	6.5	4.4	9.1	9.8	4.8	8.4	12.2	5.2	7.7	15.7	5.6	6.9
60	16.0	2.0	3.5	14.0	4.0	4.0	12.0	6.8	4.6	10.2	10.3	5.1	9.6	13.2	5.5	8.7	17.0	6.0	8.0
70	18.0	2.0	3.7	15.8	4.0	4.1	13.5	7.0	4.8	11.9	10.8	5.4	10.5	13.9	5.7	9.9	18.0	6.4	9.0
80	20.0	2.0	3.8	17.0	4.0	4.2	15.0	7.2	4.9	13.0	11.0	5.6	12.0	14.5	6.0	11.0	18.9	6.6	10.0
90	23.6	2.0	3.9	18.8	4.0	4.3	16.5	7.3	5.1	14.1	11.2	5.8	13.0	15.0	6.3	12.0	20.0	6.7	11.0
100	27.1	2.0	4.0	20.0	4.0	4.4	17.5	7.3	5.3	15.1	11.4	6.0	14.0	15.5	6.5	12.5	20.5	6.9	11.9
120	31.1	2.0	4.2	22.4	4.1	4.7	20.0	7.8	5.4	17.0	11.7	6.2	15.9	16.0	6.7	14.5	21.5	7.3	13.1
140	36.6	2.0	4.5	25.8	4.2	4.9	22.5	7.9	5.8	19.1	11.9	6.4	17.6	16.2	7.0	16.0	22.0	7.6	14.8
160	43.2	2.0	4.9	28.4	4.2	5.2	24.3	7.9	6.0	21.1	12.0	6.6	19.5	16.5	7.3	18.0	23.0	8.0	16.4
180	50.0	2.0	4.9	30.9	4.3	5.4	27.0	8.0	6.2	23.1	12.1	6.8	21.3	17.0	7.5	19.9	23.5	8.3	18.0
200				33.5	4.3	5.6	29.0	8.0	6.4	25.4	12.2	7.1	23.1	17.5	7.7	21.5	23.5	8.5	19.3
220				36.5	4.4	5.8	31.1	8.0	6.6	27.2	12.3	7.2	25.0	17.9	8.0	22.9	24.0	8.8	20.9
240				39.2	4.4	5.9	33.1	8.0	6.8	29.0	12.4	7.3	26.8	17.9	8.2	24.4	24.5	9.0	22.0
260				41.9	4.4	6.0	34.9	8.0	6.9	30.5	12.6	7.5	28.0	18.0	8.4	26.0	25.0	9.2	23.5
280				44.5	4.4	6.2	36.8	8.0	7.0	32.4	12.9	7.8	29.5	18.0	8.5	27.7	25.0	9.4	25.0
300				47.0	4.4	6.3	38.5	8.0	7.1	34.1	13.1	8.0	31.5	18.0	8.7	29.0	25.0	9.5	26.3
320							40.5	8.0	7.2	36.0	13.3	8.2	33.0	18.0	8.9	30.2	25.0	9.6	27.6
340							42.4	8.0	7.3	37.6	13.4	8.3	34.2	18.0	9.0	31.6	25.0	9.8	29.0
360							44.2	8.0	7.4	38.8	13.4	8.4	35.7	18.1	9.1	33.0	25.0	9.9	30.0
380							46.1	8.0	7.5	40.2	13.5	8.5	37.1	18.2	9.3	34.2	25.5	10.0	31.3
400							48.0	8.0	7.7	42.2	13.5	8.6	38.8	18.4	9.5	35.0	26.0	10.2	32.5
420							50.0	8.0	7.8	43.5	13.6	8.7	40.0	18.7	9.6	36.9	26.5	10.3	33.7
440							52.0	8.0	7.9	44.7	13.7	8.8	41.3	18.8	9.7	38.1	27.0	10.4	34.8
460							54.0	8.0	8.0	46.2	13.7	8.9	42.8	19.0	9.8	39.5	27.5	10.6	36.0
480							56.0	8.0	8.1	47.8	13.7	9.0	44.0	19.0	9.9	41.0	27.5	10.8	37.0
500							58.0	8.0	8.2	49.2	13.8	9.1	45.5	19.1	10.1	42.1	27.5	10.9	38.3
550										53.0	13.8	9.3	48.5	19.5	10.3	44.9	27.5	11.1	41.0
600										56.3	13.8	9.5	51.8	19.7	10.5	47.7	27.5	11.3	43.6
650													55.0	19.8	10.7	50.3	27.5	11.6	46.4
700													58.5	19.8	11.0	53.2	27.5	11.8	49.0
750																56.2	27.5	12.1	51.0
800																59.2	27.5	12.3	53.8
850																			56.2
900																			58.2
950																			
1000																			

Best Available Copy

that Wind Must Blow to Form Waves of Significant Height and Period

st blow to form waves of H significant height (in feet) and P period (in seconds). Fetch relationships given in H.O. Pub. No. 604, Techniques for Forecasting Wind Waves and Swell, and Forecasting Ocean Waves.

BEAUFORT NUMBER																
P	7			8			9			10			11			Fetch
	T	H	P	T	H	P	T	H	P	T	H	P	T	H	P	
.1	2.5	6.0	3.4	2.3	7.3	3.2	2.0	8.0	4.1	1.9	10.0	4.2	1.8	10.0	5.0	10
.8	4.2	8.6	4.3	3.9	10.0	4.4	3.5	12.0	5.0	3.2	14.0	5.2	3.0	16.0	5.9	20
.2	5.8	10.0	4.6	5.2	12.1	5.0	4.7	15.8	5.5	4.4	18.0	6.0	4.1	19.8	6.3	30
.6	7.1	11.2	4.9	6.5	14.0	5.4	5.8	17.7	5.9	5.4	21.0	6.3	5.1	22.5	6.7	40
.8	8.4	12.2	5.2	7.7	15.7	5.6	6.9	19.8	6.3	6.4	23.0	6.7	6.1	25.0	7.1	50
.1	9.6	13.2	5.5	8.7	17.0	6.0	8.0	21.0	6.5	7.4	25.0	7.0	7.0	27.5	7.5	60
.4	10.5	13.9	5.7	9.9	18.0	6.4	9.0	22.5	6.8	8.3	26.5	7.3	7.8	29.5	7.7	70
.6	12.0	14.5	6.0	11.0	18.9	6.6	10.0	24.0	7.1	9.3	28.0	7.7	8.6	31.5	7.9	80
.8	13.0	15.0	6.3	12.0	20.0	6.7	11.0	25.0	7.2	10.2	30.0	7.9	9.5	34.0	8.2	90
.0	14.0	15.5	6.5	12.8	20.5	6.9	11.9	26.5	7.6	11.0	32.0	8.1	10.3	35.0	8.5	100
.2	15.9	16.0	6.7	14.5	21.5	7.3	13.1	27.5	7.9	12.3	33.5	8.4	11.5	37.5	8.8	120
.4	17.6	16.2	7.0	16.0	22.0	7.6	14.8	29.0	8.3	13.9	35.5	8.8	13.0	40.0	9.2	140
.6	19.5	16.5	7.3	18.0	23.0	8.0	16.4	30.5	8.7	15.1	37.0	9.1	14.5	42.5	9.6	160
.8	21.3	17.0	7.5	19.9	23.5	8.3	18.0	31.5	9.0	16.5	38.5	9.5	16.0	44.5	10.0	180
.1	23.1	17.5	7.7	21.5	23.5	8.5	19.3	32.5	9.2	18.1	40.0	9.8	17.1	46.0	10.3	200
.2	25.0	17.9	8.0	22.9	24.0	8.8	20.9	34.0	9.6	19.1	41.5	10.1	18.2	47.5	10.6	220
.3	26.8	17.9	8.2	24.4	24.5	9.0	22.0	34.5	9.8	20.5	43.0	10.3	19.5	49.0	10.8	240
.5	28.0	18.0	8.4	26.0	25.0	9.2	23.5	34.5	10.0	21.8	44.0	10.6	20.9	50.5	11.1	260
.8	29.5	18.0	8.5	27.7	25.0	9.4	25.0	35.0	10.4	23.0	45.0	10.9	22.0	51.5	11.3	280
.0	31.5	18.0	8.7	29.0	25.0	9.5	26.3	35.0	10.4	24.3	45.0	11.1	23.2	53.0	11.6	300
.2	33.0	18.0	8.9	30.2	25.0	9.6	27.6	35.5	10.6	25.5	45.5	11.2	24.5	54.0	11.8	320
.3	34.2	18.0	9.0	31.6	25.0	9.8	29.0	36.0	10.8	26.7	46.0	11.4	25.5	55.0	12.0	340
.4	35.7	18.1	9.1	33.0	25.0	9.9	30.0	36.5	10.9	27.7	46.5	11.6	26.6	55.0	12.2	360
.5	37.1	18.2	9.3	34.2	25.5	10.0	31.3	37.0	11.1	29.1	47.0	11.8	27.7	55.5	12.4	380
.6	38.8	18.4	9.5	35.6	26.0	10.2	32.5	37.0	11.2	30.2	47.5	12.0	28.9	56.0	12.6	400
.7	40.0	18.7	9.6	36.9	26.5	10.3	33.7	37.5	11.4	31.5	47.5	12.2	29.6	56.5	12.7	420
.8	41.3	18.8	9.7	38.1	27.0	10.4	34.8	37.5	11.5	32.5	48.0	12.3	30.9	57.0	12.9	440
.9	42.8	19.0	9.8	39.5	27.5	10.6	36.0	37.5	11.7	33.5	48.5	12.5	31.8	57.5	13.1	460
.0	44.0	19.0	9.9	41.0	27.5	10.8	37.0	37.5	11.8	34.5	49.0	12.6	32.7	57.5	13.2	480
.1	45.5	19.1	10.1	42.1	27.5	10.9	38.3	38.0	11.9	35.5	49.0	12.7	33.9	58.0	13.4	500
.3	48.5	19.5	10.3	44.9	27.5	11.1	41.0	38.5	12.2	38.2	50.0	13.0	36.5	59.0	13.7	550
.5	51.8	19.7	10.5	47.7	27.5	11.3	43.6	39.0	12.5	40.3	50.0	13.3	38.7	60.0	14.0	600
	55.0	19.8	10.7	50.3	27.5	11.5	46.4	39.5	12.8	43.0	50.0	13.7	41.0	60.0	14.2	650
	58.5	19.8	11.0	53.2	27.5	11.8	49.0	40.0	13.1	45.4	50.5	14.0	43.5	60.5	14.5	700
				56.2	27.5	12.1	51.0	40.0	13.3	48.0	51.0	14.2	45.8	61.0	14.8	750
				59.2	27.5	12.3	53.8	40.0	13.5	50.6	51.5	14.5	47.8	61.5	15.0	800
							56.2	40.0	13.8	52.5	52.0	14.6	50.0	62.0	15.2	850
							58.2	40.0	14.0	54.6	52.0	14.9	52.0	62.5	15.5	900
										57.2	52.0	15.1	54.0	63.0	15.7	950
										59.3	52.0	15.3	56.3	63.0	16.0	1000

(H.O. Pub. No. 603, 1955)

Best Available Copy

E

TABLE 3.--Deep-ocean Surface Waves

Classification	Period	Usual Generating Force	Comments
Capillary waves	less than 0.1 sec	Wind (or non-linear actions of steep gravity waves)	Surface tension is restoring force
Ultra-gravity waves	from 0.1 sec to 1 sec	Wind (or non-linear actions of steep gravity waves)	Combination of surface tension and gravity restoring force
Ordinary gravity waves	from 1 sec to 30 sec	Wind (most often generates 5 to 15 sec period waves)	Usual type experienced on ocean surface
Infra-gravity waves	from 30 sec to 5 min	Meteorological factors	Can cause dangerous oscillation in offshore installations
Long-period waves	from 5 min to 12 hrs	Storms and earthquakes	
Ordinary tide waves	from 12 hrs to 24 hrs	Sun and moon	
Trans-tidal waves	24 hrs and up	Meteorologic factors Sun and moon	May contain solar and lunar tidal components or even seasonal water level variations
	(see Figure 1)		

(Munk, 1951)

TABLE 4.—Extinction Values for Various Types of Water

Wavelength (Angstroms)	Pure water	Filtered coastal water	Open ocean water	Coastal water, moderately turbid
8000	0.885	0.84	0.865	1.01
7600	1.11	1.10	1.13	1.25
7000	0.215	0.22	0.265	0.40
6300	0.10	0.095	0.14	0.31
5800	0.05	0.05	0.07	0.32
5500	0.03	0.025	0.045	0.32
5000	0.015	0.014	0.04	0.33
4700	0.007	0.012	0.04	0.35
4000	0.016	0.045	0.055	0.50
3600	0.02	0.08	0.065	0.65

(Clark and James, 1962)

TABLE 5.—Energy Distribution in the Spectrum of Sunlight after Passing through Water Layers of Different Thickness

Wave- length ( $\mu$ )	Thickness of the water layer								
	0	0.01 mm	0.1 mm	1 mm	1 cm	10 cm	1 m	10 m	100 m
0.2-0.6	237	237	237	237	237	235	229	172	14
0.6-0.9	360	360	360	359	353	305	129	9	--
0.9-1.2	179	179	178	172	123	8	--	--	--
1.2-1.5	87	86	82	63	17	--	--	--	--
1.5-1.8	80	76	64	27	--	--	--	--	--
1.8-2.1	25	23	11	--	--	--	--	--	--
2.1-2.4	25	24	19	1	--	--	--	--	--
2.4-2.7	7	6	2	--	--	--	--	--	--
2.7-3.0	0.4	0.2	--	--	--	--	--	--	--
Total	1000.0	993.7	952.1	859.4	730.2	549.3	358.1	181.5	13.9

(Total sun's incident energy on sea surface is taken as 1000)

(Defant, 1961)

TABLE 6.—Saturation Values of Oxygen in Sea Water (ml/L)\* from Normal Dry Atmosphere

Tempera- ture (°C)	Chlorinity (‰)		Salinity (‰)			
	15	16	17	18	19	20
	27.11	28.91	30.72	32.52	34.33	36.11
-2 .....	9.01	8.89	8.76	8.64	8.52	8.39
0 .....	8.55	8.43	8.32	8.20	8.08	7.97
5 .....	7.56	7.46	7.36	7.26	7.16	7.07
10 .....	6.77	6.69	6.60	6.52	6.44	6.35
15 .....	6.14	6.07	6.00	5.93	5.86	5.79
20 .....	5.63	5.56	5.50	5.44	5.38	5.31
25 .....	5.17	5.12	5.06	5.00	4.95	4.86
30 .....	4.74	4.68	4.63	4.58	4.52	4.46

\*mg-atoms of oxygen per liter=0.08981 × ml/L.

(Fox, 1907)

TABLE 7.—Enrichment Factors of Some Chemical Elements in Marine Organisms over Sea Water  
Dry weights of organisms were used.

Element	Enrichment factor
Ti	>10,000
V	>280,000
Cr	1,400
Mo	6,000
Mn	41,000
Fe	86,000
Co	21,000
Ni	41,000
Cu	7,500
Ag	22,000
Au	1,400
Zn	32,500
Cd	>4,500
Ga	800
Tl	>700
Ge	>7,600
Sn	2,700
Pb	2,600
As	3,300
Sb	>300
Bi	1,000

(Goldberg, 1960)



TABLE 8.—Chemical Abundances in the Marine Hydrosphere

	mg/l	atoms/10 <sup>23</sup>	atoms Cl		mg/l	atoms/10 <sup>23</sup>	atoms Cl
H	108,000.	202,000,000.		Ag	0.003	0.005	
He	0.00001	.00001		Cd	0.000055	0.0009	
Li	0.2	50.		Ir	<0.02	<0.3	
Be				Sn	0.003	0.05	
B	4.8	830.		Sb	<0.0005	<0.008	
C	28.	4,300.		Te			
N	0.5	70.		I	0.05	0.7	
O	857,000.	100,000,000.		Xe	0.0001	0.001	
F	1.3	130.		Cs	0.001	0.01	
Ne	0.0003	0.03		Ba	<0.09	<1.2	
Na	10,500.	850,000.		La	0.0003	0.004	
Mg	1,300.	100,000.		Ce	0.0004	0.005	
Al	0.01	0.7		Pr			
Si	3.	200.		Nd			
P	0.07	4.		Pm			
S	900.	52,000.		Sm			
Cl	19,000.	1,000,000.		Eu			
A	0.6	28.5		Gd			
K	380.	18,000.		Tb			
Ca	400.	19,000.		Dy			
Sc	0.00004	0.002		Ho			
Ti	0.001	0.04		Er			
V	0.001	0.04		Tm			
Cr	0.00005	0.002		Yb			
Mn	0.002	0.07		Lu			
Fe	0.01	0.3		Hg			
Co	0.0005	0.02		Ta			
Ni	0.0005	0.02		W	0.0001	0.001	
Cu	0.003	0.09		Re			
Zn	0.1	0.3		Cs			
Ga	0.0005	0.01		Ir			
Ge	<0.0001	<0.003		Pt			
As	0.003	0.07		Au	0.000004	0.00004	
Se	0.004	0.1		Hg	0.00003	0.0003	
Br	65.	1,500.		Tl	<0.00001	<0.00009	
Kr	0.0003	0.007		Pb	0.003	0.03	
Pb	0.3	7.		Bi	0.0002	0.002	
Sr	10.	200.		Po			
Y	0.0003	0.006		At			
Zr				Rn	9.0 x 10 <sup>-15</sup>	8.0 x 10 <sup>-14</sup>	
Nb				Fr			
Mo	0.01	0.02		Ra	3.0 x 10 <sup>-11</sup>	2.0 x 10 <sup>-10</sup>	
Tc				Ac			
Ru				Th	0.0007	0.006	
Rh				Pa			
Pd				U	0.002	0.02	

(Goldberg, 1956)

TABLE 9.- Natural Radioactivity of Sea Water

Nuclide	Half Life	Concentration (gm/cm <sup>3</sup> )	Specific Activity (number of dis-3 integrations/cm <sup>3</sup> /sec)	Energy of $\gamma$ -radiation (Mev)
K <sup>40</sup>	1.3x10 <sup>9</sup> yrs.	4.5x10 <sup>-8</sup>	1.2x10 <sup>-2</sup>	1.5 ‡
Rb <sup>87</sup>	1.4x10 <sup>10</sup> yrs.	8.4x10 <sup>-8</sup>	2.2x10 <sup>-4</sup>	No $\gamma$
U <sup>238</sup>	4.5x10 <sup>9</sup> yrs.	2.0x10 <sup>-9</sup>	1x10 <sup>-1*</sup>	.05-.82
U <sup>235</sup>	7.13x10 <sup>8</sup> yrs.	1.5x10 <sup>-11</sup>	3x10 <sup>-6*</sup>	.06-.18
Th <sup>232</sup>	1.4x10 <sup>10</sup> yrs.	10 <sup>-11</sup>	2x10 <sup>-7*</sup>	.03-.08
Ra <sup>226</sup>	1.62x10 <sup>3</sup> yrs.	3.0x10 <sup>-16</sup>	3x10 <sup>-5*</sup>	.18-.60
C <sup>14</sup>	5770 yrs.	4x10 <sup>-17</sup>	7x10 <sup>-6</sup>	No $\gamma$
H <sup>3</sup> †	12.26 yrs.	8x10 <sup>-20</sup>	2.5x10 <sup>-5</sup>	No $\gamma$

\* Activity of nuclide and daughter products

(Meyille, R. 1966)

† Only in top 50-100 meters of ocean

‡  $\gamma/\beta = 0.1$

TABLE 10.—Physical Composition of Pelagic Sediments and Texture of Mineral Particles

C=CHALLENGER, Murray and Renard, 1891; M=Murray and Chumley, 1924; V=VALDIVIA, Murray and Philippi 1908

Physical composition	Red clay (%)		Radiolarian ooze (%) (C)	Diatom ooze (%)		Globigerina ooze (%)		Pteronod ooze (%) (M)	
	(C)	(M)		(C)	(V)	(C)	(M)		
CaCO <sub>3</sub>	Maximum	28.8	29.0	20.0	36.3	24.0	96.6	97.2	98.5
	Minimum	0	0	tr	2.0	0	80.2	30.0	44.8
	Average	5.7	10.4	4.0	23.0	2.7	64.5	54.7	73.9
Planktonic foraminifera	Maximum		27.0			pre-dominant part of CaCO <sub>3</sub>	80.0	95.0	75.0
	Minimum		0				25.0	15.0	15.0
	Average	4.77	8.8	3.1	3.1		53.1	58.9	34.7
Benthic foraminifera	Maximum		3.0			present		10.0	10.0
	Minimum		0					0	tr
	Average	0.5	0.5	.1	1.5		2.1	2.1	3.3
Other calcareous remains	Maximum		5.3			present	31.8	26.0	57.0
	Minimum		0				1.2	tr	15.8
	Average	1.3	1.0	.8	5.2		9.2	3.7	35.5
Siliceous remains	Maximum		5.0	80.0	60.0	90.0	10.0	15.0 <sup>a</sup>	20.0
	Minimum		0	30.0	20.0	40.0	4.0	tr	tr
	Average	2.4	0.7	54.4	41.0	73.1	1.6	1.7	1.9
Texture of mineral particles									
>.05 mm, diameter	Maximum	20.0	60.0 <sup>b</sup>	5.0	25.0	40.0	50.0 <sup>b</sup>	50.0 <sup>b</sup>	20.0
	Minimum	1.0	tr	1.0	3.0	1.0	1.0	tr	tr
	Average	5.6	2.4	1.7	15.6	8.4	5.3	5.1	4.7
<.05 mm, diameter	Maximum		100.0	67.0 <sup>c</sup>	27.0 <sup>c</sup>	34.0	65.0	59.3	41.8
	Minimum		31.0	17.0 <sup>c</sup>	12.5 <sup>c</sup>	9.0	1.2	1.2	tr
	Average	85.4	81.5	39.9	20.4 <sup>c</sup>	15.8	30.5	26.5	19.5
Number of samples averaged	70	126	9	5	15	118	772	40	

(Brewster, B., 1908)

<sup>a</sup> Only in two exceptional cases; the usual maximum is not more than 5 per cent.<sup>b</sup> Only in one exceptional case.<sup>c</sup> Includes finely divided remains of siliceous organisms.

TABLE 11.—Freezing Point of Sea Water for Values of Salinity

Salinity, ‰	Freezing point, °C.	Salinity, ‰	Freezing point, °C.	Salinity, ‰	Freezing point, °C.
1	-0.052	14	-0.750	27	-1.461
2	-0.105	15	-0.804	28	-1.516
3	-0.159	16	-0.858	29	-1.572
4	-0.212	17	-0.912	30	-1.628
5	-0.266	18	-0.967	31	-1.684
6	-0.320	19	-1.021	32	-1.740
7	-0.373	20	-1.076	33	-1.796
8	-0.427	21	-1.130	34	-1.853
9	-0.481	22	-1.185	35	-1.909
10	-0.534	23	-1.240	36	-1.966
11	-0.588	24	-1.295	37	-2.023
12	-0.642	25	-1.350	38	-2.080
13	-0.696	26	-1.405	39	-2.138

(Thompson, 1933)

TABLE 12.—Ratio of the Draft of Ice Having Vertical Walls to the Height of Ice above Water

Density of Ice Density of water	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95
1.00	1.5	1.9	2.3	3.0	4.0	5.7	9.0	19.0
1.01	1.5	1.8	2.3	2.9	3.8	5.3	8.2	15.2
1.02	1.4	1.8	2.2	2.8	3.6	5.0	7.5	13.6
1.03	1.4	1.7	2.1	2.7	3.5	4.7	7.0	11.9

(Suhov, 1937)

TABLE 13.—Animal Forms in Ocean

Division	System or Province	Zone	Ecological Groups	Plant and Animal Forms
Benthic	Littoral	Littoral Sublittoral	Benthos (sea floor animals)	1. Sessile - (Sponges, (immobile) mussels, oysters, crinoids, corals, hydroids, bryozoans, barnacles)  Tube worms Seaweeds and sea grasses Diatoms
	Deep-Sea	Bathyal Abyssal Hadal		2. Creeping forms - (crabs, lobsters, copepods, amphipods) Crustaceans Protozoans Snails Bivalves  3. Burrowing forms - (clams, worms) Crustaceans Echinoderms
Pelagic	Neritic Oceanic	Epipelagic Mesopelagic	Nekton (swimming animals)  Plankton (floating animals or floating plants)	Squids Fishes Whales  Floating and Drifting Life 1. Zooplankton - feebly swimming or floating animals 2. Phytoplankton - microscopic floating plants

(U.S.N. Civil Engineering Laboratory)

## References

- Figure 1**  
Munk, W. H. *Origin and Generation of Waves*, Proceedings of the First Conferences on Coastal Engineering, Long Beach, Calif., Council on Wave Research, Berkeley, Calif. 1950.
- Figure 2**  
Cox, R. A., and N. D. Smith. "The Specific Heat of Sea Water." *Proceedings of the Royal Society*, Series A. Mathematical and Physical Sciences, Vol. 252, No. 1268, 1959.
- Figure 3**  
Kovit, Bernard (1956). "The Under-Sea Environment." *Space/Aeronautics Magazine*, January 1960.
- Figure 4**  
U.S. Navy Hydrographic Office (Bowditch). *American Practical Navigator* H.O. Pub. No. 9.
- Figure 5**  
Sverdrup, H. V., Martin Johnson, and R. H. Fleming. *The Oceans*, Prentice-Hall Inc. 1942.
- Figure 6**  
Naval Ordnance Laboratory (Gordon Riel) Personnel Communications. White Oak, Md.
- Figures 7, 8**  
Zubov, N. N. "On the Maximum Thickness of Perennial Sea Ice." *Meteorologiya i Gidrologiya* 4, No. 4: 123-131, 1938.
- Figure 9**  
Hedgpeth, J. W. "Treatise on Marine Ecology and Palaeoecology." *Geol. Soc. America Memoir* 67, Vol. 1.
- Figure 10**  
Wentz, G. M. "Acoustic Ambient Noise in the Ocean. Spectra and Sources," *Journal of the Acoustical Society of America*, Vol. 32, December 1962.
- Figure 11**  
Shepard, F. P. "Nomenclature Based on Sand, Silt, and Clay Ratios," *Journal of Sed. Petrology*, Vol. 24, No. 3, 1954.
- Figure 12**  
Blalek, Eugene L. U.S. Naval Oceanographic Office, *pH of the Principal Water Masses of the World*. Informal Manuscript Report 0-10-65 (Unpublished Manuscript).
- Table 1**  
U.S. Navy Hydrographic Office. *American Practical Navigator*, (Bowditch). H.O. Pub. No. 9, Washington, D.C.
- Table 2**  
U.S. Navy Hydrographic Office. *Practical Methods for Observing and Forecasting Ocean Waves by Means of Spectra and Statistics*. H.O. Pub. No. 603. Washington, D.C. 1955.
- U.S. Navy Hydrographic Office. *Technique for Forecasting Ocean Waves*, H.O. Pub. No. 604. Washington, D.C.
- Table 3**  
Munk, W. H. *Origin and Generation of Waves*, Proceedings of the First Conferences on Coastal Engineering, Long Beach, Calif. Council on Wave Research, Berkeley, Calif. 1951.
- Table 4**  
Clarke, G. L., and H. R. James. "Laboratory Analysis of the Selective Absorption of Light by Sea Water." *Journal of the Optical Society of America*, Vol. 29, 1939.
- Table 5**  
Defant, A. *Physical Oceanography*. New York: Pergamon Press Vol. 1. 1961.
- Table 6**  
Fox, C. J. J. "On the Coefficients of Absorption of the Atmosphere Gases in Distilled Water and Sea Water." *Council Perm. International pour L'Explor. de la Mer, Pub. de Circonstance*. No. 41, 1907.
- Table 7**  
Goldberg, E. G. *McGraw Hill Encyclopedia of Science and Technology*. Vol. 12, 1960.
- Table 8**  
Goldberg, E. G. *Arkiv. Zool.*, Vol. 32A, 1939.
- Table 9**  
Revelle, Folsom, Goldberg and Isaacs. "Nuclear Science and Oceanography," *Proceedings of the International Conference on Peacetime Uses of Atomic Energy*. Geneva, 1955.
- Table 10**  
Revelle, Roger. "Marine Bottom Samples Collected in the Pacific Ocean by the Carnegie on its Seventh Cruise." Ph. D. Thesis, University of Calif. 1936.
- Murry, John, and A. F. Renard. "Report on Deep-Sea Deposits Based on the Specimens Collected During the Voyage of H.M.S. Challenger in the Year 1872 to 1876." *Challenger Reports*, 1891.

Murry, John, and E. Philippi. "Die Grundproben der Deutschen Tiefsee Expedition." *Valdivia 1898-1899*. *Wiss. Erg.*, Bd. 10, 1906.

Murry, John, and James Chumley. "The Deep-Sea Deposits of the Atlantic Ocean". *Royal Society, Edinburgh, Trans.* Vol. 54, pt. 1, 1924.

Table 11.

Thompson, T. G. "Physical Properties of Sea Water, Physics of the Earth," *Oceanography. Nat.*

*Res. Council Bull. No. 85*, Washington, D.C. Vol. 5, 1932.

Table 12

Zubov, N. N. "Oceanological Tables." *Hydro-meteorological Institute*. Leningrad, USSR, 1957.

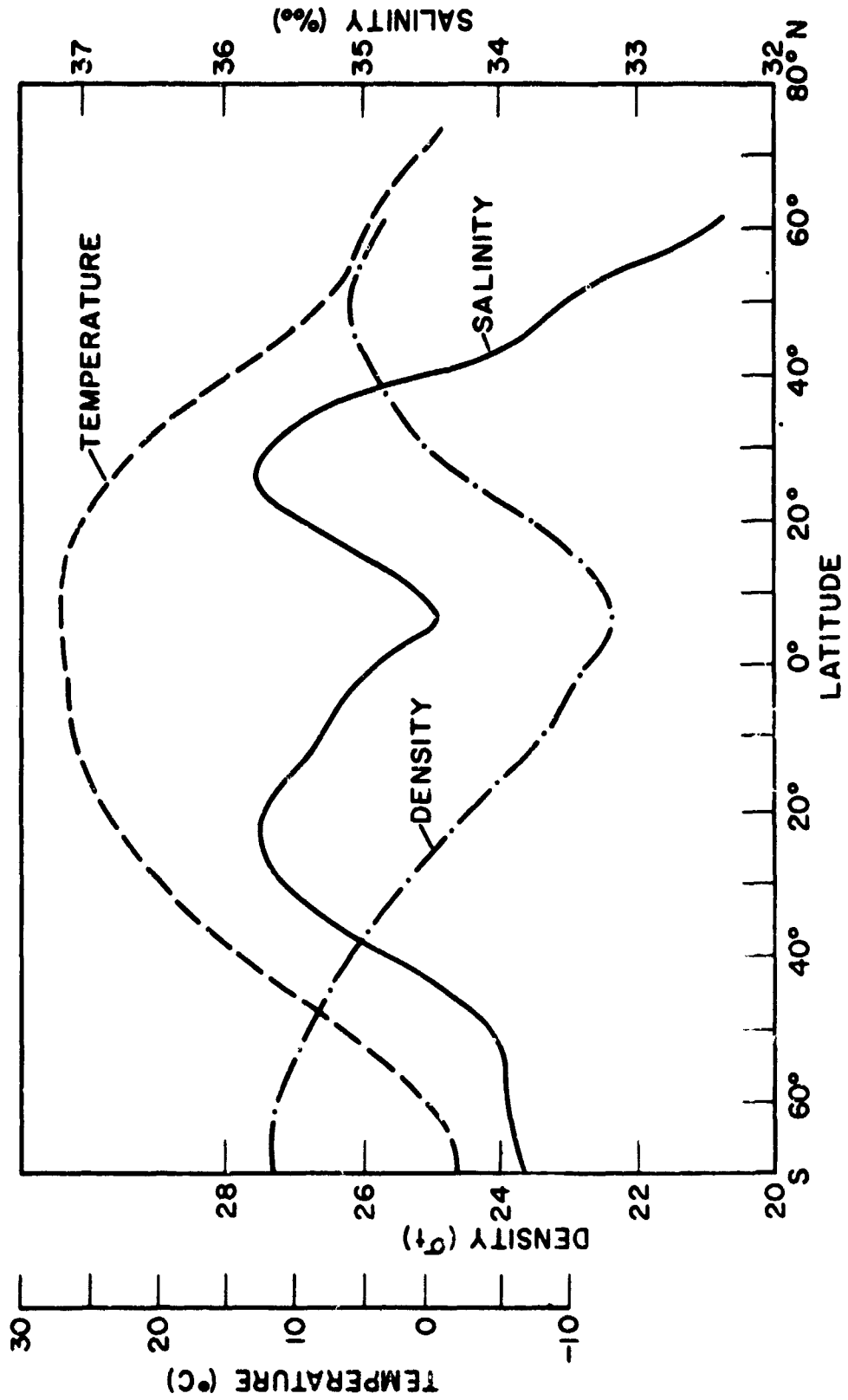
Table 13

U.S.N. Civil Engineering Laboratory. *Engineering Manual for Underwater Construction*. Port Huene, Calif. Technical Report 284-2, March 1964.

## **SECTION III**

### **Data on Oceans Related to Geography**





(Pickard, 1964)

FIGURE 1. Average Surface Temperature, Salinity, and Density Variation with Latitude for all Oceans

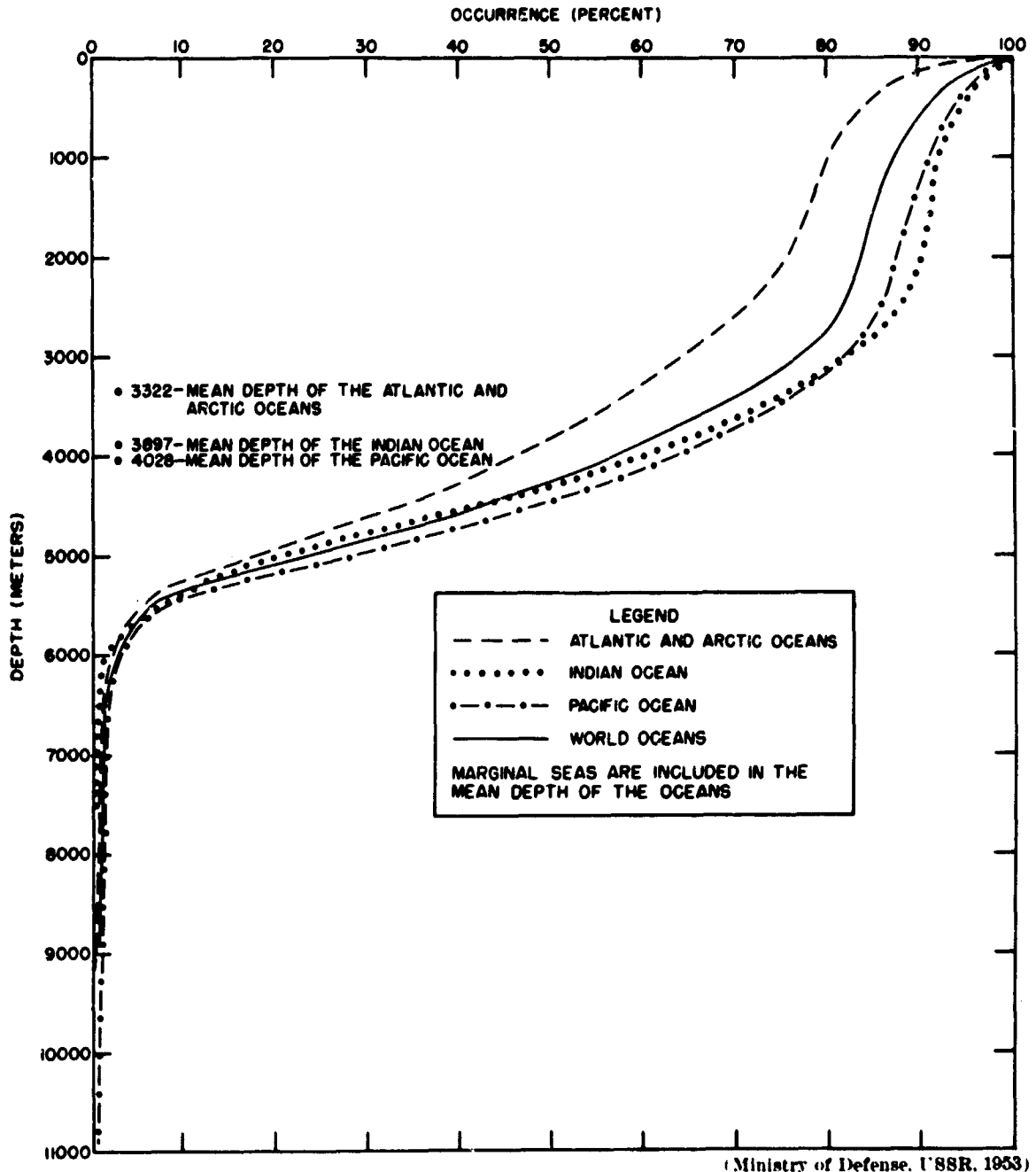


FIGURE 2.—Bathymetric Curves of Oceans

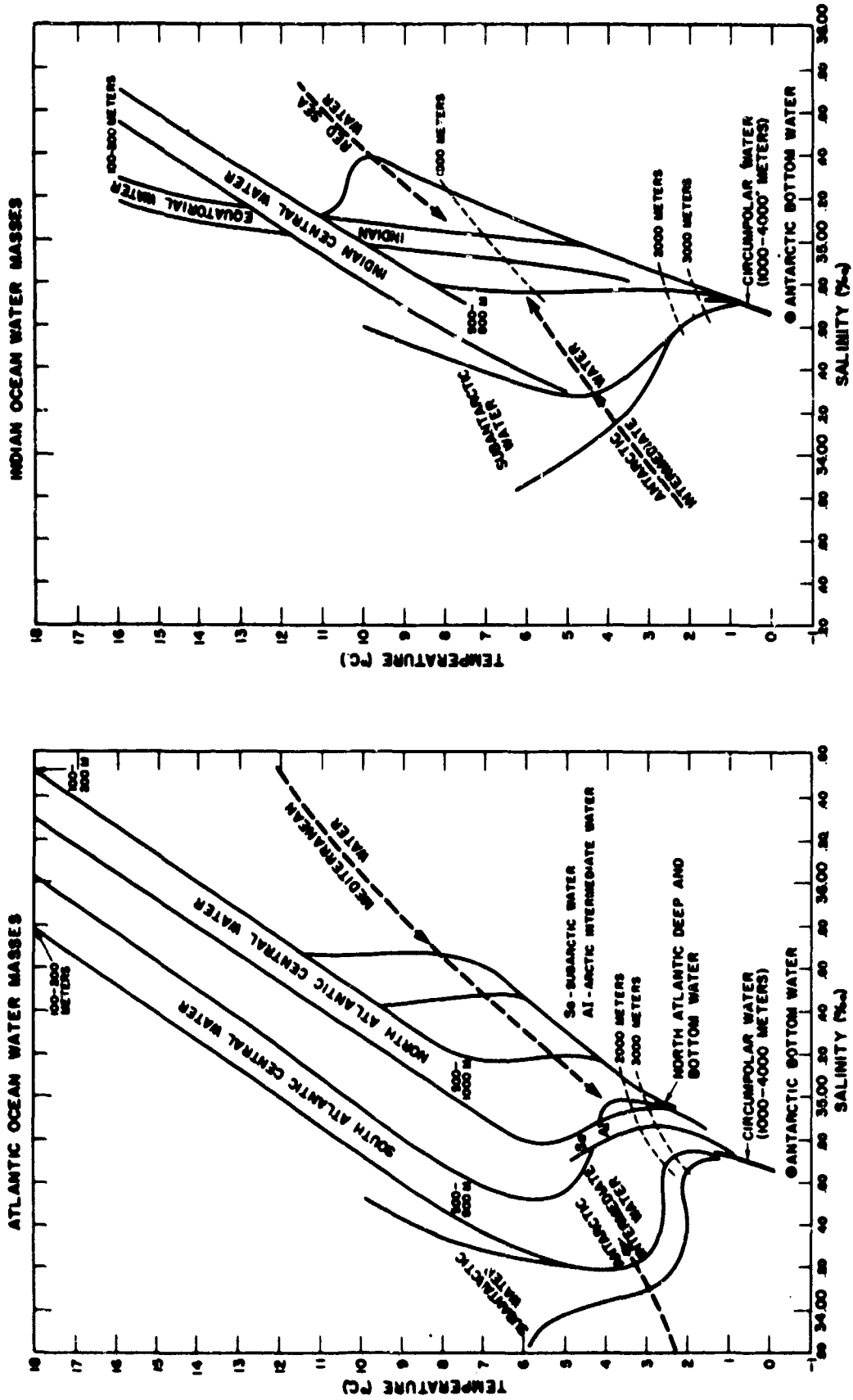


Figure 3.—Temperature-Salinity Relations of Principal Water Masses of Oceans (Sverdrup, Johnson, and Fleming, 1942)

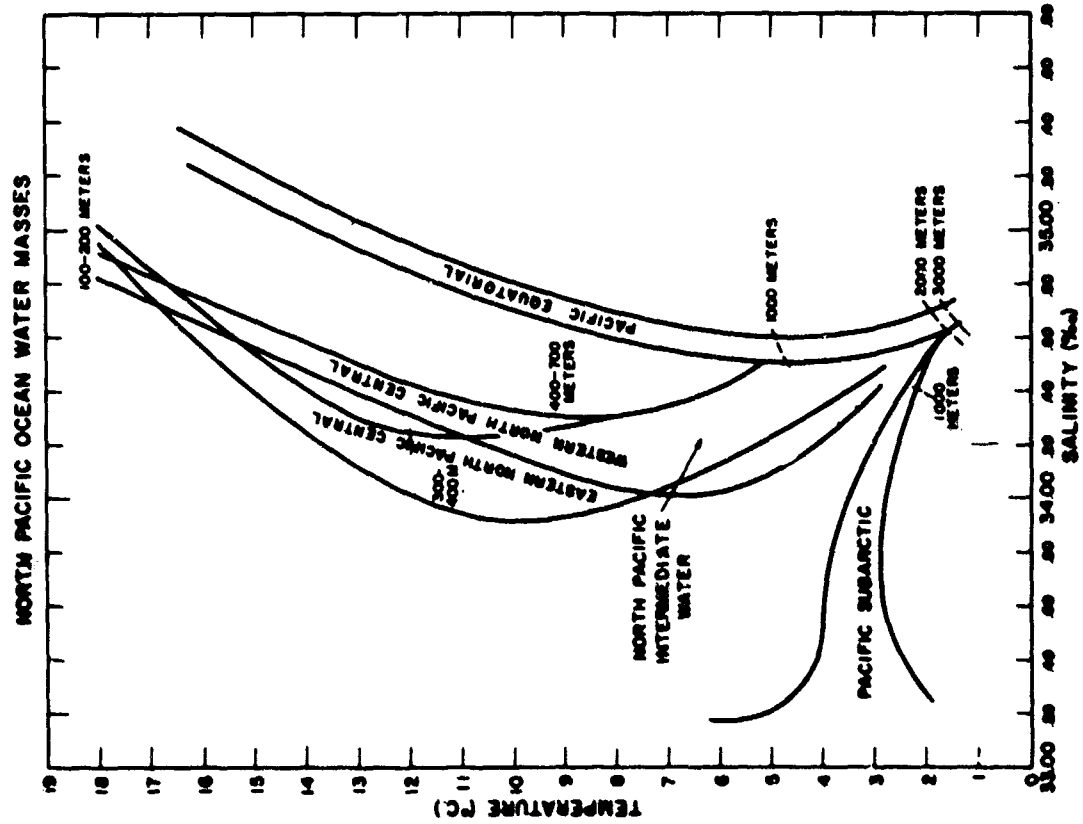
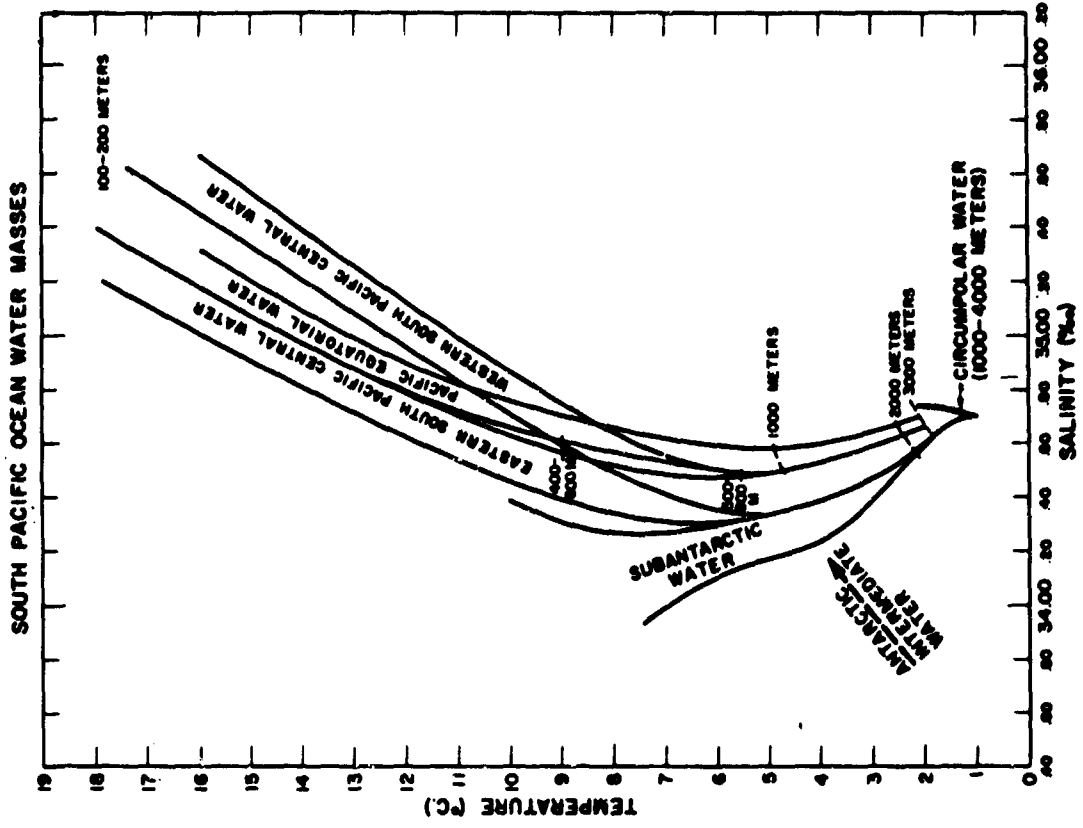


FIGURE 3.—Temperature-Salinity Relations of Principal Water Masses of Oceans—Continued

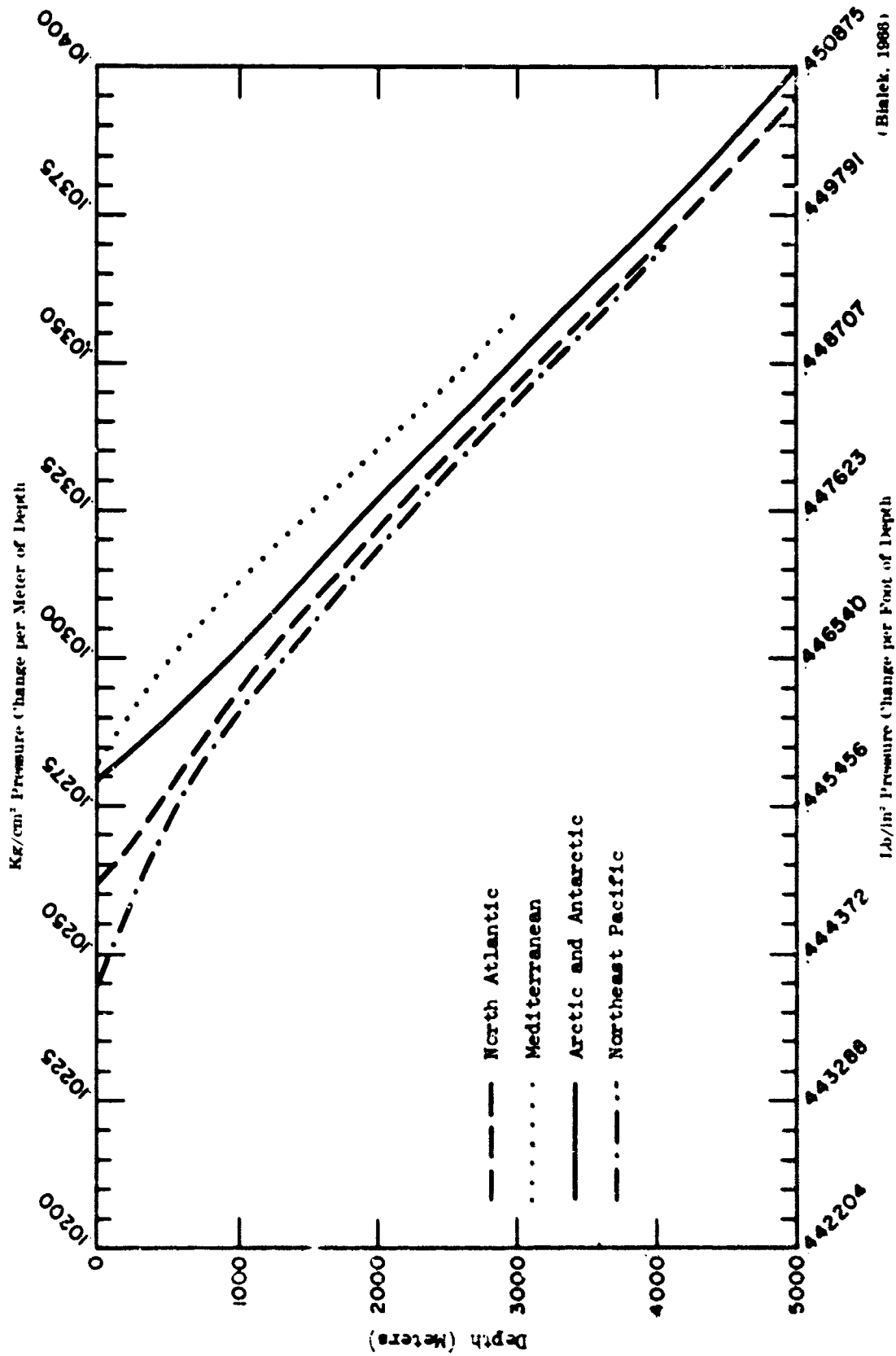


FIGURE 4. Pressure Changes with Depth (Based on Mean Density Values in Table 10)

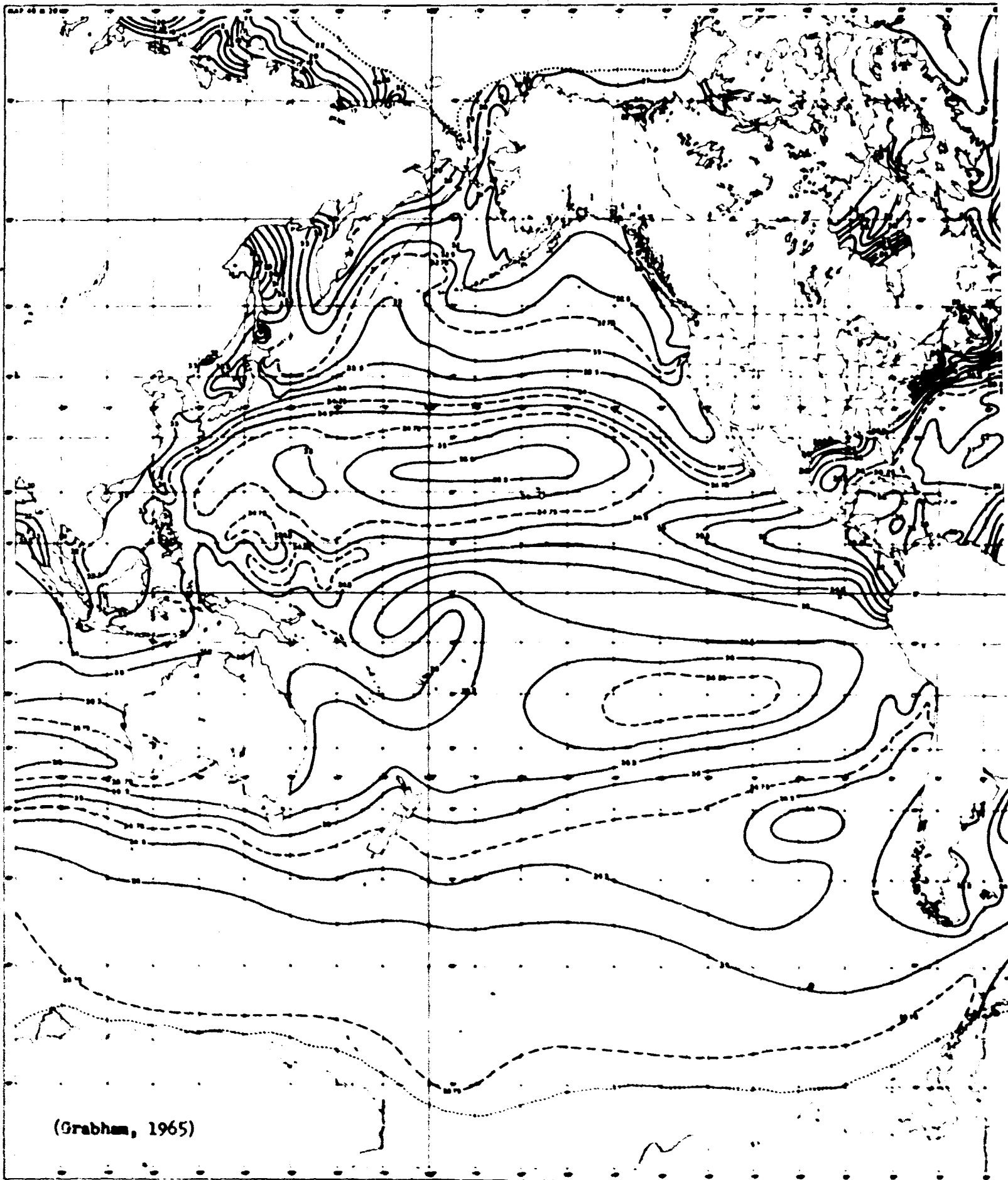
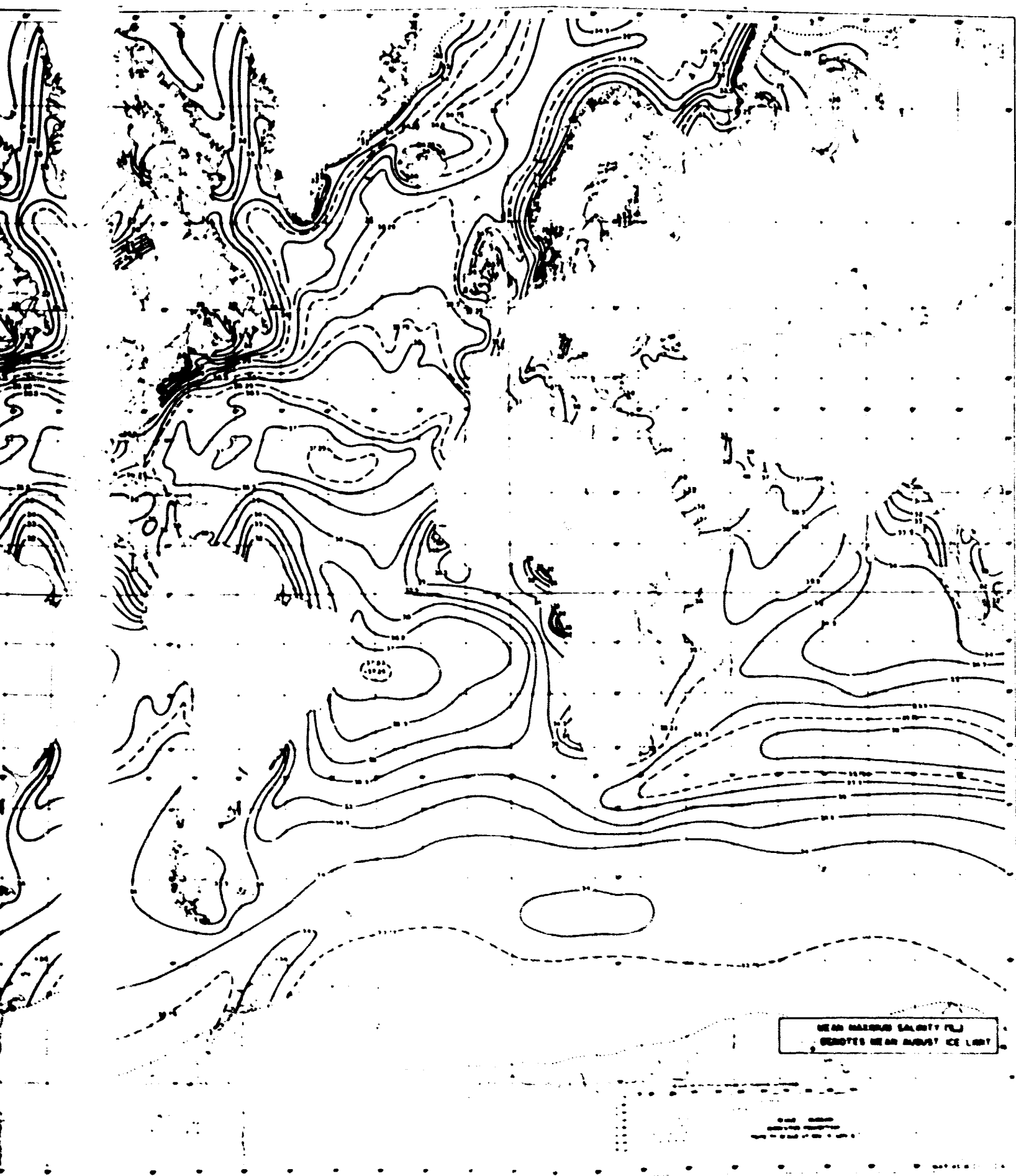
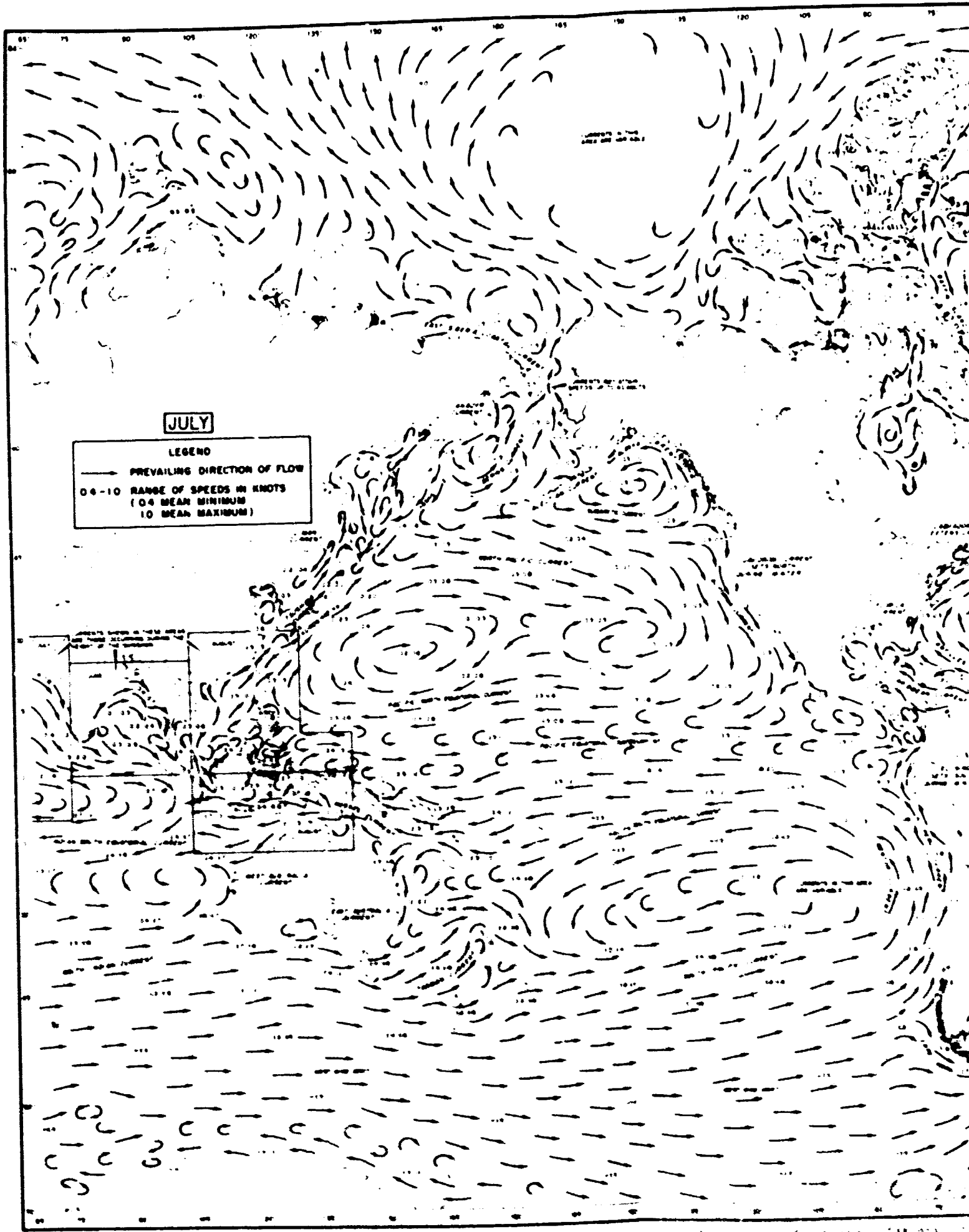


FIGURE 5. Mean Annual Maximum Salinity

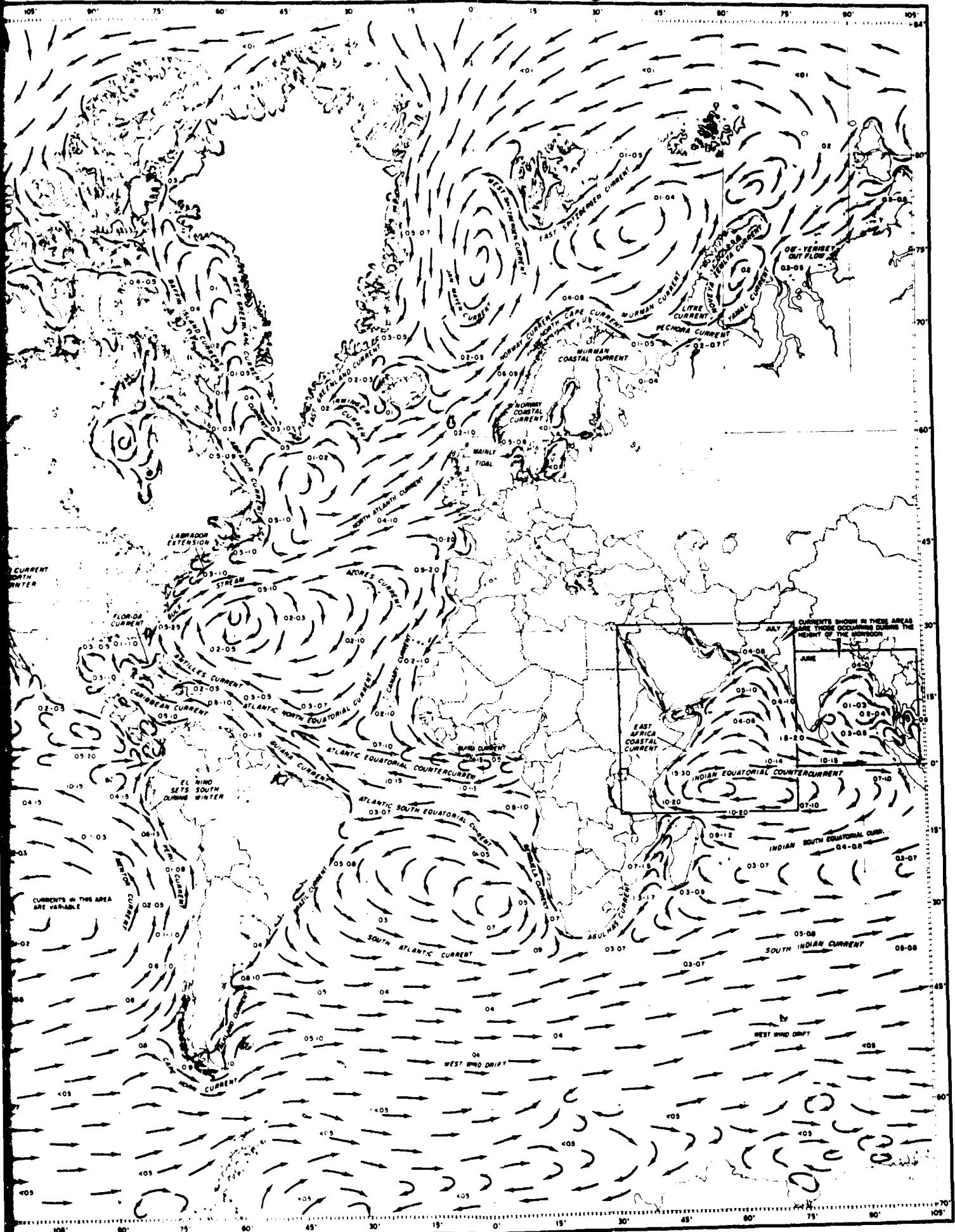


SEA SURFACE TEMPERATURE (SST) ANOMALIES  
SEA LEVEL PRESSURE (SLP) ANOMALIES

11-5817 (Rev. 11-60)







Surface Currents of Oceans in July

L

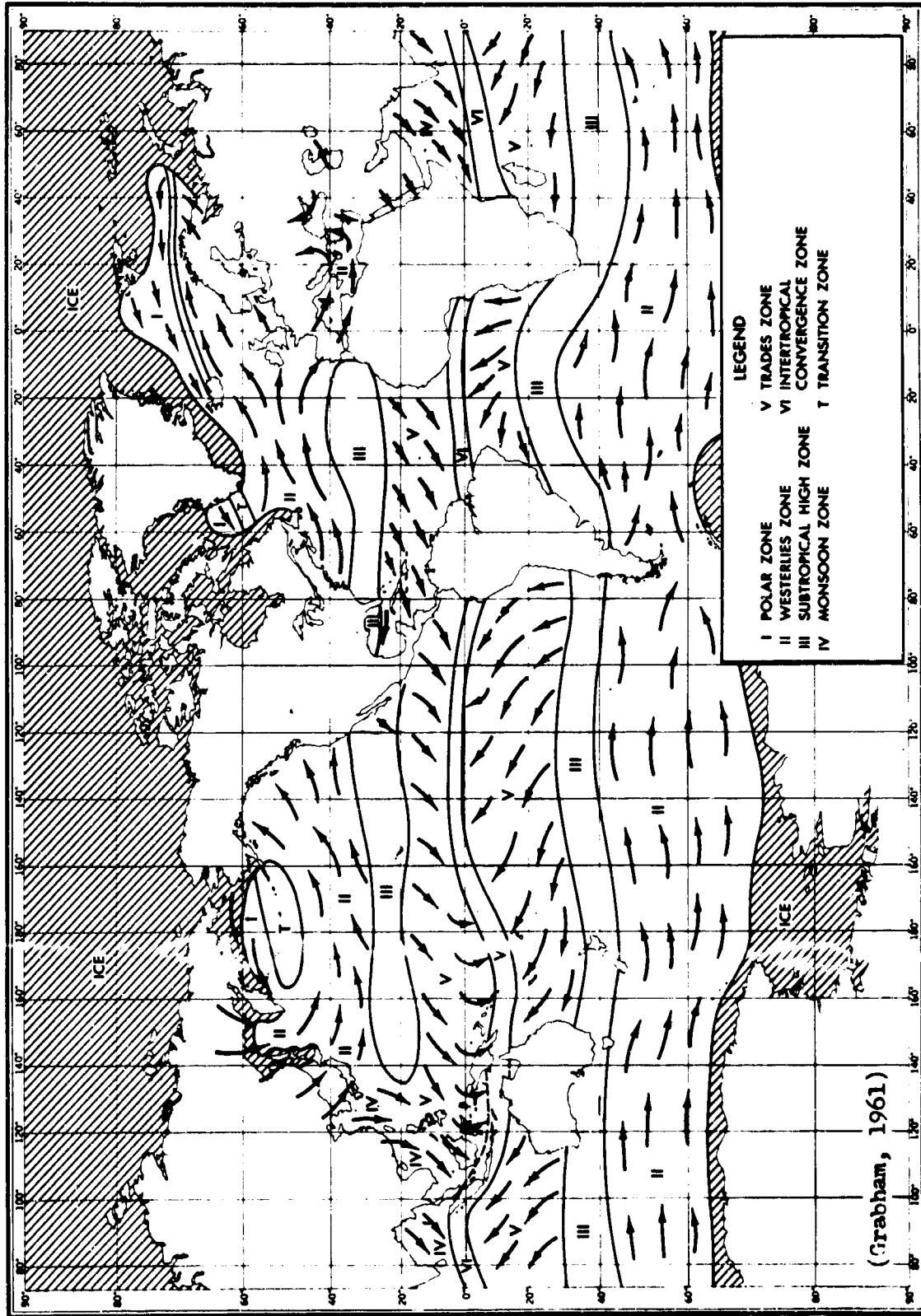


FIGURE 7.—World Map of Wind Regimes—February (Northern Hemisphere Winter, Southern Hemisphere Summer)

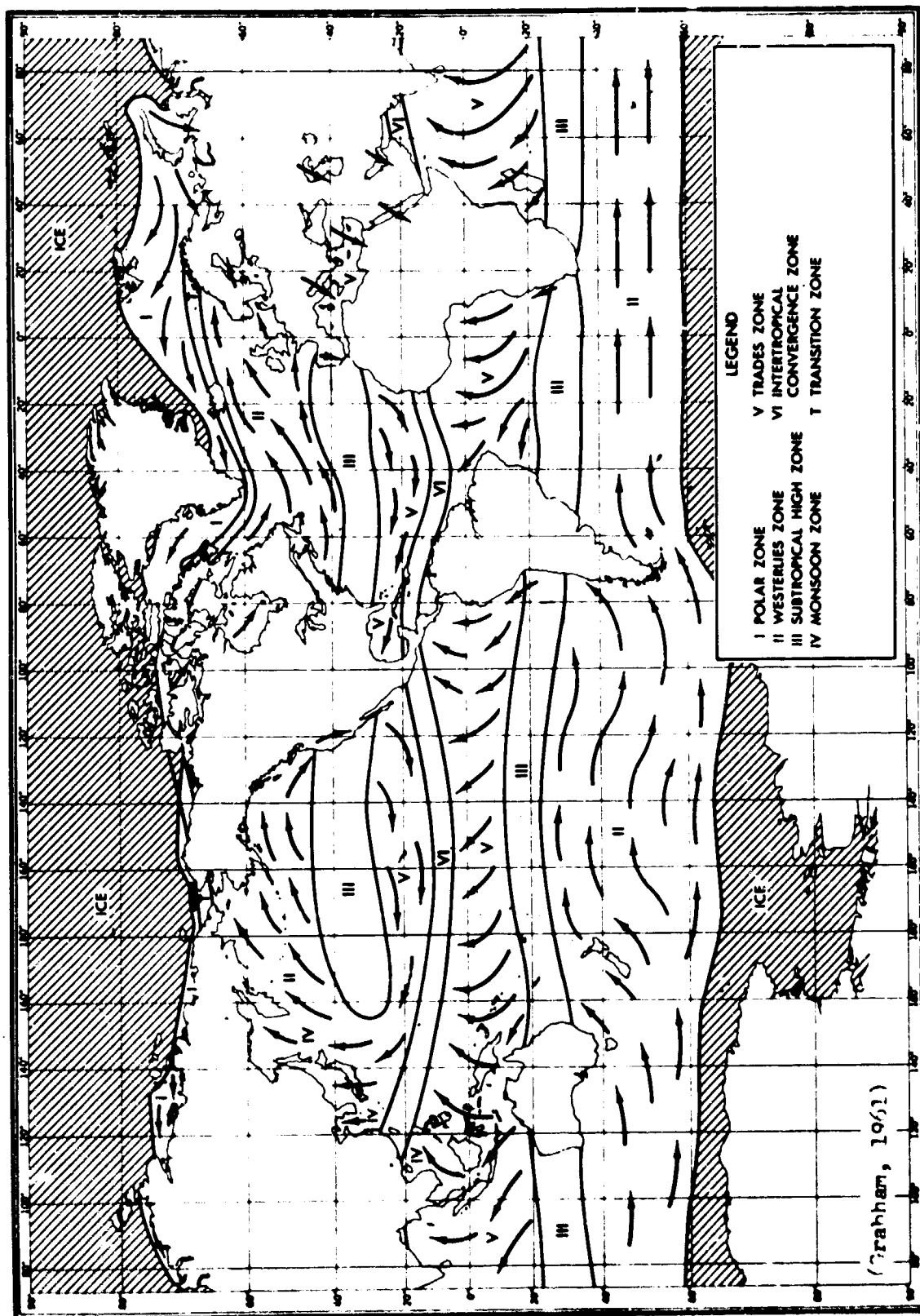
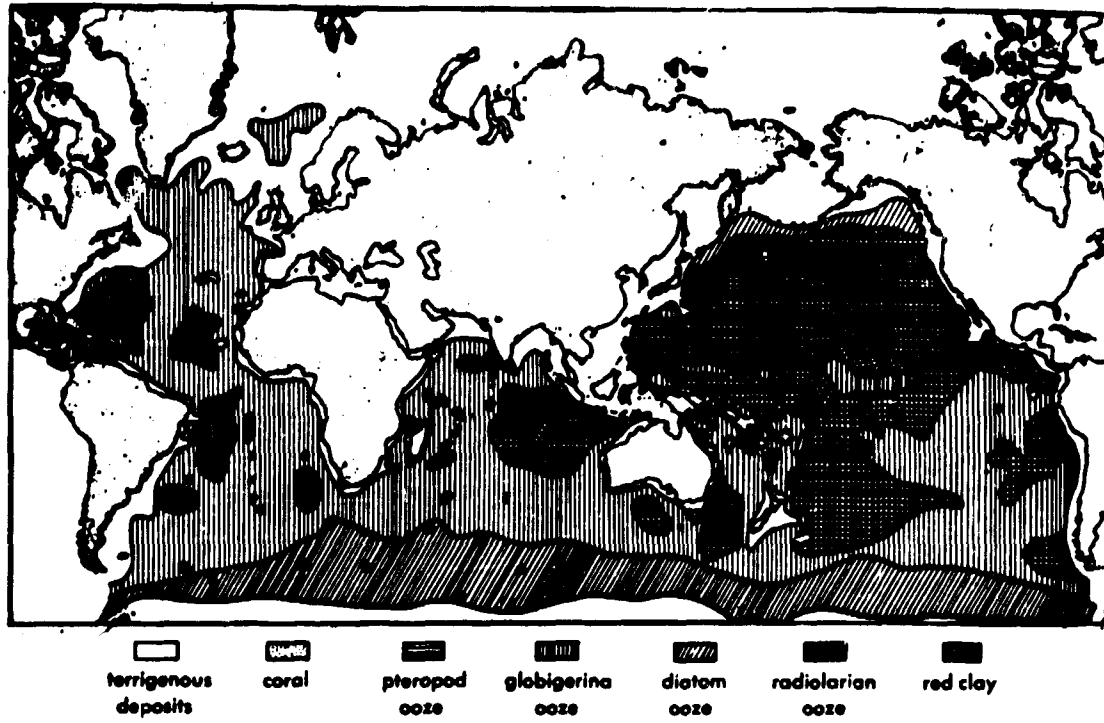


FIGURE 8.—World Map of Wind Regimes—August (Northern Hemisphere Summer, Southern Hemisphere Winter)



(Heezen, 1964)

FIGURE 9.—Distribution of the Major Types of Deep-Sea Sediments (see Table 14)

Table 1

Dimensions of the Oceans				
Ocean	Area ( $10^9 \text{m}^2$ )	Mean Depth (meters)	Volume ( $10^{15} \text{m}^3$ )	Maximum Depth (meters)
Arctic	14,090	1205	17.0	(a) 4,880 (4280 at North Pole)
North Pacific	83,462	3858	322.0	(b) 11,500
South Pacific	65,521	3891	254.9	(c) 10,850
North Atlantic	46,772	3285	153.6	(d) 9,200
South Atlantic	37,364	4091	152.8	(e) 8,260
Indian	81,602	4284	349.6	(f) 7,450
Antarctic	52,249	3730	120.3	(g) ---
(a) Estimated by U. S. Navy, 1958 (Hydrographic Office Publication No. 9) (b) Marianas Trench (U. S. Navy's TRIESTE, January 1960) (c) Tonga, South Pacific (McGraw Hill Encyclopedia, 1962 Year Book) (d) Puerto Rican Trench, Western Atlantic (McGraw Hill Encyclopedia, 1962 Year Book) (e) South Sandwich Islands Trench (McGraw Hill Encyclopedia, 1962 Year Book) (f) Java Trench, South of Java (McGraw Hill Encyclopedia, 1962 Year Book) (g) Not yet determined (Lyman, 1960)				

TABLE 2

Dimensions of Individual Seas			
Sea	Area ( $10^9$ m <sup>2</sup> )	Mean Depth (meters)	Volume ( $10^{12}$ m <sup>3</sup> )
<b>Tributary to Arctic Ocean</b>			
Norwegian Sea	1383	1742	2408
Greenland Sea	1205	1444	1740
Barents Sea	1405	229	322
White Sea	90	89	8
Kara Sea	883	118	104
Laptev Sea	650	519	338
East Siberian Sea	901	58	53
Chukchi Sea	582	88	51
Beaufort Sea	476	1004	478
Baffin Bay	689	861	593
<b>Tributary to North Atlantic</b>			
North Sea	600	91	55
Baltic Sea	386	86	33
Mediterranean Sea	2516	1494	3758
Black Sea	461	1166	537
Caribbean Sea	2754	2491	6860
Gulf of Mexico	1543	1512	2332
Gulf of St. Lawrence	238	127	30
Hudson Bay	1232	128	158
<b>Tributary to South Atlantic</b>			
Gulf of Guinea	1533	2996	4592
<b>Tributary to Indian Ocean</b>			
Red Sea	450	558	251
Persian Gulf	241	40	10
Arabian Sea	3863	2734	10561
Bay of Bengal	2172	2586	5616
Andaman Sea	602	1096	660
Great Australian Bight	484	950	459
<b>Tributary to North Pacific</b>			
Gulf of California	177	818	145
Gulf of Alaska	1327	2431	3226
Bering Sea	2304	1598	3683
Okhotsk Sea	1590	859	1365
Japan Sea	978	1752	1713
Yellow Sea	417	40	17
East China Sea	752	349	263
Sulu Sea	420	1139	478
Celebes Sea	472	3291	1553
<b>In both North and South Pacific</b>			
South China Sea	3685	1060	3907
Makassar Strait	194	967	188
Molukka Sea	307	1880	578
Ceram Sea	187	1209	227
<b>Tributary to South Pacific</b>			
Java Sea	433	46	20
Bali Sea	119	411	49
Flores Sea	121	1829	222
Savu Sea	105	1701	178
Banda Sea	695	3064	2129
Ceram Sea	187	1209	227
Timor Sea	615	406	250
Arafura Sea	1037	197	204
Coral Sea	4791	2394	11470

(Lyman, 1960)

TABLE 3.—Water Masses of the World Oceans

Water Masses of the Atlantic Ocean			
North Atlantic	Temp. (°C)	Salinity (‰)	South Atlantic
1. North Polar water	-1 to +2	34.9	1. South Atlantic central water
2. Subarctic water	+3 to +5	34.7 to 34.9	2. Antarctic intermediate water
3. North Atlantic central water	+4 to +17	35.1 to 36.2	3. Subantarctic water
4. North Atlantic deep water	+3 to +4	34.9 to 35.0	4. Antarctic circum-polar water
5. North Atlantic bottom water	+1 to +3	34.8 to 34.9	5. South Atlantic deep and bottom water
6. Mediterranean water	+6 to +10	35.3 to 36.4	6. Antarctic bottom water
			Temp. (°C)
			Salinity (‰)
			34.8 to 35.2
			34.5 to 35.4
			34.4 to 34.7
			34.1 to 34.6
			34.7 to 34.75
			35.5

Water Masses of the Indian Ocean

Temp. (°C)		Salinity (‰)	
1. Equatorial water	4 to 16	34.8 to 35.2	
2. Indian central water	6 to 15	34.5 to 35.4	
3. Antarctic intermediate water	2 to 6	34.4 to 34.7	
4. Subantarctic water	2 to 8	34.1 to 34.6	
5. Indian Ocean deep and antarctic circumpolar water	0.5 to 2	34.7 to 34.75	
6. Red Sea water	9	35.5	

Water Masses of the Pacific Ocean

North Pacific		South Pacific	
Temp. (°C)	Salinity (‰)	Temp. (°C)	Salinity (‰)
1. Subarctic water	2 to 10	33.5 to 34.4	1. Eastern South Pacific water
2. Pacific equatorial water	6 to 16	34.5 to 35.2	2. Western South Pacific water
3. Eastern North Pacific water	10 to 16	34.0 to 34.6	3. Antarctic intermediate water
4. Western North Pacific water	7 to 16	34.1 to 34.6	4. Subantarctic water
5. Arctic intermediate water	6 to 10	34.0 to 34.1	5. Pacific deep water and Antarctic circumpolar water
	(-1) to 3	34.6 to 34.7	

(Defant, 1951)

TABLE 4.—Mean Annual Sea Surface Temperature (°C) for 10° Zones

Latitude	Northern Hemisphere					Southern Hemisphere				
	Atlantic	Indian	Pacific	Mean for all oceans	Atlantic	Indian	Pacific	Mean for all oceans		
0-10°	26.6	27.9	27.2	27.3	25.2	27.4	26.0	26.4		
10-20°	25.8	27.2	26.4	26.5	23.1	25.9	25.9	25.1		
20-30°	24.1	26.1	23.4	23.7	21.1	22.5	21.5	21.7		
30-40°	20.4	-	18.6	18.4	16.8	17.0	17.0	17.0		
40-50°	13.4	-	10.0	11.0	8.6	8.7	11.2	9.8		
50-60°	8.7	-	5.7	6.1	1.8	1.6	5.0	3.0		
60-70°	5.6	-	-	3.1	-1.3	-1.5	-1.3	-1.4		
70-80°	-	-	-	-1.0	-1.7	-1.7	-1.7	-1.7		
80-90°	-	-	-	-1.7	-	-	-	-		
	20.1	27.5	22.2	19.2	14.1	15.2	16.8	16.0		
			0-90°			0-80°				

(Defant, 1961)

TABLE 5.—Annual Surface Temperature (°C) Variations\*

Latitude	Equator	10°	20°	30°	40°	50°
Oceans	2.3	2.4	3.6	5.9	7.5	5.6
Continents	1.3	3.3	7.2	10.2	14.0	24.4

\*N Hemisphere (Defant, 1961)



TABLE 6. Surface Water Temperature Distribution of the World

<u>February</u>				
<u>Surface Temperatures (°F.)</u>	<u>Northern Hemisphere</u>	<u>Southern Hemisphere</u>	<u>Total World</u>	<u>Percentages</u>
30 - 35	638.82	628.31	1267.13	12.0 %
35 - 40	187.87	520.57	708.44	6.5 %
40 - 45	157.60	264.08	421.68	4.0 %
45 - 50	175.89	307.82	483.71	4.5 %
50 - 55	166.10	268.14	434.24	4.0 %
55 - 60	260.17	274.75	534.92	5.0 %
60 - 65	298.34	315.67	614.01	5.5 %
65 - 70	336.23	496.82	833.05	8.0 %
70 - 75	464.98	582.23	1047.21	10.0 %
75 - 80	857.37	1056.00	1913.37	17.5 %
80 - 85	976.62	1489.49	2466.11	23.0 %
85 - 90	0	0	0	0.0 %
<u>Totals</u>	4519.99	6203.88	10723.87	100.0 %

( x 10<sup>4</sup> = square nautical miles)

Averaged area of water surfaces = 107,091,000 sq. nautical miles.

<u>August</u>				
<u>Surface Temperatures (°F.)</u>	<u>Northern Hemisphere</u>	<u>Southern Hemisphere</u>	<u>Total World</u>	<u>Percentages</u>
30 - 35	326.30	1076.50	1402.80	13.0 %
35 - 40	37.41	312.86	350.27	3.5 %
40 - 45	59.27	284.65	343.92	3.0 %
45 - 50	158.25	351.25	509.50	5.0 %
50 - 55	222.91	486.21	709.12	6.5 %
55 - 60	159.85	473.80	633.65	6.0 %
60 - 65	161.84	513.24	675.08	6.5 %
65 - 70	184.53	564.40	748.93	7.0 %
70 - 75	388.65	722.76	1111.41	10.5 %
75 - 80	947.08	821.28	1768.36	16.5 %
80 - 85	1875.98	547.06	2423.04	22.5 %
85 - 90	18.28	0	18.28	0.2 %
<u>Totals</u>	4540.35	6154.01	10,694.36	100.2 %

( x 10<sup>4</sup> = square nautical miles)

Averaged area of water surfaces = 107,091,000 sq. nautical miles.

Areal error = 2%

Note: Areas planimeted from U. S. Pub. No. 225: "World Atlas of Sea Surface Temperatures 2nd Edition".

Littlewood, 1955.

TABLE 6 (continued).—Surface Water Temperature Distribution of the Atlantic Ocean (Including Caribbean, North, Baltic, Black, and Mediterranean Seas, and Gulf of Mexico. Limits - Below Arctic Circle; above 60 S.; lines from Cape Horn to Antarctica and Cape of Good Hope to Antarctica)

February	Surface Temperatures (°F.)	Northern Hemisphere		Southern Hemisphere		Total Area	Percentage
		Area	Percentage	Area	Percentage		
	30 - 35	86.77	44.27	131.04	5.0 %		
	35 - 40	60.45	99.76	160.21	6.0 %		
	40 - 45	69.60	64.82	134.42	5.0 %		
	45 - 50	76.56	78.54	155.10	6.0 %		
	50 - 55	64.68	48.41	113.09	4.5 %		
	55 - 60	124.47	64.54	189.01	7.5 %		
	60 - 65	130.82	55.20	186.02	7.0 %		
	65 - 70	162.59	144.58	307.17	12.0 %		
	70 - 75	201.08	135.11	336.19	13.0 %		
	75 - 80	275.28	296.40	571.68	22.5 %		
	80 - 85	117.78	166.08	283.86	11.5 %		
<b>Totals</b>		<b>1370.08</b>	<b>1197.71</b>	<b>2567.79</b>	<b>100.0 %</b>		

( x 10<sup>4</sup> = square nautical miles)  
 Averaged area of water surfaces = 25,768,600 sq. nautical miles

AUGUST

30 - 35	37.44	134.85	172.29	7.0 %
35 - 40	9.36	78.71	88.07	3.0 %
40 - 45	16.35	63.16	99.51	4.0 %
45 - 50	30.29	92.20	122.49	5.0 %
50 - 55	81.37	66.70	148.07	6.0 %
55 - 60	55.68	126.50	182.18	7.0 %
60 - 65	67.13	164.66	232.01	9.0 %
65 - 70	57.75	159.95	217.70	8.0 %
70 - 75	177.10	186.96	364.06	14.0 %
75 - 80	411.30	106.93	518.23	20.0 %
80 - 85	436.80	4.53	441.33	17.0 %
<b>Totals</b>	<b>1380.57</b>	<b>1205.37</b>	<b>2585.94</b>	<b>100.0 %</b>

( x 10<sup>4</sup> = square nautical miles)  
 Averaged area of water surfaces = 25,768,600 sq. nautical miles

TABLE 6 (continued).—Surface Water Temperature Distribution of the Arctic Ocean.

(Above Arctic Circle and Bering Strait)

February

<u>Surface Temperatures (°F.)</u>		<u>Percentages</u>
30 - 35	364.25	94.0 %
35 - 40	11.70	3.0 %
40 - 45	11.63	3.0 %
	<u>Totals</u>	<u>100.0</u>
	387.58	

( x 10<sup>4</sup> = square nautical miles)

Averaged area of water surfaces = 3,868,750 sq. nautical miles.

August

<u>Surface Temperatures (°F.)</u>		<u>Percentages</u>
30 - 35	296.10	77.0 %
35 - 40	21.02	5.0 %
40 - 45	31.22	8.0 %
45 - 50	28.89	7.0 %
50 - 55	6.51	2.0 %
55 - 60	2.33	1.0 %
	<u>Totals</u>	<u>100.0</u>
	386.07	

( x 10<sup>4</sup> = square nautical miles)

Averaged area of water surfaces = 3,868,750 sq. nautical miles.

TABLE 8 (continued).—Surface Water Temperature Distribution in the Indian Ocean

(Including Red Sea and Persian Gulf. Limits = above 60°S.; lines from South Timor to Australia; Tasmania; and Cape of Good Hope to Antarctica.)

February

<u>Surface Temperatures (°F.)</u>	<u>Northern Hemisphere</u>	<u>Southern Hemisphere</u>	<u>Totals</u>	<u>Percentages</u>
30 - 35	0	0	0	
35 - 40	0	202.28	202.28	9.5 %
40 - 45	0	120.38	120.38	6.0 %
45 - 50	0	92.40	92.40	4.5 %
50 - 55	0	92.40	92.40	4.5 %
55 - 60	0	94.71	94.71	4.5 %
60 - 65	2.28	117.56	119.84	6.0 %
65 - 70	4.55	156.74	161.29	8.0 %
70 - 75	29.06	131.10	160.16	7.5 %
75 - 80	140.74	224.91	365.65	17.5 %
80 - 85	181.60	483.51	665.11	32.0 %
85 - 90	0	0	0	
<u>Totals</u>	<u>358.23</u>	<u>1715.99</u>	<u>2074.22</u>	<u>100.0 %</u>

( x 10<sup>4</sup> = square nautical miles)

Averaged area of water surfaces = 20,750,200 sq. nautical miles.

August

<u>Surface Temperatures (°F.)</u>	<u>Northern Hemisphere</u>	<u>Southern Hemisphere</u>	<u>Totals</u>	<u>Percentages</u>
30 - 35	0	255.75	255.75	12.5 %
35 - 40	0	81.03	81.03	4.0 %
40 - 45	0	80.85	80.85	4.0 %
45 - 50	0	106.26	106.26	5.0 %
50 - 55	0	152.13	152.13	7.5 %
55 - 60	0	156.40	156.40	7.5 %
60 - 65	0	128.52	128.52	6.0 %
65 - 70	0	148.53	148.53	7.0 %
70 - 75	4.55	191.52	196.07	9.5 %
75 - 80	113.50	291.20	404.70	19.5 %
80 - 85	217.92	129.39	347.31	16.5 %
85 - 90	18.28	0	18.28	1.0 %
<u>Totals</u>	<u>354.25</u>	<u>1721.58</u>	<u>2075.83</u>	<u>100.0 %</u>

( x 10<sup>4</sup> = square nautical miles)

Averaged area of water surface = 20,750,200 sq. nautical miles.

TABLE 6 (continued).--Surface Water Temperature Distribution of the Antarctic Ocean (Below 60° South)

<u>February</u>		
<u>Surface Temperatures (°F.)</u>		<u>Percentages</u>
30 - 35	583.75	84 %
35 - 40	109.28	16 %
	693.03	100 %
	<u>Totals</u>	

( x 10<sup>4</sup> = square nautical miles)  
 Averaged area of water surfaces = 6,913,500 sq. nautical miles.

<u>August</u>		
<u>Surface Temperatures (°F.)</u>		<u>Percentages</u>
30 - 35	682.69	99 %
35 - 40	4.64	1 %
	689.66	100 %
	<u>Totals</u>	

( x 10<sup>4</sup> = square nautical miles)  
 Averaged area of water surfaces = 6,913,500 sq. nautical miles.

Note: Areas planimetered from H. O. Publication No. 225: "World Atlas of Sea Surfaces Temperatures 2nd Edition."

TABLE 6 (continued). - Surface Water Temperature Distribution of the Pacific Ocean

(Limits ← Below Bering Strait; above 60°S.;  
lines from South Timor to Australia; Tasmania to Antarctica; and Cape Horn  
to Antarctica.)

February

<u>Surface Temperature (°F.)</u>	<u>Northern Hemisphere</u>	<u>Southern Hemisphere</u>	<u>Totals</u>	<u>Percentages</u>
30 - 35	168.12	0	168.12	3.5
35 - 40	115.75	106.95	222.70	4.5
40 - 45	76.40	78.88	155.28	3.0
45 - 50	99.33	136.88	236.21	4.5
50 - 55	101.42	127.33	228.75	4.5
55 - 60	135.70	115.50	251.20	5.0
60 - 65	165.24	142.91	308.15	6.0
65 - 70	169.09	195.50	364.59	7.5
70 - 75	234.84	316.02	550.86	11.0
75 - 80	441.35	534.69	976.04	20.0
80 - 85	677.24	839.90	1517.14	30.5
<u>Totals</u>	2384.48	2594.56	4979.04	100.0

( x 10<sup>4</sup> = square nautical miles)  
Averaged area of water surfaces = 49,884,300 sq.  
nautical miles.

August

<u>Surface Temperature (°F.)</u>	<u>Northern Hemisphere</u>	<u>Southern Hemisphere</u>	<u>Totals</u>	<u>Percentages</u>
30 - 35	0	56.16	56.16	1.0
35 - 40	2.34	148.48	150.82	3.0
40 - 45	3.70	120.64	124.34	2.5
45 - 50	86.02	152.79	238.81	5.0
50 - 55	136.88	267.38	404.26	8.0
55 - 60	104.17	190.90	295.07	6.0
60 - 65	94.71	219.84	314.55	6.5
65 - 70	126.78	255.92	382.70	7.5
70 - 75	207.00	344.28	551.28	11.0
75 - 80	422.28	423.15	845.43	17.0
80 - 85	1221.26	413.14	1634.40	32.5
<u>Totals</u>	2405.14	2592.68	4997.82	100.0

( x 10<sup>4</sup> = square nautical miles)  
Averaged area of water surfaces = 49,884,300 sq. nautical miles.

TABLE 7.—Mean Vertical Temperature (°C) Distribution in the Three Oceans Between 40° N. and 40° S.

Depth (m)	Atlantic Ocean		Indian Ocean		Pacific Ocean		Mean	
	C°	$\Delta C^\circ / 100 \text{ m}$	C°	$\Delta C^\circ / 100 \text{ m}$	C°	$\Delta C^\circ / 100 \text{ m}$	C°	$\Delta C^\circ / 100 \text{ m}$
0	20.0	2.2	22.2	3.3	21.8	3.1	21.3	2.8
100	17.8	4.4†	18.9	4.7†	18.7	4.4†	18.5	4.5†
200	13.4	1.8	14.3	1.6	14.3	2.6	14.0	2.0
400	9.9	1.5	11.0	1.2	9.0	1.2	10.0	1.3
600	7.0	0.7	8.7	0.9	6.4	0.65	7.4	0.75
800	5.6	0.35	6.9	0.7	5.1	0.4	5.9	0.5
1000	4.9	0.20	5.5	0.4	4.3	0.4	4.9	0.35
1200	4.5	0.15	4.7	0.3	3.5	0.2	4.2	0.22
1600	3.9	0.12	3.4	0.15	2.6	0.1	3.3	0.12
2000	3.4	0.08	2.8	0.09	2.15	0.05	2.8	0.07
3000	2.6	0.08	1.9	0.03	1.7	0.03	2.1	0.05
4000	1.8	0.08	1.6	0.03	1.45	0.03	1.6	0.05

(Defant, 1961)

† Maximum

TABLE 8.—Relative Frequency of Waves of Different Heights in Different Regions

Ocean Region	Height of Waves in feet					
	0-3	3-4	4-7	7-12	12-20	≥20
North Atlantic (between Newfoundland and England)	20	20	20	15	10	5
Mid-equatorial Atlantic	20	30	25	15	5	5
South Atlantic (latitude of Argentina)	10	20	20	20	15	10
North Pacific (latitude of Oregon and south of Alaskan Peninsula)	25	20	20	15	10	10
East equatorial Pacific	25	35	25	10	5	5
West wind belt of South Pacific (latitude of Southern Chile)	5	20	20	20	15	15
North Indian Ocean (Northeast monsoon season)	55	25	10	5	0	0
North Indian Ocean (Southwest monsoon season)	15	15	25	20	15	10
Southern Indian Ocean (between Madagascar and northern Australia)	35	25	20	15	5	5
West wind belt of southern Indian Ocean (on route between Cape of Good Hope and southern Australia)	10	20	20	20	15	15

(Bigelow and Edmondson, 1962)

TABLE 9.—Length of Storm Waves Observed in Different Oceans

Ocean Area	Wave Length (Feet)		Average	Number of Cases
	Maximum	Minimum		
North Atlantic	559	115	303	15
South Atlantic	701	82	226	32
Pacific	765	80	242	14
Southern Indian	1121	108	360	23
China Sea	261	160	197	3

(Bigelow and Edmondson, 1962)



TABLE 10 -- Mean Density of Sea Water Column Above Estimated Depth

Estimated depth (meters)	North Atlantic		Northeast Pacific		Arctic <sup>1</sup>		Antarctic <sup>2</sup>		Mediterranean	
	$\rho_m$	$\frac{1}{\rho_m}$	$\rho_m$	$\frac{1}{\rho_m}$	$\rho_m$	$\frac{1}{\rho_m}$	$\rho_m$	$\frac{1}{\rho_m}$	$\rho_m$	$\frac{1}{\rho_m}$
0.....	1.0262	0.9745	.....	.....	1.0279	0.9729	1.0275	0.9732	1.0282	0.9726
100.....	1.0264	.9743	1.0248	0.9758	1.0281	.9727	1.0277	.9730	1.0286	.9722
200.....	1.0267	.9740	1.0255	.9751	1.0283	.9725	1.0281	.9727	1.0289	.9719
300.....	1.0270	.9737	1.0261	.9746	1.0285	.9723	1.0284	.9724	1.0293	.9715
400.....	1.0274	.9733	1.0267	.9740	1.0288	.9720	1.0287	.9721	1.0296	.9712
500.....	1.0278	.9730	1.0272	.9735	1.0290	.9718	1.0290	.9718	1.0300	.9709
600.....	1.0281	.9727	1.0276	.9731	1.0292	.9716	1.0292	.9716	1.0302	.9707
700.....	1.0285	.9723	1.0280	.9728	1.0295	.9713	1.0295	.9713	1.0305	.9704
800.....	1.0288	.9720	1.0283	.9725	1.0297	.9712	1.0297	.9712	1.0307	.9702
900.....	1.0291	.9717	1.0286	.9722	1.0299	.9710	1.0300	.9709	1.0310	.9699
1,000.....	1.0294	.9714	1.0289	.9719	1.0302	.9707	1.0302	.9707	1.0312	.9697
1,500.....	1.0308	.9701	1.0304	.9705	1.0314	.9696	1.0314	.9696	1.0324	.9686
2,000.....	1.0321	.9689	1.0318	.9692	1.0326	.9684	1.0326	.9684	1.0335	.9676
2,500.....	1.0334	.9677	1.0331	.9680	1.0338	.9673	1.0338	.9673	1.0346	.9665
3,000.....	1.0346	.9666	1.0344	.9667	1.0351	.9661	1.0350	.9662	1.0358	.9655
3,500.....	1.0358	.9654	1.0356	.9656	1.0363	.9650	1.0362	.9651	.....	.....
4,000.....	1.0370	.9643	1.0369	.9644	1.0375	.9638	1.0375	.9638	.....	.....
4,500.....	1.0383	.9631	.....	.....	1.0387	.9627	1.0387	.9627	.....	.....
5,000.....	1.0395	.9620	.....	.....	1.0400	.9615	1.0400	.9615	.....	.....

1 Lafond, 1931)

<sup>1</sup>Norwegian and Greenland Seas.  
<sup>2</sup>Ross and Weddell Seas.

TABLE 11.—Tables of Velocity of Sound in Sea Water for Use in Echo Sounding and Sound Ranging

Find from the charts the number of the area in which the sounding was made.

- (1) The echo sounder is set to read depths directly on the assumption of a constant velocity of 1463 m. or 1500 m. per second (Table 11a), equivalent to 800 fms. or 820 fms. per second (Table 11b).

Take from Table 11 a or b for the area in question the required correction and add it to the depth found. This gives the depth.

Example, Table 11a. In area 1 a depth of 3200 m. has been found with an echo sounder set to 1500 m. per second. The correction is -61 and the true depth is 3139 m.

Example, Table 11b. In area 41 a depth of 4250 fms. has been found with an echo sounder set to 800 fms. per second. The correction is 194 fms. and the depth is 4444 fms.

- (2) The echo sounder gives the time required for the sound wave to travel from the surface to the bottom, that is, the time of half its journey.

The times are so chosen as to provide checks on the examples above.

Example. In the example above the time is  $3200/1500$  secs. = 2.1333 secs.

Then in area 1 (Table 11a) a sounding has been made and the time recorded was 2.1333 secs. Assuming any convenient velocity, 1460 m./sec. for instance, an approximate depth of 3115 m. is found. By interpolation the velocity to this depth is 1471.2 m./sec., and this gives a more accurate depth of 3138.5 m., almost exactly the same as in the first example. A further approximation would give even better agreement.

- (3) The echo sounder is set to read depths on the assumption of some other velocity.

The calculations are made as in (2). If the sounder was set, for instance, to 1480 m./sec. and this gave a depth of 3200 m., then the time was 2.1682 secs. The true depth is found by approximation as before.

(Matthews, 1939)

Table 11 (continued).—Echo Sounding Area—North Atlantic Ocean

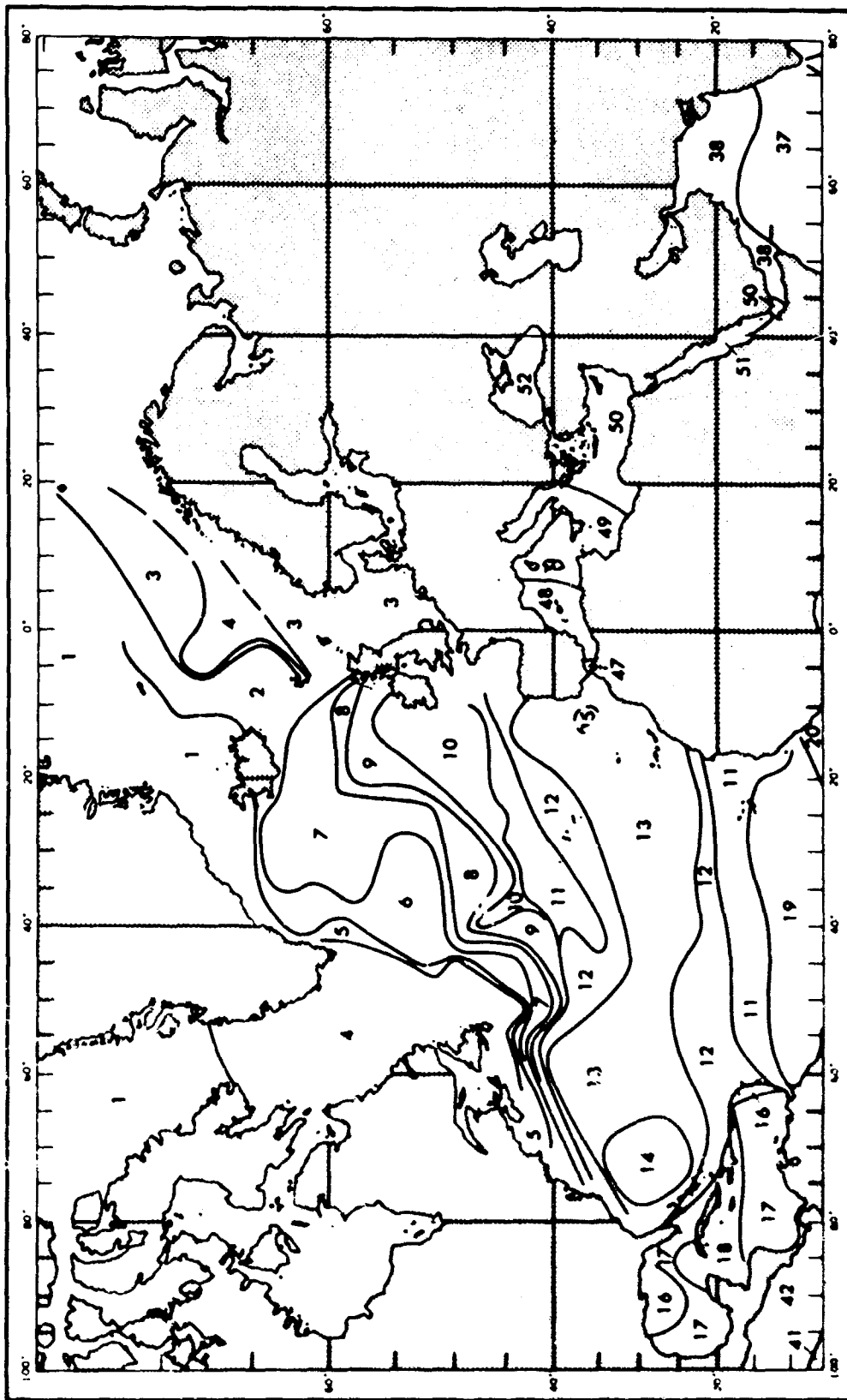


TABLE 11 (continued).—Echo Sounding Areas—North Atlantic Ocean

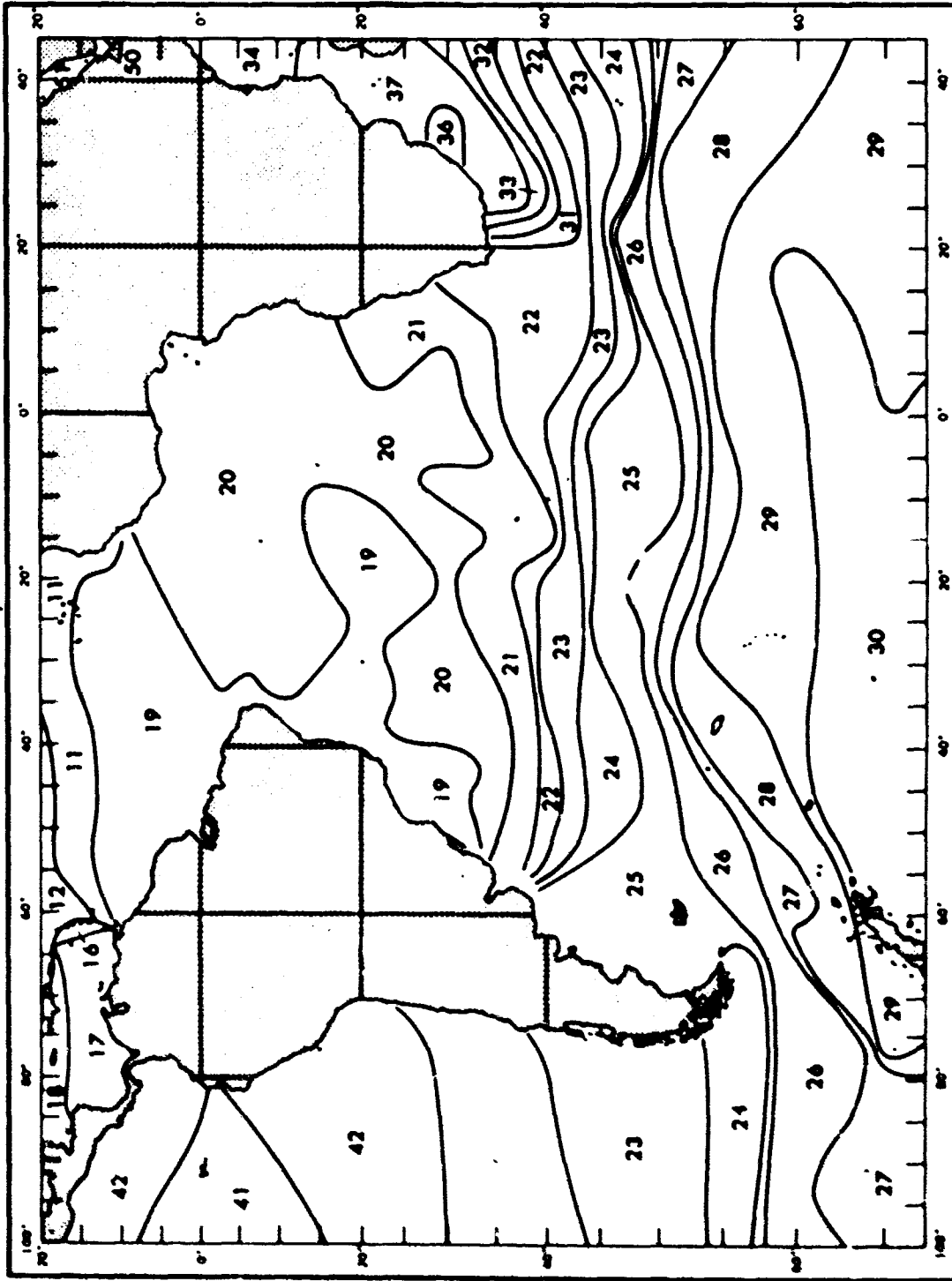


TABLE 11 (continued) Echo Sounding Areas Indian Ocean

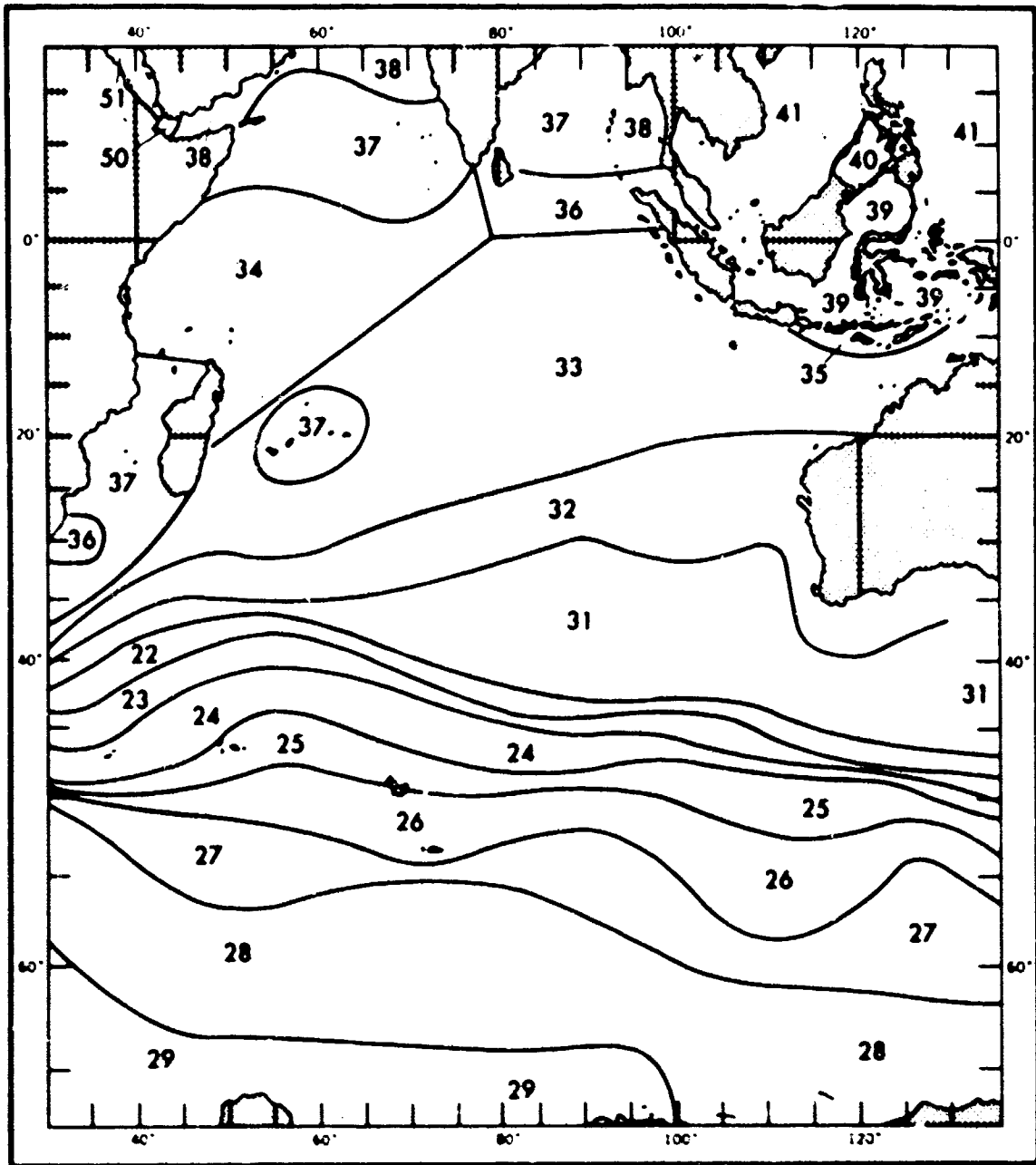


TABLE II (continued) - 25 to 50 Standing Areas - N. P. Pacific Ocean

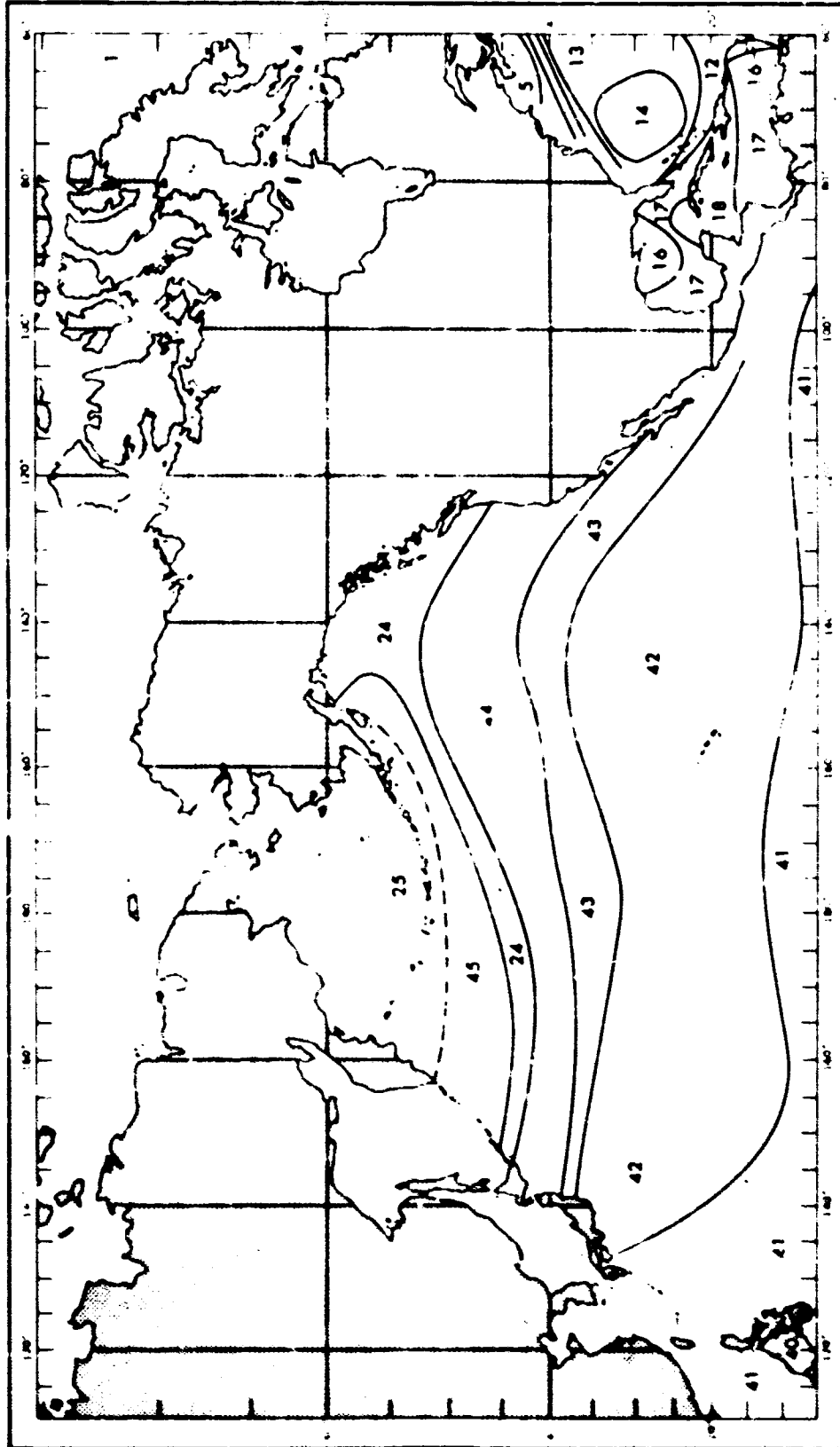


TABLE 11 (continued).—Echo Sounding Areas—South Pacific Ocean

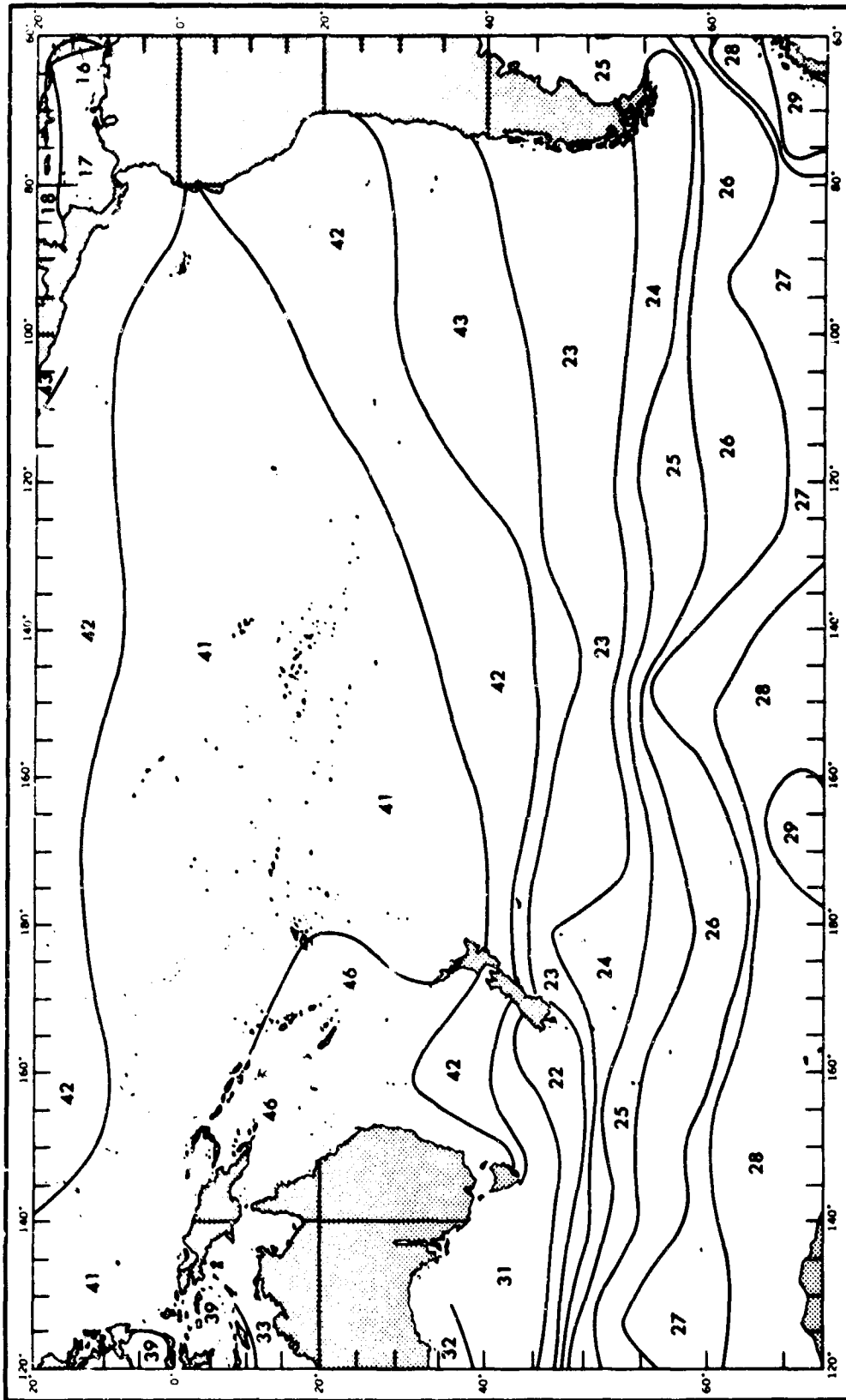








TABLE 11a.—Continued

Area:	9			10			11			12			
	Depth, M.	Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.	
			1463.	1500.		1463.	1500.		1463.	1500.		1463.	1500.
300	1513	7	2	1495	4	- 1	1507	6	1	1523	8	3	
400	1505	12	1	1495	9	- 1	1504	11	1	1518	15	4	
500	1503	16	1	1495	14	- 2	1502	16	1	1514	21	6	
600	1497	18	- 2	1495	18	- 2	1500	20	0	1509	25	4	
1000	1495	22	- 3	1495	22	- 2	1499	25	- 1	1505	29	4	
1200	1494	25	- 4	1495	27	- 2	1498	29	- 2	1504	34	2	
1400	1493	29	- 7	1495	31	- 5	1497	32	- 2	1502	37	2	
1600	1493	32	- 7	1495	35	- 5	1497	37	- 2	1501	42	1	
1800	1493	37	- 8	1495	39	- 6	1497	42	- 4	1500	46	0	
2000	1493	41	- 9	1495	44	- 6	1497	46	- 4	1499	50	0	
2200	1493	45	-10	1495	50	- 8	1497	51	- 5	1500	55	0	
2400	1494	51	-10	1495	55	- 6	1497	56	- 5	1500	61	0	
2600	1495	57	- 9	1497	60	- 5	1498	62	- 2	1501	66	1	
2800	1495	62	- 9	1497	66	- 5	1498	66	- 4	1501	74	2	
3000	1495	68	- 8	1498	72	- 4	1499	75	- 2	1502	81	4	
3200	1497	75	- 6	1498	77	- 4	1500	82	0	1503	87	6	
3400	1498	82	- 5	1499	85	- 2	1501	89	2	1503	94	7	
3600	1500	92	0	1500	92	0	1502	97	5	1504	102	10	
3800	1501	101	3	1502	104	5	1503	108	8	1505	110	12	
4000	1503	111	8	1504	114	11	1505	117	14	1506	119	16	
4200	1504.1	120	12	1505	122	14	1506	125	17	1507	129	20	
4400	1505.4	130	16	1506	131	18	1507	124	21	1509	140	27	
4600	1507.0	142	22	1507	142	22	1508	145	25	1510	152	32	
4800	1508.4	153	27	1509	155	29	1509.7	157	22	1511	163	36	
5000	1509.9	165	34	1510	165	34	1511.0	168	28	1512	174	44	
5200							1512.4	179	44	1514	186	49	
5400							1512.7	192	50	1515	199	56	
5600							1515.0	204	57	1517	211	65	
5800										1518	222	72	
6000										1520	238	80	
6200										1521	256	88	
6400										1522	270	100	
6600										1524	288	112	
6800										1526	302	122	
7000										1528	316	124	
7200										1529	328	148	
7400										1531	354	158	
7600										1532	372	169	
7800										1534	390	182	
8000										1535	408	194	
8200										1537	428	208	
8400										1538	450	222	
8600										1540	470	238	
8800										1541	492	252	
9000										1542	516	268	





TABLE 11a.—Continued

Area	21				22				23				24			
	Depth, Ms.	Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.				
			1463.	1500.		1463.	1500.		1463.	1500.		1463.	1500.			
200	1487	3	- 2	1499	5	0	1475	2	- 2	1470	1	- 4				
400	1487	7	- 3	1491	8	- 2	1477	4	- 6	1471	2	- 7				
600	1488	10	- 5	1487	10	- 5	1478	6	- 9	1472	4	- 11				
800	1488	14	- 6	1485	12	- 8	1479	9	- 11	1473	5	- 14				
1000	1488	17	- 8	1483	14	- 11	1480	12	- 13	1473	7	- 18				
1200	1488	20	- 10	1482	16	- 14	1480	14	- 16	1474	9	- 21				
1400	1488	24	- 11	1481	17	- 18	1480	16	- 19	1475	11	- 23				
1600	1488	27	- 13	1481	20	- 20	1481	20	- 20	1476	14	- 26				
1800	1488	31	- 14	1482	23	- 22	1481	22	- 23	1477	17	- 28				
2000	1488	34	- 16	1483	27	- 23	1482	26	- 24	1479	22	- 28				
2200	1489	40	- 16	1484	32	- 23	1483	30	- 25	1480	25	- 29				
2400	1490	44	- 14	1486	38	- 22	1484	34	- 26	1481	30	- 30				
2600	1490	48	- 17	1487	45	- 23	1485	39	- 26	1482	34	- 31				
2800	1491	55	- 17	1488	49	- 22	1486	45	- 26	1484	41	- 30				
3000	1492	60	- 16	1489	54	- 22	1487	50	- 26	1485	46	- 30				
3200	1493	66	- 15	1491	62	- 19	1489	57	- 23	1487	51	- 29				
3400	1494	73	- 14	1492	68	- 18	1490	63	- 23	1488	56	- 28				
3600	1495	80	- 12	1493	76	- 17	1492	72	- 20	1490	67	- 24				
3800	1496.3	88	- 9	1495	84	- 13	1493	80	- 18	1491	74	- 23				
4000	1497.7	96	- 6	1496	92	- 11	1494	87	- 17	1492.5	83	- 20				
4200	1498.9	105	- 3	1497.3	101	- 8	1495.9	96	- 12	1494.0	91	- 17				
4400	1500.1	113	0	1498.9	110	3	1497.3	105	- 8	1495.5	100	- 14				
4600	1501.8	125	6	1500.0	119	0	1498.7	115	- 4	1497.0	111	- 9				
4800	1503.4	136	11	1501.4	129	5	1500.1	124	0							
5000	1504.8	147	16	1502.7	139	9	1501.3	134	4							
5200																
5400																
5600																
5800																
6000																
6200																
6400																
6600																
6800																
7000																



TABLE 11a.—Continued

Area	29			30			31			32			
	Depth, Me.	Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.	
			1463.	1500.		1463.	1500.		1463.	1500.		1463.	1500.
200	1446	- 2	- 7	1442	- 3	- 8	1506	6	1	1510	6	1	
400	1451	- 3	-12	1447	- 4	-13	1501	11	1	1505	11	1	
600	1454	- 4	-18	1451	- 5	-20	1498	14	- 1	1503	16	1	
800	1456	- 4	-23	1453	- 5	-25	1496	16	- 4	1502	21	1	
1000	1459	- 5	-28	1455	- 6	-30	1494	19	- 7	1500	26	0	
1200	1460	- 5	-32	1457	- 6	-34	1493	21	-10	1498	29	- 2	
1400	1462	- 1	-36	1459	- 4	-38	1491	23	-12	1496	32	- 4	
1600	1464	1	-38	1460	- 3	-43	1490	26	-14	1495	35	- 5	
1800	1465	2	-42	1462	- 1	-46	1489	30	-16	1494	38	- 6	
2000	1467	6	-44	1464	1	-51	1490	33	-17	1494	42	- 8	
2200	1468	8	-47	1465	3	-51	1491	36	-18	1494	47	- 9	
2400	1470	12	-48	1467	7	-53	1491	43	-18	1494	51	-10	
2600	1471	14	-50	1469	11	-55	1492	48	-17	1494	55	-10	
2800	1473	20	-50	1471	16	-54	1493	55	-17	1495	62	- 9	
3000	1474	23	-53	1472	19	-57	1493	60	-16	1496	68	- 8	
3200	1476	29	-52	1474	25	-57	1494	66	-15	1497	75	- 6	
3400	1477	34	-52	1476	31	-55	1495	74	-14	1498	81	- 5	
3600	1478	40	-52	1477	35	-57	1496	82	-10	1498	87	- 5	
3800	1480	46	-50	1479	42	-54	1497	91	- 8	1499	95	- 3	
4000	1482	53	-49	1480	48	-55	1498.2	100	- 3	1500	103	0	
4200	1483	59	-49	1482	56	-52	1499.5	108	0	1501.4	112	4	
4400	1485	67	-45	1484	65	-48	1500.6	116	3	1502.6	121	8	
4600	1486	74	-44	1485.5	74	-46	1502.0	126	7	1504.0	132	13	
4800	1488	85	-40	1487.3	82	-42	1503.3	136	12	1505.3	142	17	
5000	1490	95	-34	1488.9	91	-38	1504.7	147	17	1506.6	152	23	
5200	1492	104	-29										
5400	1493	115	-26										
5600	1495	127	-19										
5800	1497	137	-12										
6000	1498	150	- 8										
6200	1500.1	164	0										
6400	1501.9	182	8										
6600	1503.6	190	16										
6800	1505.3	198	25										
7000	1507.0	206	34										





TABLE 11a.—Continued

Area:	27			28			29			30			
	Depth, Fms.	Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.	
			1483.	1500.		1483.	1500.		1483.	1500.		1483.	1500.
200	1522	8	3	1527	9	4	1530	9	4	1537	9	4	
400	1516	14	4	1518	15	5	1511	13	3	1515	14	4	
600	1512	20	5	1513	21	5	1503	18	1	1510	19	4	
800	1508	25	4	1511	26	6	1498	20	-1	1507	24	4	
1000	1504	29	3	1509	32	6	1495	22	-3	1505	30	4	
1200	1503	33	2	1508	37	8	1494	25	-5	1506	35	5	
1400	1502	37	2	1506	41	6	1493	29	-7	1507	42	7	
1600	1501	42	1	1506	46	5	1492	32	-9	1508	46	9	
1800	1500	46	0	1504	50	5	1492	36	-10	1509	51	11	
2000	1499	49	-1	1504	55	5	1492	40	-11	1510	54	13	
2200	1499	54	-1	1503	60	4	1493	45	-10	1511	57	16	
2400	1499	60	-1	1503	65	5	1493	50	-11	1512	60	21	
2600	1499	65	-1	1503	71	5	1494	57	-10	1514	61	24	
2800	1500	71	0	1503	77	6	1495	62	-9	1516	102	30	
3000	1500	77	0	1503	82	6	1495	68	-8	1517	113	34	
3200	1501	84	1	1506	88	6	1497	76	-6	1519	123	41	
3400	1502	91	5	1504	95	9	1499	85	-2	1521	134	46	
3600	1502	97	5	1506	102	12	1500	92	0	1522-1	146	54	
3800	1503	105	8	1506	113	15	1501	102	3	1523-6	161	61	
4000	1504	114	11	1506-6	121	18	1503	111	8	1525-2	175	69	
4200	1505	122	14	1507-6	130	22	1504	119	11	1527-1	188	78	
4400	1506-6	131	18	1506-6	139	26	1505	125	15	1528-7	202	84	
4600	1507-1	141	22	1509-7	149	31	1507	141	23				
4800	1508-2	152	27				1508	152	27				
5000	1509-2	162	32				1510	162	34				
5200							1511	177	39				
5400							1513	191	48				
5600							1515	206	57				
5800							1518	218	64				
6000							1519	236	75				
6200							1520	247	84				
6400							1521	266	93				
6600							1523	278	104				
6800							1525-2	296	114				
7000							1526-6	313	126				
7200							1527-6	331	135				
7400							1529-2	348	146				
7600							1529-6	367	162				



TABLE 11a.—Continued

Areas: Depth, Ms.	45				46			47			48		
	Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.		
		1463.	1500.		1463.	1500.		1463.	1500.		1463.	1500.	
200	1466	0	- 5	1524	9	3	1503	5	0	1507	6	1	
400	1467	1	- 8	1517	15	4	1503	11	1	1507	12	2	
600	1468	2	-13	1510	19	4	1504	17	2	1508	18	3	
800	1469	3	-17	1505	23	3	1506	23	3	1510	26	5	
1000	1470	5	-20	1501	27	1	1508	32	5	1511	34	7	
1200	1470	6	-24	1499	30	- 1	1510	39	8	1513	41	10	
1400	1471	8	-27	1497	33	- 3	1513	48	12	1515	50	14	
1600	1472	10	-30	1496	36	- 4	1515	57	16	1516	58	17	
1800	1474	14	-31	1495	39	- 6				1518	68	22	
2000	1475	16	-34	1495	44	- 7				1520	79	27	
2200	1477	21	-34	1494	47	- 9				1522	90	32	
2400	1478	25	-35	1494	51	-10				1524	100	39	
2600	1479	29	-36	1495	56	- 9				1525	112	44	
2800	1481	35	-35	1496	64	- 7				1527	125	51	
3000	1483	41	-34	1497	70	- 6				1529	138	59	
3200	1484	47	-35	1497	75	- 6							
3400	1486	55	-32	1498	83	- 5							
3600	1488	62	-29	1500	92	0							
3800	1489	69	-29	1501	100	3							
4000	1491	79	-25	1501.8	108	5							
4200	1493	87	-20	1503.0	117	9							
4400	1494	96	-18	1504.4	126	13							
4600	1496	107	-13	1505.4	135	17							
4800	1498	117	- 7										
5000	1499	128	- 3										
5200	1501	140	4										
5400	1503	153	11										
5600	1505	164	19										
5800	1506	177	24										
6000	1508	192	33										
6200	1509.8	205	42										
6400	1511.6	226	51										
6600	1513.3	235	61										
6800	1515.0	251	70										
7000	1516.7	267	81										
7200													
7400													
7600													
7800													
8000													
8200													
8400													
8600													
8800													
9000													
9200													
9400													
9600													
9800													
10000													

TABLE 11a.--Continued

Area:	49			50			51			52		
Depth, M.	Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.	
		1463.	1500.		1463.	1500.		1463.	1500.		1463.	1500.
200	1510	6	1	1517	7	2	1537	10	5	1468	1	- 4
400	1510	13	3	1513	14	3	1536	20	9	1470	2	- 8
600	1511	20	4	1513	21	5	1536	30	14	1472	4	-11
800	1512	27	6	1514	28	7	1537	40	20	1474	6	-14
1000	1514	36	9	1516	37	11	1537	53	25	1476	9	-16
1200	1515	42	12	1517	44	15	1540	63	32	1478	12	-18
1400	1517	52	16	1518	53	18	1542	76	39	1479	15	-20
1600	1518	60	19	1520	62	21	1544	89	47	1481	20	-20
1800	1520	70	24	1521	71	25	1546	102	55	1483	25	-21
2000	1521	80	28	1523	83	31	1548	118	65	1485	30	-20
2200	1523	92	34	1525	95	37	1550	137	74			
2400	1525	102	41	1526	105	42	1552	149	84			
2600	1527	116	48	1528	118	50	1554	165	96			
2800	1529	129	55	1530	131	57	1556	181	106			
3000	1530	140	61	1531.7	144	64						
3200	1532	154	70	1533.5	157	73						
3400	1533.8	168	78	1535.2	170	81						
3600	1535.4	182	89	1537.0	186	91						
3800	1537.2	197	96	1538.8	201	100						
4000	1538.9	213	106	1540.6	217	111						







TABLE 11b (continued).—Corrections to depths shown by machines set to fixed velocities of 800

Area	9			10			11			12			
	Depth, Fms.	Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.	
			800.	820.		800.	820.		800.	820.		800.	820.
100	827	3	1	817	2	-1	824	3	1	833	4	2	
200	824	6	1	817	4	-1	823	6	1	830	8	2	
300	822	8	1	817	6	-1	821	8	0	828	11	2	
400	819	9	0	817	9	-1	820	10	0	826	13	3	
500	818	11	-1	817	11	-2	820	14	0	824	15	2	
600	817	13	-3	818	14	-2	819	15	-1	823	17	2	
700	816	14	-3	818	16	-2	819	17	-1	822	19	2	
800	816	16	-4	817	17	-3	818	18	-2	821	21	1	
900	816	18	-4	817	19	-3	818	23	-2	820	23	0	
1000	816	20	-5	817	21	-4	818	23	-2	820	25	0	
1100	816	22	-5	818	25	-3	818	25	-3	820	28	0	
1200	817	26	-4	818	27	-3	818	27	-3	820	30	0	
1300	817	28	-5	818	30	-3	818	30	-3	820	33	0	
1400	818	32	-3	818	32	-3	819	34	-2	820	35	0	
1500	818	34	-4	818	34	-4	819	36	-2	820	38	0	
1600	818	37	-4	818	37	-4	819	39	-2	821	42	2	
1700	819	40	-2	819	40	-2	820	43	0	821	46	2	
1800	819	43	-2	819	43	-2	820	46	0	822	50	4	
1900	820	48	0	820	48	0	821	50	2	823	54	5	
2000	820	51	0	820	50	0	821	54	2	823	57	7	
2100	821	57	3	821	58	8	822	59	5	823	62	8	
2200	822	61	5	822	63	6	823	63	8	824	66	11	
2300	822	65	6	822	67	8	823	68	9	824	71	11	
2400	823	71	9	823	71	10	824	72	12	825	75	15	
2500	824	75	12				824	77	12	825	81	15	
2600	824	81	13				825	84	16	826	87	19	
2700	825	87	17				826	91	20	827	91	23	
2800							827	98	24	827	98	24	
2900							828	102	29	828	105	29	
3000							828	105	29	829	111	34	
3100										830	115	34	
3200										830	125	40	
3300										831	133	46	
3400										832	139	50	
3500										832	146	54	
3600										833	155	60	
3700										834	163	65	
3800										835	170	71	
3900										836	179	77	
4000										836	186	84	
4100										837	196	90	
4200										838	206	97	
4300										839	219	103	
4400										840	230	110	
4500										841	241	116	
4600										841	251	123	
4700										842	262	133	
4800										843	273	141	
4900										844	286	151	
5000										844	298	160	





TABLE 11b.--Continued

Area	17			18			19			20			
	Depth, Fms.	Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.		Velocity.	Corrections.	
			800.	820.		800.	820.		800.	820.		800.	820.
100	834	4	2	838	5	2	831	4	2	826	3	1	
200	829	7	2	833	8	3	827	7	2	824	6	1	
300	825	9	2	829	11	3	823	9	1	820	8	0	
400	823	11	1	827	13	3	820	10	0	818	9	- 1	
500	821	13	1	824	15	2	818	12	- 1	816	10	- 2	
600	818	14	- 1	822	17	1	817	13	- 2	815	11	- 4	
700	817	15	- 3	821	18	1	816	14	- 3	814	12	- 5	
800	818	18	- 2	820	20	0	815	15	- 5	814	14	- 6	
900	817	19	- 3	819	21	- 1	815	17	- 6	814	16	- 7	
1000	817	21	- 4	819	24	- 1	815	19	- 6	814	18	- 7	
1100	818	25	- 3	819	26	- 1	815	21	- 7	815	21	- 7	
1200	818	27	- 3	819	29	- 1	816	24	- 6	815	23	- 7	
1300	818	30	- 3	820	33	0	816	26	- 6	815	25	- 8	
1400	818	32	- 3	820	35	0	816	28	- 7	816	28	- 7	
1500	819	36	- 2	821	40	2	817	32	- 6	816	30	- 7	
1600	819	39	- 2	821	42	2	817	35	- 6	817	34	- 6	
1700	820	43	0	821	46	2	818	39	- 4	817	37	- 6	
1800	821	47	2	822	51	4	819	43	- 2	818	41	- 4	
1900	821	51	2	823	55	7	819	46	- 2	819	45	- 2	
2000	822	56	5	823	59	7	820	50	0	819	49	- 2	
2100	823	62	8	824	63	10	820	54	0	820	53	0	
2200	824	68	11	824	68	11	821	59	3	820	57	0	
2300	825	72	14	825	74	14	822	63	6	821	62	3	
2400	825	77	15	826	80	18	822	68	6	822	66	6	
2500	826	84	18	827	87	22	823	74	9	822	71	6	
2600	827	88	23	828	91	26	824	81	13	823	77	10	
2700	827	94	23	828	98	27	825	87	17	824	84	13	
2800	828	101	28	829	105	31							
2900				830	112	36							
3000				831	116	40							
3100				831	124	43							
3200				832	133	48							
3300				833	142	54							









TABLE 11b. Continued

Area:	37			38			39			40				
	Depth, Fms	Velocity		Corrections		Velocity	Corrections		Velocity	Corrections		Velocity	Corrections	
		800.	820.	800.	820.		800.	820.		800.	820.		800.	820.
100	832	4	2	835	4	2	834	4	2	835	4	2		
200	829	7	2	831	8	3	826	7	2	828	7	2		
300	827	10	3	828	11	3	823	9	1	826	10	2		
400	825	13	2	827	13	3	820	10	0	825	12	2		
500	823	14	2	825	16	3	818	11	-1	824	15	2		
600	822	17	1	825	19	4	817	13	-2	823	17	2		
700	821	18	1	824	21	3	816	14	-3	824	21	3		
800	820	20	0	823	23	3	816	16	4	824	24	4		
900	820	23	0	823	26	3	816	18	4	825	28	6		
1000	819	24	-1	822	28	2	816	20	5	825	31	6		
1100	819	26	-1	822	30	3	816	22	5	826	36	8		
1200	819	29	-1	822	33	3	816	24	-6	826	39	9		
1300	820	33	0	821	34	2	816	26	6	827	44	11		
1400	820	35	6	821	37	2	817	30	-5	828	49	14		
1500	820	38	0	820	41	0	817	32	-6	828	53	15		
1600	820	40	0	821	43	2	818	36	-4	829	59	18		
1700	820	43	0	822	47	4	818	39	4	830	65	21		
1800	820	46	0	822	50	4	819	43	2	831	70	24		
1900	821	51	2	822	52	5	820	48	-2	832	78	28		
2000	822	55	5	822	56	5	820	50	0	833	84	32		
2100	822	58	5	823	60	8	821	55	3	833	89	34		
2200	822	62	5	823	65	8	822	61	5	834	96	38		
2300	823	66	9	824	69	11	822	65	6	835	101	43		
2400	823	71	9	824	74	12	823	71	9	836	111	48		
2500	824	75	12	825	78	15	824	75	12					
2600	824	81	13	825	84	16	825	81	16					
2700	825	87	17	826	91	20	825	87	17					
2800							826	91	21					
2900							827	101	26					
3000							828	109	30					
3100							829	112	35					
3200							829	121	37					
3300							830	129	42					
3400							831	137	48					
3500							832	140	51					
3600							832	150	55					
3700							833	160	61					
3800							834	169	68					
3900							835	179	75					
4000							836	189	82					
4100							837	199	89					









TABLE 12 Current Factors for Values of Latitude

$$c = \frac{1}{2\omega \sin \phi 10^5}$$

where

- $\omega$  = angular velocity of earth's rotation, equal to  $0.729 \times 10^{-4}$  radians per second,
- $\phi$  = latitude in degrees.

Example:

Given, latitude of  $30^\circ N$ .

From above equation,  $c = 0.1371$ .

Current factor,  $c$ , is used in the following equation to obtain current velocity.

$$V = \frac{c(D_A - D_B) (n)}{L}$$

where

- $V$  = average current velocity normal to a line between stations A and B,
  - $D_A - D_B$  = dynamic height difference between stations A and B,
  - $L$  = distance between stations A and B,
  - $n$  = unit conversion factor, dependent upon the units of the other variables.
- If units of  $V$ ,  $D_A - D_B$ , and  $L$  are as shown, then  $n$  will have the indicated values

$V$	$D_A - D_B$	$L$	$n$
m/sec	dyn. m	meters	$10^6$
cm/sec	dyn. m	kilometers	$10^5$
cm/sec	dyn. m	nautical miles	53959
knots	dyn. m	kilometers	1942.6
knots	dyn. m	nautical miles	1048.2

Current Factor

Latitude (degrees)	0	1	2	3	4	5	6	7	8	9
C			1.9546	1.3101	0.9829	0.7867	0.6560	0.5626	0.4927	0.4383
10	0.3949	0.3594	.3298	.3048	.2834	.2649	.2488	.2345	.2219	.2106
20	.2005	.1913	.1830	.1755	.1686	.1622	.1564	.1510	.1461	.1414
30	.1371	.1331	.1294	.1259	.1226	.1195	.1167	.1139	.1114	.1090
40	.1047	.1045	.1025	.1005	.0987	.0970	.0953	.0938	.0923	.0909
50	.0895	.0882	.0870	.0859	.0848	.0837	.0827	.0817	.0809	.0800
60	.0792	.0784	.0777	.0770	.0763	.0757	.0751	.0745	.0740	.0735
70	.0730	.0725	.0721	.0717	.0713	.0710	.0707	.0704	.0701	.0699
80	.0694	.0694	.0692	.0691	.0690	.0688	.0687	.0687	.0686	.0686

(Lafond, 1951)

TABLE 13.—Geopotential Distances from the Sea Surface to Stated Isobaric Surfaces in Sea Water

P (decibars)	D <sub>35, o, p</sub> (dynamic meters)	P (decibars)	D <sub>35, o, p</sub> (dynamic meters)	p (decibars)	D <sub>35, o, p</sub> (dynamic meters)
10.....	9.7262	400.....	388.6965	2500.....	2417.8360
20.....	19.4520	500.....	485.7584	3000.....	2898.2041
30.....	29.1773	600.....	582.7759	3500.....	3377.5445
40.....	38.9021	800.....	776.6777	4000.....	3855.8733
50.....	48.6265	1000.....	970.4032	4500.....	4333.2053
75.....	72.9356	1200.....	1163.9534	5000.....	4809.5559
100.....	97.2417	1400.....	1357.3295	6000.....	5759.3685
150.....	145.8457	1600.....	1550.5327	8000.....	7647.8173
200.....	194.4382	1800.....	1743.5639	10000.....	9522.0255
300.....	291.5898	2000.....	1936.4246		

(Lafond, 1951)

TABLE 14. Areas Covered by Pelagic Sediments (see Figure 9, Section II)

	Atlantic Ocean		Pacific Ocean		Indian Ocean		Total	
	Area *	%	Area *	%	Area *	%	Area *	%
Calcareous oozes:								
Globigerina.....	40.1		51.9		34.4			
Pteropod.....	1.5							
Total.....	41.6	67.5	51.9	36.2	34.4	54.3	127.9	47.7
Siliceous oozes:								
Diatom.....	4.1		14.4		12.6			
Radiolarian	4.1	6.7	6.6		0.3			
Total.....			21.0	14.7	12.9	20.4	38.0	14.2
Red clay.....	15.9	25.3	70.3	49.1	16.0	25.3	102.2	38.1
* (Millions Km <sup>2</sup> )	61.6	100.0	143.2	100.0	63.3	100.0	268.1	100.0

(Sverdrup, Johnson, and Fleming, 1942)

TABLE 15.—Heat Budget of the Total Ocean

Latitude	Heat gain									
	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°
Direct solar radiation after allowing for cloudiness	202	255	267	233	171	107	80	58	44	39
Diffuse radiation	166	129	106	99	98	95	73	54	41	36
Total heat gain	368	384	373	332	269	202	153	112	85	75
	Heat loss									
Effective back-radiation	118	134	144	143	133	116	121	126	131	137
Evaporation heat	164	170	176	160	125	78	36	13	6	0
Convection	45	45	40	35	20	20	20	20	20	20
Total heat loss	327	349	360	338	278	214	177	159	157	157
Gains-losses	+41	+35	+13	-6	-9	-12	-24	-47	-72	-82

(Defant, 1961)

## References

- Figure 1  
Piekard, G. L. *Descriptive Physical Oceanography*, The MacMillan Co. 6, N.Y. 1964.
- Figure 2  
Marine Atlas, Vol. II. "Physical Geography," Ministry of Defense USSR Chief of Naval Operations Press Moscow. 1953.
- Figure 3  
Sverdrup, H. V., Martin Johnson, and R. H. Fleming. *The Oceans*. Prentice Hall Inc., N.Y. 1942.
- Figure 4  
Bialek, Eugene. *Errors in the Determination of Depth*, International Hydrographic Review, Vol. XLIII, No. 1, 1966.
- Figure 5  
Grabham, A. L. *Harbor Analog Systems: Salinity, Density, Conductivity*, U.S. Naval Oceanographic Office, Washington, D.C. Informal Manuscript Report 0-11-65 (Unpublished Manuscript).
- Figure 6  
Dietrick, O. O. "Ocean Currents," McGraw Hill Encyclopedia of Science and Technology, Vol. 9, 1960.
- Figures 7, 8  
Grabham, A. L. *Harbor Analog System, Part 1, Waves TR-117*, U.S. Naval Oceanographic Office, Washington, D.C. 1961.
- Figure 9  
Heezen, B. C. *McGraw Hill Encyclopedia of Science and Technology*, McGraw Hill Book Co., N.Y. Vol. 8.
- Tables 1 and 2  
Lyman, John. *McGraw Hill Encyclopedia of Science and Technology*, McGraw Hill Book Co., N.Y. Vol. 9, 1960.
- Tables 3, 4, and 5  
Defant, Albert. *Physical Oceanography*, Pergamon Press, N.Y. Vol. II, 1961.
- Table 6  
Littlewood, William H. U.S. Navy Hydrographic Office, April 1955.
- Table 7  
Defant, Albert. *Physical Oceanography*, Pergamon Press, N.Y. Vol. II, 1961.
- Table 8  
Bigelow, H. B., and W. T. Edmondson. *Wind Waves at Sea, Breakers, and Surf*, U.S. Navy Hydrographic Office, Washington, D.C. Pub. 602, 1962.
- Table 9  
Bigelow, H. B., and W. T. Edmondson. *Wind Waves at Sea, Breakers, and Surf*, U.S. Navy Hydrographic Office, Washington, D.C. Pub. 602, 1962.
- Table 10  
Lafond, E. C. *Processing Oceanographic Data*, U.S. Navy Hydrographic Office, Washington, D.C. H.O. Pub. 614. 1951.
- Table 11  
Matthews, D. J. "Tables of the Velocity of Sound in Pure Water and Sea Water for Use in Echo-Sounding and Sound-Ranging," Hydrographic Department, Admiralty, London, 1939.
- Table 12  
Lafond, E. C. *Processing Oceanographic Data*, U.S. Navy Hydrographic Office, Washington, D.C. H.O. Pub. 614. 1951.
- Table 13  
Lafond, E. C. *Processing Oceanographic Data*, U.S. Navy Hydrographic Office, Washington, D.C. H.O. Pub. 614. 1951.
- Table 14  
Sverdrup, H. V., Martin Johnson, and R. H. Fleming. *The Oceans*. Prentice Hall Inc. N.Y. 1942.
- Table 15  
Defant, Albert. *Physical Oceanography*, Pergamon Press, N.Y. Vol. II, 1961.

## **SECTION IV**

### **Tables for Computations and Conversions**



TABLE 1  
 Temperature of Sea Water,  $\alpha$  (in  $^{\circ}\text{C}$ ), for Salinity 35, Depth in Meters (0 to 900) and Corrected Values of Pressure  
 (decibars)

Pressure (decibars)	0	100	200	300	400	500	600	700	800	900
0.....	0.97264	0.97219	0.97174	0.97129	0.97084	0.97040	0.96995	0.96951	0.96907	0.96863
1,000.....	.96819	.96775	.96732	.96688	.96645	.96602	.96559	.96516	.96473	.96430
2,000.....	.96388	.96345	.96303	.96261	.96219	.96177	.96136	.96094	.96053	.96011
3,000.....	.95970	.95929	.95888	.95848	.95807	.95766	.95726	.95686	.95646	.95606
4,000.....	.95566	.95526	.95486	.95447	.95407	.95368	.95329	.95289	.95251	.95212
5,000.....	.95173	.95134	.95096	.95057	.95019	.94981	.94943	.94905	.94867	.94829
6,000.....	.94791	.94754	.94717	.94679	.94642	.94605	.94568	.94531	.94494	.94457
7,000.....	.94421	.94384	.94348	.94312	.94275	.94239	.94203	.94167	.94132	.94096
8,000.....	.94060	.94025	.93989	.93954	.93919	.93883	.93848	.93813	.93778	.93744
9,000.....	.93709	.93674	.93640	.93605	.93571	.93537	.93503	.93469	.93434	.93401

(Bjerknes and Mandstrem, 1910.)



OCEANOGRAPHIC TABLES 2, 3, AND 4

TEMPERATURE-SALINITY TERM,  $10^6 \Delta_{s,t}$ , OF THE ANOMALY OF SPECIFIC VOLUME FOR VALUES OF TEMPERATURE AND SALINITY

(Adapted from Sverdrup, 1933) (13)

TABLE 2.—Temperature-Salinity Term,  $10^6 \Delta_{s,t}$ , of the Anomaly of Specific Volume for Each Unit of Salinity and Each Tenth of a Degree Temperature

TABLE 3.—Temperature Interpolation for Table 2

TABLE 4.—Salinity Interpolation for Table 2

$$\Delta_{s,t} = 0.0273500 \frac{10^{-3} \sigma_t}{1 + 10^{-3} \sigma_t}$$

where

$\sigma_t$  = Sigma-T, related to temperature (T) and salinity (S).

Example:

Given, T=4.55° C. and S=34.40‰.

From table 2 (under S=34.00 and T=4.5)

Approximate  $10^6 \Delta_{s,t}$  ..... 110.4

Temperature difference=1.0.

Salinity difference= -75.1.

From table 3 (under T=.05 at difference of 1.0)

Temperature interpolation correction ..... 0.5

From table 4 (under difference of -75.1 at S=0.40)

Salinity interpolation correction (same sign as total salinity difference) ... -30.0

$10^6 \Delta_{s,t}$  = (sum of above) ..... 80.0

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 10.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1..	1944.48 0.47 -79.73	1944.95 0.49 -79.76	1945.44 0.51 -79.80	1945.95 0.53 -79.84	1946.47 0.54 -79.88	1947.02 0.56 -79.92	1947.58 0.58 -79.95	1948.16 0.60 -79.99	1948.75 0.61 -80.03	1949.36 0.63 -80.07
0..	1940.67 0.31 -79.36	1940.98 0.32 -79.39	1941.30 0.34 -79.43	1941.64 0.36 -79.47	1941.99 0.37 -79.50	1942.37 0.39 -79.54	1942.75 0.41 -79.58	1943.16 0.42 -79.61	1943.58 0.44 -79.65	1944.02 0.46 -79.69
0..	1940.67 -0.29 -79.36	1940.38 -0.27 -79.32	1940.11 -0.26 -79.29	1939.86 -0.24 -79.25	1939.62 -0.22 -79.21	1939.39 -0.21 -79.18	1939.19 -0.19 -79.14	1939.00 -0.17 -79.11	1938.82 -0.16 -79.07	1938.66 -0.14 -79.04
1..	1938.52 -0.13 -79.00	1938.39 -0.11 -78.97	1938.28 -0.10 -78.94	1938.19 -0.08 -78.90	1938.11 -0.06 -78.87	1938.04 -0.05 -78.83	1938.00 -0.03 -78.80	1937.96 -0.02 -78.77	1937.95 -0.00 -78.73	1937.94 +0.01 -78.70
2..	1937.96 0.03 -78.67	1937.99 0.05 -78.64	1938.02 0.06 -78.60	1938.09 0.08 -78.57	1938.17 0.09 -78.54	1938.26 0.11 -78.51	1938.37 0.12 -78.47	1938.49 0.14 -78.44	1938.62 0.15 -78.41	1938.77 0.17 -78.38
3..	1938.94 0.18 -78.35	1939.12 0.20 -78.31	1939.32 0.21 -78.28	1939.53 0.23 -78.25	1939.75 0.24 -78.22	1939.99 0.25 -78.19	1940.25 0.27 -78.16	1940.52 0.28 -78.13	1940.80 0.30 -78.10	1941.10 0.31 -78.07

TABLE 2 -  $10^5 \Delta s_t$  FOR SALINITY 10.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
4.	1941.41 0.33 -78.04	1941.74 0.34 -78.01	1942.08 0.36 -77.98	1942.44 0.37 -77.95	1942.81 0.38 -77.92	1943.20 0.40 -77.89	1943.59 0.41 -77.86	1944.01 0.43 -77.83	1944.44 0.44 -77.80	1944.88 0.45 -77.77
5.	1945.33 0.47 -77.75	1945.80 0.48 -77.72	1946.29 0.50 -77.69	1946.78 0.51 -77.66	1947.29 0.53 -77.63	1947.82 0.54 -77.60	1948.36 0.55 -77.58	1948.91 0.57 -77.55	1949.48 0.58 -77.52	1950.06 0.59 -77.49
6.	1950.65 0.61 -77.47	1951.26 0.62 -77.44	1951.88 0.63 -77.41	1952.52 0.65 -77.39	1953.16 0.66 -77.36	1953.83 0.68 -77.33	1954.50 0.69 -77.31	1955.19 0.70 -77.28	1955.89 0.72 -77.25	1956.61 0.73 -77.23
7.	1957.33 0.74 -77.20	1958.08 0.75 -77.17	1958.83 0.77 -77.15	1959.60 0.78 -77.12	1960.38 0.79 -77.10	1961.17 0.81 -77.07	1961.98 0.82 -77.05	1962.80 0.83 -77.02	1963.63 0.85 -77.00	1964.48 0.86 -76.97
8.	1965.34 0.87 -76.95	1966.21 0.88 -76.92	1967.09 0.90 -76.90	1967.99 0.91 -76.87	1968.90 0.92 -76.85	1969.82 0.94 -76.82	1970.76 0.95 -76.80	1971.71 0.96 -76.78	1972.67 0.97 -76.75	1973.64 0.99 -76.73
9.	1974.63 1.00 -76.71	1975.63 1.01 -76.68	1976.64 1.02 -76.66	1977.66 1.04 -76.64	1978.70 1.05 -76.61	1979.75 1.06 -76.59	1980.81 1.07 -76.57	1981.88 1.09 -76.54	1982.96 1.10 -76.52	1984.06 1.11 -76.50

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 10.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
10..	1985.17 1.12 -76.48	1986.29 1.13 -76.45	1987.43 1.15 -76.43	1988.57 1.16 -76.41	1989.73 1.17 -76.39	1990.90 1.18 -76.37	1992.09 1.19 -76.34	1993.28 1.21 -76.32	1994.49 1.22 -76.30	1995.71 1.23 -76.28
11..	1996.94 1.24 -76.26	1998.18 1.25 -76.24	1999.43 1.27 -76.22	2000.70 1.28 -76.19	2001.98 1.29 -76.17	2003.27 1.30 -76.15	2004.57 1.31 -76.13	2005.88 1.33 -76.11	2007.21 1.34 -76.09	2008.55 1.35 -76.07
12..	2009.89 1.36 -76.05	2011.25 1.37 -76.03	2012.63 1.38 -76.01	2014.01 1.39 -75.99	2015.40 1.41 -75.97	2016.81 1.42 -75.95	2018.23 1.45 -75.93	2019.66 1.44 -75.91	2021.10 1.45 -75.89	2022.55 1.46 -75.87
13..	2024.01 1.48 -75.85	2025.49 1.49 -75.84	2026.98 1.50 -75.82	2028.47 1.51 -75.80	2029.98 1.52 -75.78	2031.50 1.53 -75.76	2033.03 1.54 -75.74	2034.58 1.55 -75.72	2036.13 1.57 -75.70	2037.70 1.58 -75.69
14..	2039.27 1.59 -75.67	2040.86 1.60 -75.65	2042.46 1.61 -75.63	2044.07 1.62 -75.61	2045.69 1.63 -75.60	2047.32 1.64 -75.58	2048.96 1.65 -75.56	2050.62 1.66 -75.54	2052.28 1.68 -75.53	2053.96 1.69 -75.51
15..	2055.64 1.70 -75.49	2057.34 1.71 -75.47	2059.05 1.72 -75.46	2060.77 1.73 -75.44	2062.50 1.74 -75.42	2064.24 1.75 -75.41	2065.99 1.76 -75.39	2067.75 1.77 -75.37	2069.53 1.78 -75.36	2071.31 1.79 -75.34

TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 10.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
16..	2073.10 1.81 -75.32	2074.91 1.82 -75.31	2076.72 1.83 -75.29	2078.55 1.84 -75.27	2080.39 1.85 -75.26	2082.24 1.86 -75.24	2084.09 1.87 -75.23	2085.96 1.88 -75.21	2087.84 1.89 -75.19	2089.73 1.90 -75.18
17..	2091.63 1.91 -75.16	2093.54 1.92 -75.15	2095.46 1.93 -75.13	2097.40 1.94 -75.12	2099.34 1.95 -75.10	2101.29 1.96 -75.09	2103.25 1.97 -75.07	2105.23 1.98 -75.06	2107.21 1.99 -75.04	2109.20 2.00 -75.03
18..	2111.21 2.01 -75.01	2113.22 2.02 -75.00	2115.25 2.04 -74.98	2117.28 2.05 -74.97	2119.33 2.06 -74.95	2121.38 2.07 -74.94	2123.45 2.08 -74.93	2125.53 2.09 -74.91	2127.61 2.10 -74.90	2129.71 2.11 -74.88
19..	2131.81 2.12 -74.87	2133.93 2.13 -74.86	2136.06 2.14 -74.84	2138.19 2.15 -74.83	2140.34 2.16 -74.82	2142.50 2.17 -74.80	2144.66 2.18 -74.79	2146.84 2.19 -74.77	2149.03 2.20 -74.76	2151.22 2.21 -74.75
20..	2153.43 2.22 -74.73	2155.65 2.23 -74.72	2157.87 2.24 -74.71	2160.11 2.25 -74.70	2162.35 2.26 -74.68	2164.61 2.27 -74.67	2166.88 2.28 -74.66	2169.15 2.29 -74.64	2171.44 2.30 -74.63	2173.73 2.31 -74.62
21..	2176.04 2.32 -74.61	2178.35 2.32 -74.59	2180.68 2.33 -74.58	2183.01 2.34 -74.57	2185.36 2.35 -74.56	2187.71 2.36 -74.55	2190.07 2.37 -74.53	2192.45 2.38 -74.52	2194.83 2.39 -74.51	2197.22 2.40 -74.50

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 10.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22...	2199.62 2.41 -74.49	2202.04 2.42 -74.47	2204.46 2.43 -74.46	2206.89 2.44 -74.45	2209.33 2.45 -74.44	2211.78 2.46 -74.43	2214.24 2.47 -74.42	2216.71 2.48 -74.40	2219.19 2.49 -74.39	2221.68 2.50 -74.38
23...	2224.17 2.51 -74.37	2226.68 2.52 -74.36	2229.20 2.53 -74.35	2231.73 2.54 -74.34	2234.26 2.55 -74.33	2236.81 2.56 -74.31	2239.36 2.57 -74.30	2241.93 2.57 -74.29	2244.50 2.58 -74.28	2247.08 2.59 -74.27
24...	2249.67 2.60 -74.26	2252.28 2.61 -74.25	2254.89 2.62 -74.24	2257.51 2.63 -74.23	2260.14 2.64 -74.22	2262.78 2.65 -74.21	2265.42 2.66 -74.20	2268.08 2.67 -74.19	2270.75 2.68 -74.18	2273.42 2.69 -74.17
25...	2276.11 2.69 -74.16	2278.80 2.70 -74.15	2281.51 2.71 -74.14	2284.22 2.72 -74.13	2286.94 2.73 -74.12	2289.67 2.74 -74.11	2292.41 2.75 -74.10	2295.16 2.76 -74.09	2297.92 2.77 -74.08	2300.69 2.78 -74.07
26...	2303.47 2.79 -74.06	2306.25 2.80 -74.05	2309.05 2.80 -74.04	2311.85 2.81 -74.03	2314.67 2.82 -74.02	2317.49 2.83 -74.01	2320.32 2.84 -74.00	2323.16 2.85 -73.99	2326.01 2.86 -73.98	2328.87 2.87 -73.97
27...	2331.74 2.88 -73.96	2334.62 2.89 -73.96	2337.50 2.90 -73.95	2340.40 2.90 -73.94	2343.30 2.91 -73.93	2346.22 2.92 -73.92	2349.14 2.93 -73.91	2352.07 2.94 -73.90	2355.01 2.95 -73.89	2357.96 2.96 -73.88

TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 10.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28..	2360.91 2.97 -73.88	2363.88 2.98 -73.87	2366.86 2.98 -73.86	2369.84 2.99 -73.85	2372.84 3.00 -73.84	2375.84 3.01 -73.83	2378.85 3.02 -73.82	2381.87 3.03 -73.81	2384.90 3.04 -73.81	2387.93 3.05 -73.80
29..	2390.98 3.06 -73.79	2394.04 3.06 -73.78	2397.10 3.07 -73.77	2400.17 3.08 -73.76	2403.26 3.09 -73.76	2406.35 3.10 -73.75	2409.45 3.11 -73.74	2412.55 3.12 -73.73	2415.67 3.13 -73.72	2418.80 3.13 -73.72
30..	2421.93 3.14 -73.71	2425.07 3.15 -73.70	2428.23 3.16 -73.69	2431.39 3.17 -73.68	2434.56 3.18 -73.68	2437.73 3.19 -73.67	2440.92 3.20 -73.66	2444.12 3.20 -73.65	2447.32 3.21 -73.64	2450.53 3.22 -73.64
31..	2453.75 3.23 -73.63	2456.99 3.24 -73.62	2460.22 3.25 -73.61	2463.47 3.26 -73.60	2466.73 3.26 -73.60	2469.99 3.27 -73.59	2473.27 3.28 -73.58	2476.55 3.29 -73.57	2479.84 3.30 -73.57	2483.14 3.31 -73.56
32..	2486.45 3.32 -73.55	2489.76 3.33 -73.54	2493.09 3.33 -73.54	2496.42 3.34 -73.53	2499.76 3.35 -73.52	2503.11 3.36 -73.51	2506.47 3.37 -73.51	2509.84 3.38 -73.50	2513.22 3.38 -73.49	2516.60 3.39 -73.48
33..	2520.00 3.40 -73.48	2523.40 3.41 -73.47	2526.81 3.42 -73.46	2530.23 3.43 -73.46	2533.65 3.44 -73.45	2537.09 3.44 -73.44	2540.53 3.45 -73.43	2543.99 3.46 -73.43	2547.45 3.47 -73.42	2550.92 3.48 -73.41

TABLE 2 -  $10^5 \Delta st$  FOR SALINITY 10.00 Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
34..	2554.40 3.49 -73.41	2557.88 3.50 -73.40	2561.38 3.50 -73.39	2564.88 3.51 -73.38	2568.40 3.52 -73.38	2571.92 3.53 -73.37	2575.45 3.54 -73.36	2578.98 3.55 -73.36	2582.53 3.55 -73.35	2586.08 3.56 -73.34
35..	2589.65 3.57 -73.33	2593.22 3.58 -73.33	2596.80 3.59 -73.32	2600.38 3.60 -73.31	2603.98 3.60 -73.31	2607.59 3.61 -73.30	2611.20 3.62 -73.29	2614.82 3.63 -73.29	2618.45 3.64 -73.28	2622.09 3.65 -73.27



TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 11.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
-1...	1864.75 0.44 -79.54	1865.19 0.45 -79.58	1865.64 0.47 -79.62	1866.11 0.49 -79.66	1866.60 0.50 -79.69	1867.10 0.52 -79.73	1867.62 0.54 -79.77	1868.16 0.56 -79.81	1868.72 0.57 -79.85	1869.29 0.59 -79.89	
0...	1861.32 0.27 -79.18	1861.58 0.29 -79.21	1861.87 0.30 -79.25	1862.17 0.32 -79.29	1862.49 0.33 -79.32	1862.83 0.35 -79.36	1863.18 0.37 -79.40	1863.55 0.39 -79.43	1863.93 0.40 -79.47	1864.33 0.42 -79.51	
0...	1861.32 -0.25 -79.18	1861.06 -0.24 -79.14	1860.83 -0.22 -79.11	1860.61 -0.20 -79.07	1860.40 -0.19 -79.04	1860.21 -0.17 -79.00	1860.04 -0.16 -78.97	1859.89 -0.14 -78.93	1859.75 -0.12 -78.90	1859.62 -0.11 -78.86	
1...	1859.51 -0.09 -78.83	1859.42 -0.08 -78.80	1859.35 -0.06 -78.76	1859.28 -0.05 -78.73	1859.24 -0.03 -78.70	1859.21 -0.01 -78.66	1859.19 0.00 -78.63	1859.20 0.02 -78.60	1859.21 0.03 -78.56	1859.24 0.05 -78.53	
2...	1859.29 0.06 -78.50	1859.35 0.08 -78.46	1859.43 0.09 -78.43	1859.52 0.11 -78.40	1859.63 0.12 -78.37	1859.76 0.14 -78.34	1859.89 0.15 -78.30	1860.05 0.17 -78.27	1860.21 0.18 -78.24	1860.40 0.20 -78.21	
3...	1860.59 0.21 -78.18	1860.81 0.23 -78.15	1861.03 0.24 -78.12	1861.28 0.26 -78.09	1861.53 0.27 -78.05	1861.80 0.29 -78.02	1862.09 0.30 -77.99	1862.39 0.31 -77.96	1862.70 0.33 -77.93	1863.03 0.34 -77.90	

TABLE 2 -  $10^5 \Delta s_t$  FOR SALINITY 11.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
4..	1863.37 0.36 -77.87	1863.73 0.37 -77.84	1864.10 0.39 -77.81	1864.49 0.40 -77.79	1864.89 0.41 -77.76	1865.30 0.43 -77.73	1865.73 0.44 -77.70	1866.18 0.46 -77.67	1866.63 0.47 -77.64	1867.10 0.48 -77.61
5..	1867.59 0.50 -77.58	1868.08 0.51 -77.56	1868.60 0.53 -77.53	1869.12 0.54 -77.50	1869.66 0.55 -77.47	1870.22 0.57 -77.44	1870.78 0.58 -77.42	1871.36 0.59 -77.39	1871.96 0.61 -77.36	1872.56 0.62 -77.33
6..	1873.19 0.63 -77.31	1873.82 0.65 -77.28	1874.47 0.66 -77.25	1875.13 0.68 -77.23	1875.81 0.69 -77.20	1876.49 0.70 -77.17	1877.20 0.71 -77.15	1877.91 0.73 -77.12	1878.64 0.74 -77.09	1879.38 0.75 -77.07
7..	1880.13 0.77 -77.04	1880.90 0.78 -77.02	1881.68 0.79 -76.99	1882.47 0.81 -76.97	1883.28 0.82 -76.94	1884.10 0.83 -76.92	1884.93 0.85 -76.89	1885.78 0.86 -76.87	1886.64 0.87 -76.84	1887.51 0.88 -76.82
8..	1888.39 0.90 -76.79	1889.29 0.91 -76.77	1890.20 0.92 -76.74	1891.12 0.93 -76.72	1892.05 0.95 -76.69	1893.00 0.96 -76.67	1893.96 0.97 -76.65	1894.93 0.98 -76.62	1895.92 1.00 -76.60	1896.91 1.01 -76.58
9..	1897.92 1.02 -76.55	1898.94 1.03 -76.53	1899.98 1.05 -76.51	1901.03 1.06 -76.48	1902.08 1.07 -76.46	1903.16 1.08 -76.44	1904.24 1.10 -76.41	1905.34 1.11 -76.39	1906.44 1.12 -76.37	1907.56 1.13 -76.35

TABLE 2 -  $10^5 \Delta s_i$  FOR SALINITY 11.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
10..	1908.70 1.14 -76.32	1909.84 1.16 -76.30	1911.00 1.17 -76.28	1912.17 1.18 -76.26	1913.35 1.19 -76.24	1914.54 1.20 -76.21	1915.74 1.22 -76.19	1916.96 1.23 -76.17	1918.19 1.24 -76.15	1919.43 1.25 -76.13
11..	1920.68 1.26 -76.11	1921.94 1.28 -76.09	1923.22 1.29 -76.07	1924.51 1.30 -76.04	1925.80 1.31 -76.02	1927.12 1.32 -76.00	1928.44 1.33 -75.98	1929.77 1.35 -75.96	1931.12 1.36 -75.94	1932.47 1.37 -75.92
12..	1933.84 1.38 -75.90	1935.22 1.39 -75.88	1936.62 1.40 -75.86	1938.02 1.41 -75.84	1939.43 1.43 -75.82	1940.86 1.44 -75.80	1942.30 1.45 -75.78	1943.75 1.46 -75.76	1945.21 1.47 -75.75	1946.68 1.48 -75.73
13..	1948.16 1.49 -75.71	1949.65 1.51 -75.69	1951.16 1.52 -75.67	1952.68 1.53 -75.65	1954.20 1.54 -75.63	1955.74 1.55 -75.61	1957.29 1.56 -75.59	1958.85 1.57 -75.58	1960.43 1.58 -75.56	1962.01 1.59 -75.54
14..	1963.60 1.61 -75.52	1965.21 1.62 -75.50	1966.83 1.63 -75.49	1968.45 1.64 -75.47	1970.09 1.65 -75.45	1971.74 1.66 -75.43	1973.40 1.67 -75.41	1975.07 1.68 -75.40	1976.76 1.69 -75.38	1978.45 1.70 -75.36
15..	1980.15 1.71 -75.35	1981.87 1.73 -75.33	1983.59 1.74 -75.31	1985.33 1.75 -75.29	1987.08 1.76 -75.28	1988.83 1.77 -75.26	1990.60 1.78 -75.24	1992.38 1.79 -75.23	1994.17 1.80 -75.21	1995.97 1.81 -75.20

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 11.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
16..	1997.78 1.82 -75.18	1999.00 1.83 -75.16	2001.43 1.84 -75.15	2003.28 1.85 -75.13	2005.13 1.86 -75.11	2006.99 1.87 -75.10	2008.87 1.88 -75.08	2010.75 1.90 -75.07	2012.65 1.91 -75.05	2014.55 1.92 -75.04
17..	2016.47 1.93 -75.02	2018.39 1.94 -75.01	2020.33 1.95 -74.99	2022.28 1.96 -74.98	2024.24 1.97 -74.96	2026.20 1.98 -74.95	2028.18 1.99 -74.93	2030.17 2.00 -74.92	2032.17 2.01 -74.90	2034.18 2.02 -74.89
18..	2036.20 2.03 -74.87	2038.22 2.04 -74.86	2040.26 2.05 -74.84	2042.31 2.06 -74.83	2044.37 2.07 -74.81	2046.44 2.08 -74.80	2048.52 2.09 -74.79	2050.61 2.10 -74.77	2052.71 2.11 -74.76	2054.82 2.12 -74.74
19..	2056.94 2.13 -74.73	2059.07 2.14 -74.72	2061.21 2.15 -74.70	2063.36 2.16 -74.69	2065.52 2.17 -74.68	2067.69 2.18 -74.66	2069.87 2.19 -74.65	2072.06 2.20 -74.64	2074.26 2.21 -74.62	2076.47 2.22 -74.61
20..	2078.69 2.23 -74.60	2080.92 2.24 -74.58	2083.16 2.25 -74.57	2085.41 2.26 -74.56	2087.67 2.27 -74.54	2089.94 2.28 -74.53	2092.22 2.29 -74.52	2094.51 2.30 -74.51	2096.81 2.31 -74.49	2099.11 2.32 -74.48
21..	2101.43 2.33 -74.47	2103.76 2.34 -74.46	2106.10 2.35 -74.44	2108.44 2.36 -74.43	2110.80 2.37 -74.42	2113.16 2.38 -74.41	2115.54 2.39 -74.40	2117.93 2.39 -74.38	2120.32 2.40 -74.37	2122.73 2.41 -74.36

TABLE 2 -10<sup>5</sup> Δst FOR SALINITY 11.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22...	2125.14 2.43 -74.35	2127.56 2.43 -74.34	2130.00 2.44 -74.33	2137.44 2.45 -74.31	2134.89 2.46 -74.30	2132.35 2.47 -74.29	2139.82 2.48 -74.28	2142.31 2.49 -74.27	2144.80 2.50 -74.26	2147.30 2.51 -74.25
23...	2149.80 2.52 -74.24	2152.32 2.53 -74.22	2154.85 2.54 -74.21	2157.39 2.55 -74.20	2159.94 2.56 -74.19	2162.49 2.57 -74.18	2165.06 2.58 -74.17	2167.63 2.58 -74.16	2170.22 2.59 -74.15	2172.81 2.60 -74.14
24...	2175.41 2.61 -74.13	2178.03 2.62 -74.12	2180.65 2.63 -74.11	2183.28 2.64 -74.10	2185.92 2.65 -74.09	2188.57 2.66 -74.08	2191.23 2.67 -74.07	2193.89 2.68 -74.06	2196.57 2.69 -74.05	2199.26 2.70 -74.04
25...	2201.95 2.70 -74.03	2204.66 2.71 -74.02	2207.37 2.72 -74.01	2210.09 2.73 -74.00	2212.83 2.74 -73.99	2215.57 2.75 -73.98	2218.32 2.76 -73.97	2221.08 2.77 -73.96	2223.85 2.78 -73.95	2226.62 2.79 -73.94
26...	2229.41 2.80 -73.93	2232.21 2.81 -73.92	2235.01 2.81 -73.91	2237.82 2.82 -73.90	2240.65 2.83 -73.89	2243.48 2.84 -73.88	2246.32 2.85 -73.87	2249.17 2.86 -73.86	2252.03 2.87 -73.85	2254.90 2.88 -73.84
27...	2257.78 2.89 -73.84	2260.66 2.90 -73.83	2263.56 2.90 -73.82	2266.46 2.91 -73.81	2269.37 2.92 -73.80	2272.30 2.93 -73.79	2275.23 2.94 -73.78	2278.17 2.95 -73.77	2281.12 2.96 -73.77	2284.07 2.97 -73.76

TABLE 2  $-10^5 \Delta \sigma_t$  FOR SALINITY 11.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28..	2287.04 2.98 -73.75	2290.02 2.98 -73.74	2293.00 2.99 -73.73	2295.99 3.00 -73.72	2298.99 3.01 -73.71	2302.01 3.02 -73.71	2305.03 3.03 -73.70	2308.05 3.04 -73.69	2311.09 3.05 -73.68	2314.14 3.06 -73.67
29..	2317.19 3.06 -73.66	2320.26 3.07 -73.66	2323.33 3.08 -73.65	2326.41 3.09 -73.64	2329.50 3.10 -73.63	2332.60 3.11 -73.62	2335.71 3.12 -73.62	2338.82 3.13 -73.61	2341.95 3.13 -73.60	2345.08 3.14 -73.59
30..	2348.22 3.15 -73.58	2351.38 3.16 -73.58	2354.54 3.17 -73.57	2357.70 3.18 -73.56	2360.88 3.19 -73.55	2364.07 3.19 -73.55	2367.26 3.20 -73.54	2370.47 3.21 -73.53	2373.68 3.22 -73.52	2376.90 3.23 -73.51
31..	2380.13 3.24 -73.51	2383.37 3.25 -73.50	2386.61 3.26 -73.49	2389.87 3.26 -73.48	2393.13 3.27 -73.48	2396.40 3.28 -73.47	2399.68 3.29 -73.46	2402.97 3.30 -73.45	2406.27 3.31 -73.45	2409.58 3.32 -73.44
32..	2412.89 3.32 -73.43	2416.22 3.33 -73.43	2419.55 3.34 -73.42	2422.89 3.35 -73.41	2426.24 3.36 -73.40	2429.60 3.37 -73.40	2432.97 3.38 -73.39	2436.34 3.38 -73.38	2439.73 3.39 -73.38	2443.12 3.40 -73.37
33..	2446.52 3.41 -73.36	2449.93 3.42 -73.35	2453.35 3.43 -73.35	2456.77 3.43 -73.34	2460.21 3.44 -73.33	2463.65 3.45 -73.33	2467.10 3.46 -73.32	2470.56 3.47 -73.31	2474.03 3.48 -73.31	2477.51 3.49 -73.30

TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 11.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
34...	2480.99 3.49 -73.29	2484.49 3.50 -73.29	2487.99 3.51 -73.28	2491.50 3.52 -73.27	2495.02 3.53 -73.26	2498.55 3.54 -73.26	2502.08 3.54 -73.25	2505.63 3.55 -73.24	2509.18 3.56 -73.24	2512.74 3.57 -73.23
35...	2516.31 3.58 -73.22	2519.89 3.59 -73.22	2523.48 3.60 -73.21	2527.07 3.60 -73.20	2530.68 3.61 -73.20	2534.29 3.62 -73.19	2537.91 3.63 -73.18	2541.54 3.64 -73.18	2545.17 3.65 -73.17	2548.82 3.65 -73.16

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 12.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1..	1785.21 0.40 -79.37	1785.61 0.42 -79.40	1786.02 0.43 -79.44	1786.45 0.45 -79.48	1786.90 0.47 -79.52	1787.37 0.48 -79.55	1787.85 0.50 -79.59	1788.35 0.52 -79.63	1788.87 0.54 -79.67	1789.41 0.55 -79.70
0..	1782.14 0.23 -79.01	1782.37 0.25 -79.04	1782.62 0.27 -79.08	1782.89 0.28 -79.11	1783.17 0.30 -79.15	1783.47 0.32 -79.18	1783.78 0.33 -79.22	1784.11 0.35 -79.26	1784.46 0.37 -79.29	1784.83 0.38 -79.33
0..	1782.14 -0.22 -79.01	1781.92 -0.20 -78.97	1781.72 -0.19 -78.94	1781.53 -0.17 -78.90	1781.36 -0.15 -78.87	1781.21 -0.14 -78.83	1781.07 -0.12 -78.80	1780.95 -0.11 -78.76	1780.85 -0.09 -78.73	1780.76 -0.07 -78.69
1..	1780.68 -0.06 -78.66	1780.63 -0.04 -78.63	1780.58 -0.03 -78.59	1780.56 -0.01 -78.56	1780.54 0.00 -78.53	1780.55 0.02 -78.49	1780.57 0.03 -78.46	1780.60 0.05 -78.43	1780.65 0.06 -78.40	1780.71 0.08 -78.36
2..	1780.79 0.10 -78.33	1780.89 0.11 -78.30	1781.00 0.13 -78.27	1781.12 0.14 -78.23	1781.26 0.15 -78.20	1781.42 0.17 -78.17	1781.59 0.18 -78.14	1781.77 0.20 -78.11	1781.97 0.21 -78.08	1782.19 0.23 -78.05
3..	1782.42 0.24 -78.01	1782.66 0.26 -77.98	1782.92 0.27 -77.95	1783.19 0.29 -77.92	1783.48 0.30 -77.89	1783.78 0.32 -77.86	1784.09 0.33 -77.83	1784.42 0.34 -77.80	1784.77 0.36 -77.77	1785.13 0.37 -77.74



TABLE 2 -  $10^5 \Delta s_t$  FOR SALINITY 12.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
4..	1785.50 0.39 -77.71	1785.89 0.40 -77.68	1786.29 0.42 -77.65	1786.70 0.43 -77.63	1787.13 0.44 -77.60	1787.58 0.46 -77.57	1788.03 0.47 -77.54	1788.51 0.49 -77.51	1788.99 0.50 -77.48	1789.49 0.51 -77.45
5..	1790.00 0.53 -77.43	1790.53 0.54 -77.40	1791.07 0.55 -77.37	1791.62 0.57 -77.34	1792.19 0.58 -77.31	1792.77 0.59 -77.29	1793.37 0.61 -77.26	1793.97 0.62 -77.23	1794.60 0.64 -77.20	1795.23 0.65 -77.18
6..	1795.88 0.66 -77.15	1796.54 0.68 -77.12	1797.22 0.69 -77.10	1797.90 0.70 -77.07	1798.61 0.71 -77.04	1799.32 0.73 -77.02	1800.05 0.74 -76.99	1800.79 0.75 -76.97	1801.54 0.77 -76.94	1802.31 0.78 -76.91
7..	1803.09 0.79 -76.89	1803.88 0.81 -76.86	1804.69 0.82 -76.84	1805.51 0.83 -76.81	1806.34 0.84 -76.79	1807.19 0.86 -76.76	1808.04 0.87 -76.74	1808.91 0.88 -76.71	1809.80 0.90 -76.69	1810.69 0.91 -76.66
8..	1811.60 0.92 -76.64	1812.52 0.93 -76.62	1813.45 0.95 -76.59	1814.40 0.96 -76.57	1815.36 0.97 -76.54	1816.33 0.98 -76.52	1817.31 1.00 -76.50	1818.31 1.01 -76.47	1819.32 1.02 -76.45	1820.34 1.03 -76.43
9..	1821.37 1.05 -76.40	1822.42 1.06 -76.38	1823.47 1.07 -76.36	1824.54 1.08 -76.33	1825.63 1.09 -76.31	1826.72 1.11 -76.29	1827.83 1.12 -76.27	1828.94 1.13 -76.24	1830.07 1.14 -76.22	1831.22 1.15 -76.20

TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 12.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
10..	1832.37 1.17 -76.18	1833.54 1.18 -76.15	1834.72 1.19 -76.13	1835.91 1.20 -76.11	1837.11 1.21 -76.09	1838.32 1.23 -76.07	1839.55 1.24 -76.05	1840.79 1.25 -76.02	1842.04 1.26 -76.00	1843.30 1.27 -75.98
11..	1844.57 1.28 -75.96	1845.86 1.30 -75.94	1847.15 1.31 -75.92	1848.46 1.32 -75.90	1849.78 1.33 -75.88	1851.11 1.34 -75.86	1852.45 1.35 -75.84	1853.81 1.37 -75.82	1855.17 1.38 -75.80	1856.55 1.39 -75.78
12..	1857.94 1.40 -75.76	1859.34 1.41 -75.74	1860.75 1.42 -75.72	1862.18 1.43 -75.70	1863.61 1.45 -75.68	1865.06 1.46 -75.66	1866.51 1.47 -75.64	1867.98 1.48 -75.62	1869.46 1.49 -75.60	1870.95 1.50 -75.58
13..	1872.45 1.51 -75.56	1873.97 1.52 -75.54	1875.49 1.54 -75.53	1877.03 1.55 -75.51	1878.57 1.56 -75.49	1880.13 1.57 -75.47	1881.70 1.58 -75.45	1883.28 1.59 -75.43	1884.87 1.60 -75.42	1886.47 1.61 -75.40
14..	1888.08 1.62 -75.38	1889.71 1.63 -75.36	1891.34 1.65 -75.34	1892.99 1.66 -75.33	1894.64 1.67 -75.31	1896.31 1.68 -75.29	1897.99 1.69 -75.27	1899.68 1.70 -75.26	1901.38 1.71 -75.24	1903.09 1.72 -75.22
15..	1904.81 1.73 -75.21	1906.54 1.74 -75.19	1908.28 1.75 -75.17	1910.03 1.76 -75.15	1911.80 1.77 -75.14	1913.57 1.78 -75.12	1915.36 1.80 -75.10	1917.15 1.81 -75.09	1918.96 1.82 -75.07	1920.77 1.83 -75.06

TABLE 2 -  $10^5 \Delta st$  FOR SALINITY 12.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
16..	1922.60 1.84 -75.04	1924.44 1.85 -75.02	1926.29 1.86 -75.01	1928.15 1.87 -74.99	1930.02 1.88 -74.98	1931.89 1.89 -74.96	1933.78 1.90 -74.94	1935.68 1.91 -74.93	1937.60 1.92 -74.91	1939.52 1.93 -74.90
17..	1941.45 1.94 -74.88	1943.39 1.95 -74.87	1945.34 1.96 -74.85	1947.30 1.97 -74.84	1949.28 1.98 -74.82	1951.26 1.99 -74.81	1953.25 2.00 -74.79	1955.25 2.01 -74.78	1957.27 2.02 -74.76	1959.29 2.03 -74.75
18..	1961.32 2.04 -74.73	1963.37 2.05 -74.72	1965.42 2.06 -74.71	1967.49 2.07 -74.69	1969.56 2.08 -74.68	1971.64 2.09 -74.66	1973.74 2.10 -74.65	1975.84 2.11 -74.64	1977.96 2.12 -74.62	1980.08 2.13 -74.61
19..	1982.21 2.14 -74.59	1984.36 2.15 -74.58	1986.51 2.16 -74.57	1988.67 2.17 -74.55	1990.85 2.18 -74.54	1993.03 2.19 -74.53	1995.23 2.20 -74.51	1997.43 2.21 -74.50	1999.64 2.22 -74.49	2001.87 2.23 -74.47
20..	2004.10 2.24 -74.46	2006.34 2.25 -74.45	2008.59 2.26 -74.44	2010.85 2.27 -74.42	2013.13 2.28 -74.41	2015.41 2.29 -74.40	2017.70 2.30 -74.39	2020.00 2.31 -74.37	2022.31 2.32 -74.36	2024.63 2.33 -74.35
21..	2026.96 2.34 -74.34	2029.30 2.35 -74.32	2031.65 2.36 -74.31	2034.01 2.37 -74.30	2036.38 2.38 -74.29	2038.76 2.39 -74.28	2041.14 2.40 -74.26	2043.54 2.41 -74.25	2045.95 2.42 -74.24	2048.36 2.43 -74.23

TABLE 2 -105  $\Delta$ st FOR SALINITY 12.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22..	2050.79 2.44 -74.22	2053.23 2.44 -74.22	2055.67 2.45 -74.19	2058.12 2.46 -74.18	2060.59 2.47 -74.17	2063.06 2.48 -74.16	2065.54 2.49 -74.15	2068.04 2.50 -74.14	2070.54 2.51 -74.13	2073.05 2.52 -74.12
23..	2075.57 2.53 -74.10	2078.10 2.54 -74.09	2080.64 2.55 -74.08	2083.19 2.56 -74.07	2085.74 2.57 -74.06	2088.31 2.58 -74.05	2090.89 2.59 -74.04	2093.47 2.59 -74.03	2096.07 2.60 -74.02	2098.67 2.61 -74.01
24..	2101.29 2.62 -74.00	2103.91 2.63 -73.99	2106.54 2.64 -73.98	2109.18 2.65 -73.97	2111.83 2.66 -73.96	2114.49 2.67 -73.95	2117.16 2.68 -73.94	2119.84 2.69 -73.93	2122.53 2.70 -73.92	2125.22 2.71 -73.91
25..	2127.93 2.71 -73.90	2130.64 2.72 -73.89	2133.37 2.73 -73.88	2136.10 2.74 -73.87	2138.84 2.75 -73.86	2141.59 2.76 -73.85	2144.35 2.77 -73.84	2147.12 2.78 -73.83	2149.90 2.79 -73.82	2152.69 2.80 -73.81
26..	2155.48 2.81 -73.80	2158.29 2.81 -73.79	2161.10 2.82 -73.78	2163.93 2.83 -73.77	2166.76 2.84 -73.76	2169.60 2.85 -73.76	2172.45 2.86 -73.75	2175.31 2.87 -73.74	2178.18 2.88 -73.73	2181.05 2.89 -73.72
27..	2183.94 2.90 -73.71	2186.84 2.90 -73.70	2189.74 2.91 -73.69	2192.65 2.92 -73.68	2195.57 2.93 -73.68	2198.51 2.94 -73.67	2201.44 2.95 -73.66	2204.39 2.96 -73.65	2207.35 2.97 -73.64	2210.32 2.98 -73.63

TABLE 2 -  $10^5 \Delta s_f$  FOR SALINITY 12.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28..	2213.29 2.98 -73.62	2216.28 2.99 -73.62	2219.27 3.00 -73.61	2222.27 3.01 -73.60	2225.28 3.02 -73.59	2228.30 3.03 -73.58	2231.33 3.04 -73.58	2234.36 3.05 -73.57	2237.41 3.05 -73.56	2240.46 3.06 -73.55
29..	2243.53 3.07 -73.54	2246.60 3.08 -73.53	2249.68 3.09 -73.53	2252.77 3.10 -73.52	2255.87 3.11 -73.51	2258.98 3.12 -73.50	2262.09 3.12 -73.50	2265.21 3.13 -73.49	2268.35 3.14 -73.48	2271.49 3.15 -73.47
30..	2274.64 3.16 -73.46	2277.80 3.17 -73.46	2280.97 3.18 -73.45	2284.14 3.19 -73.44	2287.33 3.19 -73.43	2290.52 3.20 -73.43	2293.72 3.21 -73.42	2296.94 3.22 -73.41	2300.15 3.23 -73.40	2303.38 3.24 -73.40
31..	2306.62 3.25 -73.39	2309.87 3.25 -73.38	2313.17 3.26 -73.38	2316.38 3.27 -73.37	2319.65 3.28 -73.36	2322.93 3.29 -73.35	2326.22 3.30 -73.35	2329.52 3.31 -73.34	2332.82 3.31 -73.33	2336.14 3.32 -73.33
32..	2339.46 3.33 -73.32	2342.79 3.34 -73.31	2346.13 3.35 -73.30	2349.48 3.36 -73.30	2352.84 3.37 -73.29	2356.20 3.37 -73.28	2359.58 3.38 -73.28	2362.96 3.39 -73.27	2366.35 3.40 -73.26	2369.75 3.41 -73.26
33..	2373.16 3.42 -73.25	2376.57 3.42 -73.24	2380.00 3.43 -73.24	2383.43 3.44 -73.23	2386.87 3.45 -73.22	2390.32 3.46 -73.22	2393.78 3.47 -73.21	2397.25 3.48 -73.20	2400.72 3.48 -73.20	2404.21 3.49 -73.19

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 12.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
34..	2407.70 3.50 -73.18	2411.20 3.51 -73.18	2414.71 3.52 -73.17	2418.23 3.53 -73.16	2421.75 3.53 -73.16	2425.29 3.54 -73.15	2428.83 3.55 -73.14	2432.38 3.56 -73.14	2435.94 3.57 -73.13	2439.51 3.58 -73.12
35..	2443.09 3.58 -73.12	2446.67 3.59 -73.11	2450.27 3.60 -73.11	2453.87 3.61 -73.10	2457.48 3.62 -73.09	2461.10 3.63 -73.09	2464.72 3.64 -73.08	2468.36 3.64 -73.07	2472.00 3.65 -73.07	2475.65 3.66 -73.06

TABLE 2 -  $10^5 \Delta_{\sigma_t}$  FOR SALINITY 13.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1..	1705.84 0.36 -79.19	1706.20 0.38 -79.23	1706.58 0.40 -79.27	1706.98 0.41 -79.30	1707.39 0.43 -79.34	1707.82 0.45 -79.38	1708.26 0.46 -79.42	1708.73 0.48 -79.45	1709.20 0.50 -79.49	1709.70 0.51 -79.53
0..	1703.13 0.20 -78.84	1703.33 0.21 -78.87	1703.54 0.23 -78.91	1703.77 0.25 -78.94	1704.02 0.26 -78.98	1704.28 0.28 -79.01	1704.56 0.30 -79.05	1704.86 0.31 -79.09	1705.17 0.33 -79.12	1705.50 0.34 -79.16
0..	1703.13 -0.18 -78.84	1702.95 -0.17 -78.80	1702.78 -0.15 -78.77	1702.63 -0.13 -78.73	1702.50 -0.12 -78.70	1702.38 -0.10 -78.66	1702.28 -0.09 -78.63	1702.19 -0.07 -78.60	1702.12 -0.06 -78.56	1702.06 -0.04 -78.53
1..	1702.02 -0.02 -78.50	1702.00 -0.01 -78.46	1701.99 0.01 -78.43	1702.00 0.02 -78.40	1702.02 0.04 -78.36	1702.05 0.05 -78.33	1702.11 0.07 -78.30	1702.17 0.08 -78.27	1702.25 0.10 -78.23	1702.35 0.11 -78.20
2..	1702.46 0.13 -78.17	1702.59 0.14 -78.14	1702.73 0.16 -78.10	1702.89 0.17 -78.07	1703.06 0.19 -78.04	1703.25 0.20 -78.01	1703.45 0.22 -77.98	1703.67 0.23 -77.95	1703.90 0.25 -77.92	1704.14 0.26 -77.89
3..	1704.40 0.27 -77.86	1704.68 0.29 -77.83	1704.96 0.30 -77.80	1705.27 0.32 -77.77	1705.58 0.33 -77.73	1705.92 0.35 -77.70	1706.26 0.36 -77.68	1706.62 0.37 -77.65	1707.00 0.39 -77.62	1707.39 0.40 -77.59

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 15.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
4..	1707.79 0.42 -77.56	1708.20 0.43 -77.53	1708.63 0.44 -77.50	1709.08 0.46 -77.47	1709.54 0.47 -77.44	1710.01 0.49 -77.41	1710.50 0.50 -77.38	1711.00 0.51 -77.36	1711.51 0.53 -77.33	1712.04 0.54 -77.30
5..	1712.58 0.55 -77.27	1713.13 0.57 -77.24	1713.70 0.58 -77.22	1714.28 0.60 -77.19	1714.88 0.61 -77.16	1715.49 0.62 -77.13	1716.11 0.64 -77.11	1716.74 0.65 -77.08	1717.39 0.66 -77.05	1718.05 0.68 -77.03
6..	1718.73 0.69 -77.00	1719.42 0.70 -76.97	1720.12 0.71 -76.95	1720.83 0.73 -76.92	1721.56 0.74 -76.89	1722.30 0.75 -76.87	1723.06 0.77 -76.84	1723.82 0.78 -76.82	1724.60 0.79 -76.79	1725.40 0.81 -76.77
7..	1726.20 0.82 -76.74	1727.02 0.83 -76.71	1727.85 0.84 -76.69	1728.70 0.86 -76.66	1729.55 0.87 -76.64	1730.42 0.88 -76.62	1731.30 0.90 -76.59	1732.20 0.91 -76.57	1733.11 0.92 -76.54	1734.03 0.93 -76.52
8..	1734.96 0.95 -76.49	1735.91 0.96 -76.47	1736.86 0.97 -76.44	1737.83 0.98 -76.42	1738.82 0.99 -76.40	1739.81 1.01 -76.37	1740.82 1.02 -76.35	1741.84 1.03 -76.33	1742.87 1.04 -76.30	1743.91 1.06 -76.28
9..	1744.97 1.07 -76.26	1746.04 1.08 -76.23	1747.12 1.09 -76.21	1748.21 1.10 -76.19	1749.31 1.12 -76.17	1750.43 1.13 -76.14	1751.56 1.14 -76.12	1752.70 1.15 -76.10	1753.85 1.16 -76.08	1755.02 1.18 -76.05



TABLE 2 -  $10^5 \Delta st$  FOR SALINITY 13.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
10..	1756.20 1.19 -76.03	1757.38 1.20 -76.01	1758.58 1.21 -75.99	1759.80 1.22 -75.97	1761.02 1.24 -75.95	1762.26 1.25 -75.93	1763.50 1.26 -75.90	1764.76 1.27 -75.88	1766.03 1.28 -75.86	1767.32 1.29 -75.84
11..	1768.61 1.31 -75.82	1769.92 1.32 -75.80	1771.23 1.33 -75.78	1772.56 1.34 -75.76	1773.90 1.35 -75.74	1775.25 1.36 -75.72	1776.62 1.37 -75.70	1777.99 1.39 -75.68	1779.38 1.40 -75.66	1780.77 1.41 -75.64
12..	1782.18 1.42 -75.62	1783.60 1.43 -75.60	1785.04 1.44 -75.58	1786.48 1.45 -75.56	1787.93 1.47 -75.54	1789.40 1.48 -75.52	1790.87 1.49 -75.50	1792.36 1.50 -75.48	1793.86 1.51 -75.46	1795.37 1.52 -75.44
13..	1796.89 1.53 -75.42	1798.42 1.54 -75.41	1799.96 1.55 -75.39	1801.52 1.56 -75.37	1803.08 1.58 -75.35	1804.66 1.59 -75.33	1806.25 1.60 -75.31	1807.84 1.61 -75.30	1809.45 1.62 -75.28	1811.07 1.63 -75.26
14..	1812.70 1.64 -75.24	1814.35 1.65 -75.22	1816.00 1.66 -75.21	1817.66 1.67 -75.19	1819.33 1.68 -75.17	1821.02 1.70 -75.15	1822.71 1.71 -75.14	1824.42 1.72 -75.12	1826.14 1.73 -75.10	1827.86 1.74 -75.09
15..	1829.60 1.75 -75.07	1831.35 1.76 -75.05	1833.11 1.77 -75.04	1834.88 1.78 -75.02	1836.66 1.79 -75.00	1838.45 1.80 -74.99	1840.25 1.81 -74.97	1842.06 1.82 -74.95	1843.89 1.83 -74.94	1845.72 1.84 -74.92

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 13.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
16...	1847.56 1.85 -74.90	1849.42 1.86 -74.89	1851.28 1.87 -74.87	1853.15 1.88 -74.86	1855.04 1.90 -74.84	1856.93 1.91 -74.83	1858.84 1.92 -74.81	1860.76 1.93 -74.79	1862.68 1.94 -74.78	1864.62 1.95 -74.76
17...	1866.56 1.96 -74.75	1868.52 1.97 -74.73	1870.49 1.98 -74.72	1872.47 1.99 -74.70	1874.45 2.00 -74.69	1876.45 2.01 -74.67	1878.46 2.02 -74.66	1880.48 2.03 -74.65	1882.50 2.04 -74.63	1884.54 2.05 -74.62
18...	1886.59 2.06 -74.60	1888.65 2.07 -74.59	1890.72 2.08 -74.57	1892.79 2.09 -74.56	1894.88 2.10 -74.55	1896.98 2.11 -74.53	1899.09 2.12 -74.52	1901.21 2.13 -74.50	1903.33 2.14 -74.49	1905.47 2.15 -74.48
19...	1907.62 2.16 -74.46	1909.78 2.17 -74.45	1911.94 2.18 -74.44	1914.12 2.19 -74.42	1916.31 2.20 -74.41	1918.51 2.21 -74.40	1920.71 2.22 -74.38	1922.93 2.23 -74.37	1925.15 2.24 -74.36	1927.39 2.25 -74.34
20...	1929.64 2.26 -74.33	1931.89 2.27 -74.32	1934.16 2.27 -74.31	1936.43 2.28 -74.29	1938.72 2.29 -74.28	1941.01 2.30 -74.27	1943.31 2.31 -74.26	1945.63 2.32 -74.24	1947.95 2.33 -74.23	1950.28 2.34 -74.22
21...	1952.63 2.35 -74.21	1954.98 2.36 -74.19	1957.34 2.37 -74.18	1959.71 2.38 -74.17	1962.09 2.39 -74.16	1964.48 2.40 -74.15	1966.88 2.41 -74.13	1969.29 2.42 -74.12	1971.71 2.43 -74.11	1974.14 2.44 -74.10

TABLE 2 -  $10^5 \Delta s_t$  FOR SALINITY 13.00. Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22...	1976.57 2.45 -74.09	1979.02 2.46 -74.08	1981.48 2.47 -74.07	1983.94 2.48 -74.05	1986.42 2.48 -74.04	1988.90 2.49 -74.03	1991.40 2.50 -74.02	1993.90 2.51 -74.01	1996.41 2.52 -74.00	1998.93 2.53 -73.99
23...	2001.47 2.54 -73.98	2004.01 2.55 -73.97	2006.56 2.56 -73.96	2009.11 2.57 -73.95	2011.68 2.58 -73.93	2014.26 2.59 -73.92	2016.85 2.60 -73.91	2019.44 2.61 -73.90	2022.05 2.61 -73.89	2024.66 2.62 -73.88
24...	2027.29 2.63 -73.87	2029.92 2.64 -73.86	2032.56 2.65 -73.85	2035.21 2.66 -73.84	2037.87 2.67 -73.83	2040.54 2.68 -73.82	2043.22 2.69 73.81	2045.91 2.70 -73.80	2048.61 2.71 -73.79	2051.31 2.72 -73.78
25...	2054.03 2.72 -73.77	2056.75 2.73 -73.76	2059.49 2.74 -73.75	2062.23 2.75 -73.74	2064.98 2.76 -73.73	2067.74 2.77 -73.73	2070.51 2.78 -73.72	2073.29 2.79 -73.71	2076.08 2.80 -73.70	2078.87 2.81 -73.69
26...	2081.68 2.81 -73.68	2084.50 2.82 -73.67	2087.32 2.83 -73.66	2090.15 2.84 -73.65	2092.99 2.85 -73.64	2095.84 2.86 -73.63	2098.70 2.87 -73.63	2101.57 2.88 -73.62	2104.45 2.89 -73.61	2107.33 2.90 -73.60
27...	2110.23 2.90 -73.59	2113.13 2.91 -73.58	2116.05 2.92 -73.57	2118.97 2.93 -73.56	2121.90 2.94 -73.56	2124.84 2.95 -73.55	2127.79 2.96 -73.54	2130.74 2.97 -73.53	2133.71 2.97 -73.52	2136.68 2.98 -73.51

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 13.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28..	2139.67 2.99 -73.51	2142.66 3.00 -73.50	2145.66 3.01 -73.49	2148.67 3.02 -73.48	2151.69 3.03 -73.47	2154.72 3.04 -73.47	2157.75 3.04 -73.46	2160.80 3.05 -73.45	2163.85 3.06 -73.44	2166.91 3.07 -73.43
29..	2169.99 3.08 -73.43	2173.07 3.09 -73.42	2176.15 3.10 -73.41	2179.25 3.11 -73.40	2182.36 3.11 -73.39	2185.47 3.12 -73.39	2188.60 3.13 -73.38	2191.73 3.14 -73.37	2194.87 3.15 -73.36	2198.02 3.16 -73.36
30..	2201.18 3.17 -73.35	2204.34 3.18 -73.34	2207.52 3.18 -73.33	2210.70 3.19 -73.33	2213.89 3.20 -73.32	2217.10 3.21 -73.31	2220.30 3.22 -73.31	2223.52 3.23 -73.30	2226.75 3.24 -73.29	2229.99 3.24 -73.28
31..	2233.23 3.25 -73.28	2236.48 3.26 -73.27	2239.74 3.27 -73.26	2243.01 3.28 -73.26	2246.29 3.29 -73.25	2249.58 3.30 -73.24	2252.88 3.30 -73.24	2256.18 3.31 -73.23	2259.49 3.32 -73.22	2262.81 3.33 -73.21
32..	2266.14 3.34 -73.21	2269.48 3.35 -73.20	2272.83 3.36 -73.19	2276.18 3.36 -73.19	2279.55 3.37 -73.18	2282.92 3.38 -73.17	2286.30 3.39 -73.17	2289.69 3.40 -73.16	2293.09 3.41 -73.15	2296.49 3.41 -73.15
33..	2299.91 3.42 -73.14	2303.33 3.43 -73.13	2306.76 3.44 -73.13	2310.20 3.45 -73.12	2313.65 3.46 -73.12	2317.11 3.47 -73.11	2320.57 3.47 -73.10	2324.05 3.48 -73.10	2327.53 3.49 -73.09	2331.02 3.50 -73.08

TABLE 2 -  $10^5 \Delta sf$  FOR SALINITY 13.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
34..	2334.52 3.51 -73.08	2338.03 3.52 -73.07	2341.54 3.52 -73.07	2345.07 3.53 -73.06	2348.60 3.54 -73.05	2352.14 3.55 -73.05	2355.69 3.56 -73.04	2359.25 3.57 -73.03	2362.81 3.57 -73.03	2366.39 3.58 -73.02
35..	2369.97 3.59 -73.02	2373.56 3.60 -73.01	2377.16 3.61 -73.00	2380.77 3.62 -73.00	2384.39 3.62 -72.99	2388.01 3.63 -72.99	2391.64 3.64 -72.98	2395.28 3.65 -72.97	2398.93 3.66 -72.97	2402.59 3.67 -72.96

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 14.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1...	1626.65 0.32 -79.03	1626.97 0.34 -79.06	1627.31 0.36 -79.10	1627.67 0.37 -79.14	1628.05 0.39 -79.17	1628.44 0.41 -79.21	1628.85 0.42 -79.25	1629.27 0.44 -79.28	1629.71 0.45 -79.32	1630.17 0.48 -79.36
-0...	1624.29 0.16 -78.67	1624.46 0.18 -78.71	1624.64 0.20 -78.74	1624.83 0.21 -78.78	1625.04 0.23 -78.81	1625.27 0.24 -78.85	1625.51 0.26 -78.88	1625.77 0.28 -78.92	1626.05 0.29 -78.95	1626.34 0.31 -78.99
+0...	1624.29 -0.15 -78.67	1624.15 -0.13 -78.64	1624.02 -0.12 -78.60	1623.90 -0.10 -78.57	1623.80 -0.08 -78.54	1623.72 -0.07 -78.50	1623.65 -0.05 -78.47	1623.59 -0.04 -78.43	1623.56 -0.02 -78.40	1623.53 -0.01 -78.37
+1	1623.53 0.01 -78.33	1623.54 0.02 -78.30	1623.56 0.04 -78.27	1623.60 0.05 -78.24	1623.65 0.07 -78.20	1623.72 0.08 -78.17	1623.81 0.10 -78.14	1623.91 0.11 -78.11	1624.02 0.13 -78.07	1624.15 0.14 -78.04
+2...	1624.30 0.16 -78.01	1624.45 0.17 -77.98	1624.63 0.19 -77.95	1624.82 0.20 -77.92	1625.02 0.22 -77.89	1625.24 0.23 -77.85	1625.47 0.25 -77.82	1625.72 0.26 -77.79	1625.98 0.28 -77.76	1626.26 0.29 -77.73
+3...	1626.55 0.30 -77.70	1626.85 0.32 -77.67	1627.17 0.33 -77.64	1627.50 0.35 -77.61	1627.85 0.36 -77.58	1628.21 0.38 -77.55	1628.59 0.39 -77.52	1628.98 0.40 -77.49	1629.38 0.42 -77.46	1629.80 0.43 -77.43

TABLE 2 - 105 Δst FOR SALINITY 14.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
+4...	1630.23 0.45 -77.41	1630.68 0.46 -77.38	1631.14 0.47 -77.35	1631.61 0.49 -77.32	1632.10 0.50 -77.29	1632.60 0.51 -77.26	1633.11 0.53 -77.23	1633.64 0.54 -77.21	1634.18 0.56 -77.18	1634.74 0.57 -77.15
+5...	1635.31 0.58 -77.12	1635.89 0.60 -77.10	1636.48 0.61 -77.07	1637.09 0.62 -77.04	1637.72 0.64 -77.01	1638.35 0.65 -76.99	1639.00 0.66 -76.96	1639.66 0.68 -76.93	1640.34 0.69 -76.91	1641.03 0.70 -76.88
+6...	1641.73 0.72 -76.85	1642.44 0.73 -76.83	1643.17 0.74 -76.80	1643.91 0.75 -76.77	1644.67 0.77 -76.75	1645.43 0.78 -76.72	1646.21 0.79 -76.70	1647.01 0.81 -76.67	1647.81 0.82 -76.65	1648.63 0.83 -76.62
+7...	1649.46 0.84 -76.60	1650.31 0.86 -76.57	1651.16 0.87 -76.55	1652.03 0.88 -76.52	1652.91 0.89 -76.50	1653.81 0.91 -76.47	1654.71 0.92 -76.45	1655.63 0.93 -76.42	1656.57 0.94 -76.40	1657.51 0.95 -76.37
+8...	1658.47 0.97 -76.35	1659.44 0.98 -76.33	1660.42 0.99 -76.30	1661.41 1.01 -76.28	1662.42 1.02 -76.26	1663.44 1.03 -76.23	1664.47 1.04 -76.21	1665.51 1.06 -76.19	1666.57 1.07 -76.16	1667.63 1.08 -76.14
+9...	1668.71 1.09 -76.12	1669.80 1.10 -76.09	1670.91 1.12 -76.07	1672.02 1.13 -76.05	1673.15 1.14 -76.03	1674.29 1.15 -76.00	1675.44 1.16 -75.98	1676.60 1.18 -75.96	1677.78 1.19 -75.94	1678.96 1.20 -75.92

TABLE 2 - 10<sup>5</sup> Δst FOR SALINITY 14.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22...	1902.49 2.46 -73.96	1904.94 2.47 -73.95	1907.41 2.48 -73.94	1909.89 2.49 -73.93	1912.37 2.50 -73.92	1914.87 2.51 -73.91	1917.37 2.51 -73.90	1919.89 2.52 -73.89	1922.41 2.53 -73.88	1924.95 2.54 -73.87
23...	1927.49 2.55 -73.85	1930.04 2.56 -73.84	1932.60 2.57 -73.83	1935.17 2.58 -73.82	1937.75 2.59 -73.81	1940.34 2.60 -73.80	1942.93 2.61 -73.79	1945.54 2.62 -73.78	1948.16 2.62 -73.77	1950.78 2.63 -73.76
24...	1953.42 2.64 -73.75	1956.06 2.65 -73.74	1958.71 2.66 -73.73	1961.37 2.67 -73.72	1964.04 2.68 -73.71	1966.72 2.69 -73.70	1969.41 2.70 -73.69	1972.11 2.71 -73.68	1974.82 2.72 -73.67	1977.53 2.73 -73.66
25...	1980.26 2.73 -73.65	1982.99 2.74 -73.64	1985.73 2.75 -73.63	1988.49 2.76 -73.62	1991.25 2.77 -73.62	1994.02 2.78 -73.61	1996.80 2.79 -73.60	1999.58 2.80 -73.59	2002.38 2.81 -73.58	2005.19 2.81 -73.57
26...	2008.00 2.82 -73.56	2010.83 2.83 -73.55	2013.66 2.84 -73.54	2016.50 2.85 -73.53	2019.35 2.86 -73.52	2022.21 2.87 -73.52	2025.08 2.88 -73.51	2027.95 2.89 -73.50	2030.84 2.89 -73.49	2033.74 2.90 -73.48
27...	2036.64 2.91 -73.47	2039.55 2.92 -73.46	2042.47 2.93 -73.46	2045.40 2.94 -73.45	2048.34 2.95 -73.44	2051.29 2.96 -73.43	2054.25 2.97 -73.42	2057.21 2.97 -73.41	2060.19 2.98 -73.41	2063.17 2.99 -73.40



TABLE 2 -  $10^5 \Delta s_{\theta}$  FOR SALINITY 14.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28...	2066.16 3.00 -73.39	2069.16 3.01 -73.38	2072.17 3.02 -73.37	2075.19 3.03 -73.37	2078.22 3.04 -73.36	2081.25 3.04 -73.35	2084.30 3.05 -73.34	2087.35 3.06 -73.34	2090.41 3.07 -73.33	2093.48 3.08 -73.32
29...	2096.56 3.09 -73.31	2099.65 3.10 -73.30	2102.74 3.11 -73.30	2105.85 3.11 -73.29	2108.96 3.12 -73.28	2112.08 3.13 -73.27	2115.22 3.14 -73.27	2118.36 3.15 -73.26	2121.50 3.16 -73.25	2124.66 3.17 -73.25
30...	2127.83 3.17 -73.24	2131.00 3.18 -73.23	2134.18 3.19 -73.22	2137.37 3.20 -73.22	2140.57 3.21 -73.21	2143.78 3.22 -73.20	2147.00 3.23 -73.20	2150.22 3.23 -73.19	2153.46 3.24 -73.18	2156.70 3.25 -73.17
31...	2159.95 3.26 -73.17	2163.21 3.27 -73.16	2166.48 3.28 -73.15	2169.76 3.29 -73.15	2173.04 3.29 -73.14	2176.34 3.30 -73.13	2179.64 3.31 -73.13	2182.95 3.32 -73.12	2186.27 3.33 -73.11	2189.60 3.34 -73.11
32...	2192.94 3.35 -73.10	2196.28 3.35 -73.09	2199.63 3.36 -73.09	2203.00 3.37 -73.08	2206.37 3.38 -73.08	2209.74 3.39 -73.07	2213.13 3.40 -73.06	2216.53 3.40 -73.06	2219.93 3.41 -73.05	2223.34 3.42 -73.04
33...	2226.77 3.43 -73.04	2230.20 3.44 -73.03	2233.63 3.45 -73.02	2237.08 3.45 -73.02	2240.53 3.46 -73.01	2244.00 3.47 -73.01	2247.47 3.48 -73.00	2250.95 3.49 -72.99	2254.44 3.50 -72.99	2257.94 3.51 -72.98

TABLE 2 -  $10^5 \Delta s_{\theta}$  FOR SALINITY 14.00-(continued)

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
34...	2261.44 3.51 -72.94	2264.95 3.52 -72.97	2268.48 3.53 -72.96	2272.01 3.54 -72.96	2275.55 3.55 -72.95	2279.09 3.56 -72.95	2282.65 3.56 -72.94	2286.21 3.57 -72.93	2289.78 3.58 -72.93	2293.37 3.59 -72.92
35...	2306.95 3.60 -72.92	2300.55 3.61 -72.91	2304.16 3.61 -72.91	2307.77 3.62 -72.90	2311.39 3.63 -72.89	2315.02 3.64 -72.89	2318.66 3.65 -72.88	2322.31 3.66 -72.88	2325.97 3.66 -72.87	2329.63 3.67 -72.87

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 15.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1...	1547.62 0.29 -78.86	1547.91 0.31 -78.90	1548.22 0.32 -78.93	1548.54 0.34 -78.97	1548.87 0.35 -79.01	1549.23 0.37 -79.04	1549.60 0.39 -79.08	1549.99 0.40 -79.12	1550.39 0.42 -79.15	1550.81 0.44 -79.19
-0...	1545.62 0.13 -78.51	1545.75 0.14 -78.55	1545.89 0.16 -78.58	1546.05 0.18 -78.62	1546.23 0.19 -78.65	1546.42 0.21 -78.69	1546.63 0.22 -78.72	1546.85 0.24 -78.76	1547.09 0.26 -78.79	1547.35 0.27 -78.83
+0...	1545.62 -0.11 -78.51	1545.51 -0.10 -78.48	1545.41 -0.08 -78.45	1545.33 -0.07 -78.41	1545.26 -0.05 -78.38	1545.21 -0.33 -78.34	1545.18 -0.02 -78.31	1545.16 -0.00 -78.28	1545.16 0.01 -78.24	1545.17 0.03 -78.21
+1...	1545.19 0.04 -78.18	1545.23 0.06 -78.15	1545.29 0.07 -78.11	1545.36 0.09 -78.08	1545.45 0.10 -78.05	1545.55 0.12 -78.02	1545.67 0.13 -77.98	1545.80 0.15 -77.95	1545.95 0.16 -77.92	1546.11 0.18 -77.89
+2...	1546.26 0.19 -77.86	1546.48 0.21 -77.83	1546.68 0.22 -77.80	1546.90 0.23 -77.76	1547.13 0.25 -77.73	1547.38 0.26 -77.70	1547.65 0.28 -77.67	1547.92 0.29 -77.64	1548.22 0.31 -77.61	1548.52 0.32 -77.58
+3...	1548.84 0.33 -77.55	1549.18 0.35 -77.52	1549.53 0.36 -77.49	1549.89 0.38 -77.46	1550.27 0.39 -77.43	1550.66 0.41 -77.40	1551.06 0.42 -77.37	1551.48 0.43 -77.34	1551.92 0.45 -77.32	1552.36 0.46 -77.29

TABLE 2 -  $10^5 \Delta st$  FOR SALINITY 15.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
+4...	1552.82 0.47 -77.26	1553.30 0.49 -77.23	1553.79 0.50 -77.20	1554.29 0.52 -77.17	1554.81 0.53 -77.14	1555.33 0.54 -77.12	1555.88 0.56 -77.09	1556.43 0.57 -77.06	1557.00 0.58 -77.03	1557.59 0.60 -77.00
+5...	1558.18 0.61 -76.98	1558.79 0.62 -76.95	1559.42 0.64 -76.92	1560.05 0.65 -76.90	1560.70 0.66 -76.87	1561.36 0.68 -76.84	1562.04 0.69 -76.82	1562.73 0.70 -76.79	1563.43 0.72 -76.76	1564.15 0.73 -76.74
+6...	1564.88 0.74 -76.71	1565.62 0.75 -76.68	1566.37 0.77 -76.66	1567.14 0.78 -76.63	1567.92 0.79 -76.61	1568.71 0.81 -76.58	1569.52 0.82 -76.56	1570.34 0.83 -76.53	1571.17 0.84 -76.50	1572.01 0.86 -76.48
+7...	1572.87 0.87 -76.45	1573.74 0.88 -76.45	1574.62 0.89 -76.40	1575.51 0.91 -76.38	1576.42 0.92 -76.36	1577.34 0.93 -76.33	1578.27 0.94 -76.31	1579.21 0.96 -76.28	1580.17 0.97 -76.26	1581.14 0.98 -76.23
+8...	1582.12 0.99 -76.21	1583.11 1.01 -76.19	1584.12 1.02 -76.16	1585.13 1.03 -76.14	1586.16 1.04 -76.12	1587.21 1.05 -76.09	1588.26 1.07 -76.07	1589.33 1.08 -76.05	1590.40 1.09 -76.02	1591.49 1.10 -76.00
+9...	1592.60 1.11 -75.98	1593.71 1.13 -75.96	1594.84 1.14 -75.93	1595.97 1.15 -75.91	1597.12 1.16 -75.89	1598.28 1.17 -75.87	1599.46 1.19 -75.85	1600.64 1.20 -75.82	1601.84 1.21 -75.80	1603.05 1.22 -75.78

TABLE 2 - 10<sup>5</sup> Δst FOR SALINITY 15.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
+10.	1604.27 1.23 -75.76	1605.50 1.24 -75.74	1606.74 1.26 -75.72	1608.00 1.27 -75.69	1609.27 1.28 -75.67	1610.54 1.29 -75.65	1611.83 1.30 -75.63	1613.14 1.31 -75.61	1614.45 1.32 -75.59	1615.77 1.34 -75.57
+11.	1617.11 1.35 -75.55	1618.46 1.36 -75.53	1619.81 1.37 -75.51	1621.18 1.38 -75.49	1622.56 1.39 -75.47	1623.96 1.40 -75.45	1625.36 1.41 -75.43	1626.77 1.43 -75.41	1628.20 1.44 -75.39	1629.64 1.45 -75.37
+12.	1631.09 1.46 -75.35	1632.55 1.47 -75.33	1634.02 1.48 -75.31	1635.50 1.49 -75.29	1636.99 1.50 -75.27	1638.49 1.51 -75.25	1640.01 1.53 -75.23	1641.53 1.54 -75.21	1643.07 1.55 -75.20	1644.62 1.56 -75.18
+13.	1646.18 1.57 -75.16	1647.75 1.58 -75.14	1649.33 1.59 -75.12	1650.92 1.60 75.10	1652.52 1.61 -75.09	1654.13 1.62 -75.07	1655.75 1.63 -75.05	1657.39 1.64 -75.03	1659.03 1.66 -75.01	1660.69 1.67 -75.00
14.	1662.35 1.68 -74.98	1664.03 1.69 -74.96	1665.72 1.70 -74.94	1667.42 1.71 -74.93	1669.12 1.72 -74.91	1670.84 1.73 -74.89	1672.57 1.74 -74.88	1674.31 1.75 -74.86	1676.06 1.76 -74.84	1677.83 1.77 -74.82
15.	1679.60 1.78 -74.81	1681.38 1.79 -74.79	1683.17 1.80 -74.77	1684.97 1.81 -74.76	1686.79 1.82 -74.74	1688.61 1.83 -74.73	1690.45 1.84 -74.71	1692.29 1.85 -74.69	1694.14 1.86 -74.68	1696.01 1.88 -74.66

TABLE 2 - 10<sup>5</sup> Δst FOR SALINITY 15.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
16.	1697.88 1.89 -74.65	1699.77 1.90 -74.63	1701.67 1.91 -74.61	1703.57 1.92 -74.60	1705.49 1.93 -74.58	1707.41 1.94 -74.57	1709.35 1.95 -74.55	1711.30 1.96 -74.54	1713.25 1.97 -74.52	1715.22 1.98 -74.51
17.	1717.20 1.99 -74.49	1719.18 2.00 -74.48	1721.18 2.01 -74.46	1723.19 2.02 -74.45	1725.20 2.03 -74.43	1727.23 2.04 -74.42	1729.27 2.05 -74.41	1731.31 2.06 -74.39	1733.37 2.07 -74.38	1735.44 2.08 -74.36
18.	1737.51 2.09 -74.35	1739.60 2.10 -74.33	1741.70 2.11 -74.32	1743.80 2.12 -74.31	1745.92 2.13 -74.29	1748.05 2.14 -74.28	1750.18 2.15 -74.26	1752.33 2.16 -74.25	1754.48 2.17 -74.24	1756.65 2.17 -74.22
19.	1758.82 2.18 -74.21	1761.01 2.19 -74.20	1763.20 2.20 -74.18	1765.40 2.21 -74.17	1767.62 2.22 -74.16	1769.84 2.23 -74.15	1772.07 2.24 -74.13	1774.32 2.25 -74.12	1776.57 2.26 -74.11	1778.83 2.27 -74.09
20.	1781.10 2.28 -74.08	1783.38 2.29 -74.07	1785.67 2.30 -74.06	1787.97 2.31 -74.04	1790.28 2.32 -74.03	1792.60 2.33 -74.02	1794.93 2.34 -74.01	1797.27 2.35 -74.00	1799.62 2.36 -73.98	1801.97 2.37 -73.97
21.	1804.34 2.38 -73.96	1806.71 2.39 -73.95	1809.10 2.39 -73.94	1811.49 2.40 -73.92	1813.90 2.41 -73.91	1816.31 2.42 -73.90	1818.74 2.43 -73.89	1821.17 2.44 -73.88	1823.61 2.45 -73.87	1826.06 2.46 -73.86

TABLE 2 - 10<sup>5</sup> Δst FOR SALINITY 15.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22.	1828.52 2.47 -73.84	1830.99 2.48 -73.83	1833.47 2.49 -73.82	1835.96 2.50 -73.81	1838.45 2.51 -73.80	1840.96 2.52 -73.79	1843.46 2.53 -73.78	1846.00 2.53 -73.77	1848.54 2.54 -73.76	1851.08 2.55 -73.75
23.	1853.63 2.56 -73.74	1856.19 2.57 -73.73	1858.77 2.58 -73.71	1861.35 2.59 -73.70	1863.94 2.60 -73.69	1866.53 2.61 -73.68	1869.14 2.62 -73.67	1871.76 2.63 -73.66	1874.39 2.64 -73.65	1877.02 2.64 -73.64
24.	1879.66 2.65 -73.63	1882.32 2.66 -73.62	1884.98 2.67 -73.61	1887.65 2.68 -73.60	1890.33 2.69 -73.59	1893.02 2.70 -73.58	1895.72 2.71 -73.57	1898.43 2.72 -73.57	1901.14 2.73 -73.56	1903.87 2.73 -73.55
25.	1906.60 2.74 -73.54	1909.35 2.75 -73.53	1912.10 2.76 -73.52	1914.86 2.77 -73.51	1917.63 2.78 -73.50	1920.41 2.79 -73.49	1923.20 2.80 -73.48	1926.00 2.81 -73.47	1928.80 2.82 -73.46	1931.62 2.82 -73.45
26.	1934.44 2.83 -73.45	1937.27 2.84 -73.44	1940.12 2.85 -73.43	1942.97 2.86 -73.42	1945.83 2.87 -73.41	1948.69 2.88 -73.40	1951.57 2.89 -73.39	1954.46 2.89 -73.39	1957.35 2.90 -73.38	1960.25 2.91 -73.37
27.	1963.17 2.92 -73.36	1966.08 2.93 -73.35	1969.02 2.94 -73.34	1971.96 2.95 -73.34	1974.90 2.96 -73.33	1977.86 2.96 -73.32	1980.82 2.97 -73.31	1983.80 2.98 -73.30	1986.78 2.99 -73.29	1989.77 3.00 -73.29

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 15.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28.	1992.77 3.01 -73.26	1995.78 3.02 -73.27	1998.80 3.03 -73.26	2001.82 3.03 -73.26	2004.86 3.04 -73.25	2007.90 3.05 -73.24	2010.95 3.06 -73.23	2014.01 3.07 -73.23	2017.08 3.08 -73.22	2020.16 3.09 -73.21
29.	2023.25 3.10 -73.20	2026.34 3.10 -73.20	2029.45 3.11 -73.19	2032.56 3.12 -73.18	2035.68 3.13 -73.17	2038.81 3.14 -73.17	2041.95 3.15 -73.16	2045.10 3.16 -73.16	2048.25 3.16 -73.14	2051.41 3.17 -73.14
30.	2054.59 3.18 -73.13	2057.77 3.19 -73.12	2060.96 3.20 -73.12	2064.16 3.21 -73.11	2067.36 3.22 -73.10	2070.58 3.22 -73.10	2073.80 3.23 -73.09	2077.04 3.24 -73.08	2080.28 3.25 -73.08	2083.53 3.26 -73.07
31.	2086.79 3.27 -73.06	2090.05 3.28 -73.06	2093.33 3.28 -73.05	2096.61 3.29 -73.04	2099.90 3.30 -73.04	2103.20 3.31 -73.03	2106.51 3.32 -73.02	2109.83 3.33 -73.02	2113.16 3.33 -73.01	2116.49 3.34 -73.00
32.	2119.83 3.35 -73.00	2123.19 3.36 -72.99	2126.55 3.37 -72.99	2129.91 3.38 -72.98	2133.29 3.39 -72.97	2136.68 3.39 -72.97	2140.07 3.40 -72.96	2143.47 3.41 -72.95	2146.88 3.42 -72.95	2150.30 3.43 -72.94
33.	2153.73 3.44 -72.94	2157.16 3.44 -72.93	2160.61 3.45 -72.92	2164.06 3.46 -72.92	2167.52 3.47 -72.91	2170.99 3.48 -72.91	2174.47 3.49 -72.90	2177.96 3.49 -72.90	2181.45 3.50 -72.89	2184.95 3.51 -72.88



TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 15.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
33.	2153.73 3.44 -72.94	2157.16 3.44 -72.93	2160.61 3.45 -72.92	2164.06 3.46 -72.92	2167.52 3.47 -72.91	2170.99 3.48 -72.91	2174.47 3.49 -72.90	2177.96 3.49 -72.90	2181.45 3.50 -72.89	2184.95 3.51 -72.88
34.	2198.46 3.52 -72.88	2191.90 3.53 -72.87	2195.51 3.54 -72.87	2199.05 3.54 -72.86	2202.59 3.55 -72.86	2206.15 3.56 -72.85	2209.71 3.57 -72.84	2213.28 3.58 -72.84	2216.86 3.59 -72.83	2220.44 3.59 -72.83
35.	2224.04 3.60 -72.82	2227.64 3.61 -72.82	2231.25 3.62 -72.81	2234.87 3.63 -72.81	2238.50 3.64 -72.80	2242.14 3.64 -72.80	2245.78 3.65 -72.79	2249.43 3.66 -72.79	2253.09 3.67 -72.78	2256.76 3.68 -72.77

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 16.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1.	1468.76 0.25 -78.70	1469.01 0.27 -78.74	1469.28 0.29 -78.78	1469.57 0.30 -78.81	1469.87 0.32 -78.85	1470.19 0.33 -78.88	1470.52 0.35 -78.92	1470.87 0.37 -78.96	1471.24 0.38 -78.99	1471.62 0.40 -79.03
-0.	1467.11 0.09 -78.36	1467.20 0.11 -78.39	1467.31 0.13 -78.43	1467.44 0.14 -78.46	1467.58 0.16 -78.49	1467.73 0.17 -78.53	1467.91 0.19 -78.56	1468.10 0.20 -78.60	1468.30 0.22 -78.63	1468.52 0.24 -78.67
+0.	1467.11 -0.08 -78.36	1467.03 -0.06 -78.32	1466.97 -0.05 -78.29	1466.92 -0.03 -78.26	1466.89 -0.02 -78.22	1466.87 -0.00 -78.19	1466.87 0.01 -78.16	1466.88 0.03 -78.12	1466.91 0.04 -78.09	1466.96 0.06 -78.06
+1.	1467.01 0.07 -78.02	1467.09 0.09 -77.99	1467.18 0.10 -77.96	1467.28 0.12 -77.93	1467.40 0.13 -77.90	1467.54 0.15 -77.87	1467.68 0.16 -77.83	1467.85 0.18 -77.80	1468.03 0.19 -77.77	1468.22 0.21 -77.74
+2.	1468.43 0.22 -77.71	1468.65 0.24 -77.68	1468.89 0.25 -77.65	1469.14 0.27 -77.62	1469.40 0.28 -77.59	1469.68 0.29 -77.56	1469.98 0.31 -77.53	1470.28 0.32 -77.49	1470.61 0.34 -77.46	1470.94 0.35 -77.43
+3.	1471.29 0.36 -77.41	1471.66 0.38 -77.38	1472.04 0.39 -77.35	1472.43 0.41 -77.32	1472.84 0.42 -77.29	1473.26 0.43 -77.26	1473.69 0.45 -77.23	1474.14 0.46 -77.20	1474.60 0.48 -77.17	1475.08 0.49 -77.14

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 16.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
4 ...	1475.57 0.50 -77.11	1476.07 0.52 -77.09	1476.59 0.53 -77.06	1477.12 0.54 -77.03	1477.66 0.56 -77.00	1478.22 0.57 -76.97	1478.79 0.58 -76.95	1479.37 0.60 -76.92	1479.97 0.61 -76.89	1480.58 0.62 -76.86
5 ...	1481.21 0.64 -76.84	1481.84 0.65 -76.81	1482.49 0.66 -76.78	1483.16 0.68 -76.76	1483.83 0.69 -76.73	1484.52 0.70 -76.70	1485.23 0.72 -76.68	1485.94 0.73 -76.65	1486.67 0.74 -76.62	1487.41 0.75 -76.60
6 ...	1488.17 0.77 -76.57	1488.93 0.78 -76.55	1489.71 0.79 -76.52	1490.51 0.81 -76.49	1491.31 0.82 -76.47	1492.13 0.83 -76.44	1492.96 0.84 -76.42	1493.81 0.86 -76.39	1494.66 0.87 -76.37	1495.53 0.88 -76.34
7 ...	1496.41 0.89 -76.32	1497.31 0.91 -76.29	1498.21 0.92 -76.27	1499.13 0.93 -76.24	1500.06 0.94 -76.22	1501.01 0.96 -76.20	1501.96 0.97 -76.17	1502.93 0.98 -76.15	1503.91 0.99 -76.12	1504.90 1.00 -76.10
8 ...	1505.91 1.02 -76.08	1506.92 1.03 -76.05	1507.95 1.04 -76.03	1508.99 1.05 -76.01	1510.05 1.07 -75.98	1511.11 1.08 -75.96	1512.19 1.09 -75.94	1513.28 1.10 -75.91	1514.38 1.11 -75.89	1515.49 1.12 -75.87
9 ...	1516.62 1.14 -75.85	1517.75 1.15 -75.82	1518.90 1.16 -75.80	1520.06 1.17 -75.78	1521.23 1.18 -75.76	1522.42 1.20 -75.74	1523.61 1.21 -75.71	1524.82 1.22 -75.69	1526.04 1.23 -75.67	1527.27 1.24 -75.65

TABLE 2 -  $10^5 \Delta\sigma_t$  FOR SALINITY 16.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
10...	1528.51 1.25 -75.63	1529.76 1.26 -75.61	1531.03 1.28 -75.58	1532.31 1.29 -75.56	1533.59 1.30 -75.54	1534.89 1.31 -75.52	1536.20 1.32 -75.50	1537.53 1.33 -75.48	1538.86 1.35 -75.46	1540.20 1.36 -75.44
11...	1541.56 1.37 -75.42	1542.93 1.38 -75.40	1544.31 1.39 -75.38	1545.70 1.40 -75.36	1547.10 1.41 -75.34	1548.51 1.42 -75.32	1549.93 1.43 -75.30	1551.37 1.45 -75.28	1552.01 1.46 -75.26	1554.27 1.47 -75.24
12...	1555.74 1.48 -75.22	1557.22 1.49 -75.20	1558.71 1.50 -75.18	1560.21 1.51 -75.16	1561.72 1.52 -75.14	1563.24 1.53 -74.13	1564.77 1.54 -75.11	1566.32 1.56 -75.09	1567.87 1.57 -75.07	1569.44 1.58 -75.05
13...	1571.02 1.59 -75.03	1572.60 1.60 -75.01	1574.20 1.61 -75.00	1575.81 1.62 -74.98	1577.43 1.63 -74.96	1579.06 1.64 -74.94	1580.70 1.65 -74.92	1582.36 1.66 -74.91	1584.02 1.67 -74.89	1585.69 1.68 -74.87
14...	1587.38 1.69 -74.85	1589.07 1.70 -74.84	1590.77 1.72 -74.82	1592.49 1.73 -74.80	1594.22 1.74 -74.78	1595.95 1.75 -74.77	1597.70 1.76 -74.75	1599.46 1.77 -74.73	1601.22 1.78 -74.72	1603.00 1.79 -74.70
15...	1604.79 1.80 -74.68	1606.59 1.81 -74.67	1608.40 1.82 -74.65	1610.22 1.83 -74.63	1612.05 1.84 -74.62	1613.89 1.85 -74.60	1615.74 1.86 -74.59	1617.60 1.87 -74.57	1619.47 1.88 -74.55	1621.35 1.89 -74.54

TABLE 2 -  $10^5 \Delta \sigma$  FOR SALINITY 16.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
16...	1623.24 1.90 -74.52	1625.14 1.91 -74.51	1627.05 1.92 -74.49	1628.97 1.93 -74.48	1630.90 1.94 -74.46	1632.85 1.95 -74.45	1634.80 1.96 -74.43	1636.76 1.97 -74.42	1638.73 1.98 -74.40	1640.71 1.99 -74.39
17...	1642.70 2.00 -74.37	1644.71 2.01 -74.36	1646.72 2.02 -74.34	1648.74 2.03 -74.33	1650.77 2.04 -74.31	1652.81 2.05 -74.30	1654.86 2.06 -74.28	1656.92 2.07 -74.27	1658.99 2.08 -74.26	1661.08 2.09 -74.24
18...	1663.17 2.10 -74.23	1665.27 2.11 -74.21	1667.38 2.12 -74.20	1669.50 2.13 -74.19	1671.63 2.14 -74.17	1673.77 2.15 -74.16	1675.92 2.16 -74.15	1678.08 2.17 -74.13	1680.24 2.18 -74.12	1682.42 2.19 -74.10
19...	1684.61 2.20 -74.09	1686.81 2.21 -74.08	1689.02 2.22 -74.07	1691.23 2.23 -74.05	1693.46 2.24 -74.04	1695.70 2.25 -74.03	1697.94 2.26 -74.01	1700.20 2.27 -74.00	1702.46 2.27 -73.99	1704.74 2.28 -73.98
20...	1707.02 2.29 -73.96	1709.31 2.30 -73.95	1711.62 2.31 -73.94	1713.93 2.32 -73.93	1716.25 2.33 -73.91	1718.58 2.34 -73.90	1720.92 2.35 -73.89	1723.27 2.36 -73.88	1725.63 2.37 -73.87	1728.00 2.38 -73.85
21...	1730.38 2.39 -73.84	1732.77 2.40 -73.83	1735.16 2.41 -73.82	1737.57 2.42 -73.81	1739.99 2.43 -73.80	1742.41 2.43 -73.78	1744.85 2.44 -73.77	1747.29 2.45 -73.76	1749.74 2.46 -73.75	1752.20 2.47 -73.74

TABLE 2 -  $10^5$  Jnt FOR SALINITY 16.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22...	1754.68 2.48 -73.73	1757.16 2.49 -73.72	1759.65 2.50 -73.71	1762.15 2.51 -73.70	1764.65 2.52 -73.66	1767.17 2.53 -73.67	1769.70 2.54 -73.66	1772.23 2.55 -73.65	1774.78 2.55 -73.64	1777.33 2.56 -73.63
23...	1779.90 2.57 -73.62	1782.47 2.56 -73.61	1785.05 2.59 -73.60	1787.64 2.60 -73.59	1790.24 2.61 -73.58	1792.85 2.62 -73.57	1795.47 2.63 -73.56	1798.10 2.64 -73.55	1800.73 2.65 -73.54	1803.38 2.65 -73.53
24...	1806.03 2.66 -73.52	1808.69 2.67 -73.51	1811.37 2.68 -73.50	1814.05 2.69 -73.49	1816.74 2.70 -73.48	1819.44 2.71 -73.47	1822.15 2.72 -73.46	1824.86 2.73 -73.45	1827.59 2.73 -73.44	1830.32 2.74 -73.43
25...	1833.07 2.75 -73.42	1835.82 2.76 -73.42	1838.58 2.77 -73.41	1841.35 2.78 -73.40	1844.13 2.79 -73.39	1846.92 2.80 -73.38	1849.72 2.81 -73.37	1852.52 2.82 -73.36	1855.34 2.82 -73.35	1858.16 2.83 -73.34
26...	1861.00 2.84 -73.34	1863.84 2.85 -73.33	1866.69 2.86 -73.32	1869.55 2.87 -73.31	1872.41 2.88 -73.30	1875.29 2.89 -72.29	1878.18 2.89 -73.28	1881.07 2.90 -73.28	1883.97 2.91 -73.27	1886.89 2.92 -73.26
27...	1889.81 2.93 -73.25	1892.74 2.94 -73.24	1895.67 2.95 -73.23	1898.62 2.96 -73.23	1901.58 2.96 -73.22	1904.54 2.97 -73.21	1907.51 2.98 -73.20	1910.50 2.99 -73.20	1913.49 3.00 -73.19	1916.48 3.01 -73.18

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 16.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28...	1919.49 3.02 -73.17	1922.51 3.03 -73.16	1925.53 3.03 -73.16	1928.57 3.04 -73.15	1931.61 3.05 -73.14	1934.66 3.06 -73.13	1937.72 3.07 -73.13	1940.79 3.08 -73.12	1943.87 3.09 -73.11	1946.95 3.09 -73.10
29...	1950.04 3.10 -73.10	1953.15 3.11 -73.09	1956.26 3.12 -73.08	1959.38 3.13 -73.08	1962.51 3.14 -73.07	1965.64 3.15 -73.06	1968.79 3.15 -73.05	1971.94 3.16 -73.05	1975.11 3.17 -73.04	1978.28 3.18 -73.03
30...	1981.46 3.19 -73.03	1984.65 3.20 -73.02	1987.84 3.21 -73.01	1991.05 3.21 -73.01	1994.26 3.22 -73.00	1997.48 3.23 -72.99	2000.71 3.24 -72.99	2003.95 3.25 -72.98	2007.20 3.26 -72.97	2010.46 3.26 -72.97
31...	2013.72 3.27 -72.96	2017.00 3.28 -72.95	2020.28 3.29 -72.95	2023.57 3.30 -72.94	2026.87 3.31 -72.94	2030.17 3.32 -72.93	2033.49 3.32 -72.92	2036.81 3.33 -72.92	2040.15 3.34 -72.91	2043.49 3.35 -72.91
32...	2046.84 3.36 -72.90	2050.19 3.37 -72.89	2053.56 3.37 -72.89	2056.93 3.38 -72.88	2060.32 3.39 -72.88	2063.71 3.40 -72.87	2067.11 3.41 -72.86	2070.52 3.42 -72.86	2073.93 3.43 -72.85	2077.36 3.43 -72.85
33...	2080.79 3.44 -72.84	2084.23 3.45 -72.83	2087.68 3.46 -72.83	2091.14 3.47 -72.82	2094.61 3.48 -72.82	2098.08 3.48 -72.81	2101.57 3.49 -72.81	2105.06 3.50 -72.80	2108.56 3.51 -72.80	2112.07 3.52 -72.79

TABLE 2 -  $10^5 \Delta \text{at}$  FOR SALINITY 16.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
34...	2115.59 3.53 -72.78	2119.11 3.53 -72.78	2122.64 3.54 -72.77	2126.19 3.55 -72.77	2129.74 3.56 -72.76	2133.30 3.57 -72.76	2136.86 3.58 -72.75	2140.44 3.58 -72.75	2144.02 3.59 -72.74	2147.61 3.60 -72.74
35...	2151.21 3.61 -72.73	2154.82 3.62 -72.73	2158.44 3.63 -72.72	2162.06 3.63 -72.72	2165.70 3.64 -72.71	2169.34 3.65 -72.71	2172.99 3.66 -72.70	2176.65 3.67 -72.70	2180.31 3.67 -72.69	2183.99 3.68 -72.69



TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 17.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1...	1390.05 0.22 -78.55	1390.27 0.23 -78.58	1390.51 0.25 -78.62	1390.76 0.27 -78.66	1391.02 0.28 -78.69	1391.30 0.30 -78.73	1391.60 0.31 -78.76	1391.92 0.33 -78.80	1392.25 0.35 -78.83	1392.60 0.36 -78.87
-0...	1388.75 0.06 -78.21	1388.81 0.08 -78.24	1388.89 0.09 -78.27	1388.98 0.11 -78.31	1389.08 0.12 -78.34	1389.21 0.14 -78.38	1389.34 0.15 -78.41	1389.50 0.17 -78.45	1389.67 0.19 -78.48	1389.85 0.20 -78.51
0...	1388.75 -0.04 -78.21	1388.70 -0.03 -78.17	1388.68 -0.01 -78.14	1388.66 0.00 -78.11	1388.66 0.02 -78.07	1388.68 0.03 -78.04	1388.71 0.05 -78.01	1388.76 0.06 -77.98	1388.82 0.08 -77.94	1388.90 0.09 -77.91
1...	1388.99 0.11 -77.88	1389.10 0.12 -77.85	1389.22 0.14 -77.81	1389.35 0.15 -77.78	1389.50 0.17 -77.75	1389.67 0.18 -77.72	1389.85 0.20 -77.69	1390.05 0.21 -77.66	1390.26 0.22 -77.63	1390.48 0.24 -77.60
2...	1390.72 0.25 -77.56	1390.97 0.27 -77.53	1391.24 0.28 -77.50	1391.52 0.30 -77.47	1391.82 0.31 -77.44	1392.13 0.32 -77.41	1392.45 0.34 -77.38	1392.79 0.35 -77.35	1393.14 0.37 -77.32	1393.51 0.38 -77.29
3...	1393.89 0.39 -77.26	1394.28 0.41 -77.23	1394.69 0.42 -77.20	1395.11 0.44 -77.18	1395.55 0.45 -77.15	1396.00 0.46 -77.12	1396.46 0.48 -77.09	1396.94 0.49 -77.06	1397.43 0.50 -77.03	1397.93 0.52 -77.00

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 17.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
4...	1398.45 0.53 -76.98	1398.98 0.54 -76.95	1399.53 0.56 -76.92	1400.09 0.57 -76.89	1400.66 0.59 -76.86	1401.24 0.60 -76.84	1401.84 0.61 -76.81	1402.45 0.62 -76.78	1403.08 0.64 -76.75	1403.72 0.65 -76.73
5...	1404.37 0.66 -76.70	1405.03 0.68 -76.67	1405.71 0.69 -76.65	1406.40 0.70 -76.62	1407.10 0.72 -76.59	1407.82 0.73 -76.57	1408.55 0.74 -76.54	1409.29 0.76 -76.51	1410.05 0.77 -76.49	1410.81 0.78 -76.46
6...	1411.59 0.79 -76.44	1412.39 0.81 -76.41	1413.19 0.82 -76.39	1414.01 0.83 -76.36	1414.84 0.84 -76.34	1415.69 0.86 -76.31	1416.54 0.87 -76.28	1417.41 0.88 -76.26	1418.29 0.89 -76.24	1419.19 0.91 -76.21
7...	1420.09 0.92 -76.19	1421.01 0.93 -76.16	1421.94 0.94 -76.14	1422.89 0.96 -76.11	1423.84 0.97 -76.09	1424.81 0.98 -76.06	1425.79 0.99 -76.04	1426.78 1.00 -76.02	1427.79 1.02 -75.99	1428.80 1.03 -75.97
8...	1429.83 1.04 -75.95	1430.87 1.05 -75.92	1431.92 1.06 -75.90	1432.99 1.08 -75.88	1434.06 1.09 -75.85	1435.15 1.10 -75.83	1436.25 1.11 -75.81	1437.36 1.12 -75.79	1438.49 1.14 -75.76	1439.62 1.15 -75.74
9...	1440.77 1.16 -75.72	1441.93 1.17 -75.70	1443.10 1.18 -75.67	1444.28 1.19 -75.65	1445.48 1.21 -75.63	1446.68 1.22 -75.61	1447.90 1.23 -75.59	1449.13 1.24 -75.56	1450.37 1.25 -75.54	1451.62 1.26 -75.52

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 17.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
10...	1452.88 1.27 -75.50	1454.16 1.29 -75.48	1455.44 1.30 -75.46	1456.74 1.31 -75.44	1458.05 1.32 -75.42	1459.37 1.33 -75.40	1460.70 1.34 -75.37	1462.05 1.35 -75.35	1463.40 1.37 -75.33	1464.77 1.38 -75.31
11...	1466.14 1.39 -75.29	1467.53 1.40 -75.27	1468.93 1.41 -75.25	1470.34 1.42 -75.23	1471.76 1.43 -75.21	1473.19 1.44 -75.19	1474.63 1.45 -75.17	1476.09 1.47 -75.15	1477.55 1.48 -75.14	1479.03 1.49 -75.12
12...	1480.52 1.50 -75.10	1482.02 1.51 -75.08	1483.52 1.52 -75.06	1485.04 1.53 -75.04	1486.57 1.54 -75.02	1488.12 1.55 -75.00	1489.67 1.56 -74.98	1491.23 1.57 -74.96	1492.81 1.58 -74.95	1494.39 1.60 -74.93
13...	1495.99 1.61 74.91	1497.59 1.62 -74.89	1499.21 1.63 -74.87	1500.83 1.64 -74.86	1502.47 1.65 -74.84	1504.12 1.66 -74.82	1505.78 1.67 -74.80	1507.45 1.68 -74.78	1509.13 1.69 -74.77	1510.82 1.70 -74.75
14...	1512.52 1.71 -74.73	1514.23 1.72 -74.71	1515.96 1.73 -74.70	1517.69 1.74 -74.68	1519.43 1.75 -74.66	1521.18 1.76 -74.65	1522.95 1.77 -74.63	1524.72 1.78 -74.61	1526.51 1.79 -74.60	1528.30 1.80 -74.58
15...	1530.11 1.82 -74.56	1531.92 1.83 -74.55	1533.75 1.84 -74.53	1535.58 1.85 -75.51	1537.43 1.86 -74.50	1539.28 1.87 -74.48	1541.15 1.88 -74.47	1543.03 1.89 -74.45	1544.91 1.90 -74.44	1546.81 1.91 -74.42

TABLE 2 -  $10^5$  Δσ<sub>t</sub> FOR SALINITY 17.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
16...	1548.72 1.92 -74.40	1550.63 1.93 -74.39	1552.56 1.94 -74.37	1554.50 1.95 -74.36	1556.44 1.96 -74.34	1558.40 1.97 -74.33	1560.37 1.98 -74.31	1562.34 1.99 -74.30	1564.33 2.00 -74.28	1566.33 2.01 -74.27
17...	1568.33 2.02 -74.25	1570.35 2.03 -74.24	1572.38 2.04 -74.22	1574.41 2.05 -74.21	1576.46 2.06 -74.20	1578.51 2.07 -74.18	1580.58 2.08 -73.17	1582.65 2.09 -74.15	1584.74 2.10 -74.14	1586.83 2.10 -74.12
18...	1588.94 2.11 -74.11	1591.05 2.12 -74.10	1593.18 2.13 -74.08	1595.31 2.14 -74.07	1597.46 2.15 -74.06	1599.61 2.16 -74.04	1601.77 2.17 -74.03	1603.94 2.18 -74.02	1606.13 2.19 -74.00	1608.32 2.20 -73.99
19...	1610.52 2.21 -73.98	1612.73 2.22 -73.96	1614.95 2.23 -73.95	1617.18 2.24 -73.94	1619.42 2.25 -73.92	1621.67 2.26 -73.91	1623.93 2.27 -73.90	1626.20 2.28 -73.89	1628.47 2.29 -73.87	1630.76 2.30 -73.86
20...	1633.06 2.31 -73.85	1635.36 2.32 -73.84	1637.68 2.32 -73.82	1640.00 2.33 -73.81	1642.34 2.34 -73.80	1644.68 2.35 -73.79	1647.03 2.36 -73.78	1649.39 2.37 -73.76	1651.77 2.38 -73.75	1654.15 2.39 -73.74
21...	1656.54 2.40 -73.73	1658.94 2.41 -73.72	1661.35 2.42 -73.71	1663.76 2.43 -73.69	1666.19 2.44 -73.68	1668.63 2.45 -73.67	1671.07 2.46 -73.66	1673.53 2.46 -73.65	1675.99 2.47 -73.64	1678.47 2.48 -73.63

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 17.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22...	1680.95 2.49 -73.62	1683.44 2.50 -73.61	1685.94 2.51 -73.59	1688.45 2.52 -73.58	1690.97 2.53 -73.57	1693.50 2.54 -73.56	1696.04 2.55 -73.55	1698.58 2.56 -73.54	1701.14 2.56 -73.53	1703.70 2.57 -73.52
23...	1706.28 2.58 -73.51	1708.86 2.59 -73.50	1711.45 2.60 -73.49	1714.05 2.61 -73.48	1716.66 2.62 -73.47	1719.28 2.63 -73.46	1721.91 2.64 -73.45	1724.55 2.65 -73.44	1727.19 2.66 -73.43	1729.85 2.66 -73.42
24...	1732.51 2.67 -73.41	1735.18 2.68 -73.40	1737.87 2.69 -73.39	1740.56 2.70 -73.38	1743.26 2.71 -73.37	1745.97 2.72 -73.36	1748.68 2.73 -73.35	1751.41 2.74 -73.34	1754.15 2.74 -73.33	1756.89 2.75 -73.33
25...	1759.64 2.76 -73.32	1762.41 2.77 -73.31	1765.18 2.78 -73.30	1767.96 2.79 -73.29	1770.74 2.80 -73.28	1773.54 2.81 -73.27	1776.35 2.82 -73.26	1779.16 2.82 -73.25	1781.99 2.83 -73.25	1784.82 2.84 -73.24
26...	1787.66 2.85 -73.23	1790.51 2.86 -73.22	1793.37 2.87 -73.21	1796.24 2.88 -73.20	1799.11 2.89 -73.19	1802.00 2.89 -73.19	1804.89 2.90 -73.18	1807.80 2.91 -73.17	1810.71 2.92 -73.16	1813.63 2.93 -73.15
27...	1816.56 2.94 -73.15	1819.49 2.95 -73.14	1822.44 2.95 -73.13	1825.39 2.96 -73.12	1828.26 2.97 -73.11	1831.33 2.98 -73.11	1834.31 2.99 -73.10	1837.30 3.00 -73.09	1840.30 3.01 -73.08	1843.31 3.02 -73.08

TABLE 2 -  $10^5$  Δst FOR SALINITY 17.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28...	1846.32 3.02 -73.07	1849.34 3.03 -73.06	1852.38 3.04 -73.05	1855.42 3.05 -73.05	1858.47 3.06 -73.04	1861.53 3.07 -73.03	1864.59 3.08 -73.02	1867.67 3.08 -73.02	1870.75 3.09 -73.01	1873.85 3.10 -73.00
29...	1876.50 3.11 -73.00	1880.06 3.12 -72.99	1883.18 3.13 -72.98	1886.30 3.14 -72.97	1889.44 3.14 -72.97	1892.58 3.15 -72.96	1895.73 3.16 -72.95	1898.90 3.17 -72.95	1902.07 3.18 -72.94	1905.24 3.19 -72.93
30...	1908.43 3.20 -72.93	1911.62 3.20 -72.92	1914.83 3.21 -72.91	1918.04 3.22 -72.91	1921.26 3.23 -72.90	1924.49 3.24 -72.90	1927.73 3.25 -72.89	1930.97 3.25 -72.88	1934.23 3.26 -72.88	1937.49 3.27 -72.87
31...	1940.76 3.28 -72.86	1944.04 3.29 -72.86	1947.33 3.30 -72.85	1950.63 3.30 -72.85	1953.93 3.31 -72.84	1957.24 3.32 -72.83	1960.57 3.33 -72.83	1963.90 3.34 -72.82	1967.23 3.35 -72.82	1970.58 3.36 -72.81
32...	1973.94 3.36 -72.80	1977.30 3.37 -72.80	1980.67 3.38 -72.79	1984.05 3.39 -72.79	1987.44 3.40 -72.78	1990.84 3.41 -72.78	1994.25 3.41 -72.77	1997.66 3.42 -72.76	2001.08 3.43 -72.76	2004.51 3.44 -72.75
33...	2007.95 3.45 -72.75	2011.40 3.46 -72.74	2014.85 3.46 -72.74	2018.32 3.47 -72.73	2021.79 3.48 -72.73	2025.27 3.49 -72.72	2028.76 3.50 -72.72	2032.26 3.51 -72.71	2035.76 3.51 -72.71	2039.28 3.52 -72.70

TABLE 2 -  $10^{-7}$   $\Delta$ st FOR SALINITY 17.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
34...	2042.80 3.53 -72.69	2046.33 3.54 -72.69	2049.87 3.55 -72.68	2053.42 3.56 -72.68	2056.97 3.56 -72.67	2060.54 3.57 -72.67	2064.11 3.58 -72.66	2067.69 3.59 -72.66	2071.28 3.60 -72.65	2074.88 3.61 -72.65
35...	2078.48 3.61 -72.65	2082.10 3.62 -72.64	2085.72 3.63 -72.64	2089.35 3.64 -72.63	2092.99 3.65 -72.63	2096.63 3.65 -72.62	2100.29 3.66 -72.62	2103.95 3.67 -72.61	2107.62 3.68 -72.61	2111.30 3.69 -72.60

TABLE 2 - 10<sup>5</sup> Ast FOR SALINITY 20.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1...	1311.70 0.18 -78.48	1311.69 0.26 -78.43	1311.89 0.21 -78.47	1312.10 0.23 -78.50	1312.33 0.25 -78.54	1312.58 0.26 -78.57	1312.84 0.28 -78.61	1313.12 0.30 -78.65	1313.41 0.31 -78.68	1313.73 0.33 -78.62
-0...	1310.54 0.03 -78.06	1310.57 0.04 -78.05	1310.61 0.06 -78.13	1310.67 0.07 -78.16	1310.74 0.09 -78.19	1310.83 0.10 -78.23	1310.93 0.12 -78.26	1311.05 0.14 -78.30	1311.19 0.15 -78.33	1311.34 0.17 -78.36
0...	1310.54 -0.01 -78.06	1310.55 0.00 -78.03	1310.54 0.02 -77.99	1310.55 0.03 -77.96	1310.59 0.05 -77.93	1310.64 0.06 -77.90	1310.70 0.08 -77.86	1310.78 0.09 -77.83	1310.88 0.11 -77.80	1310.99 0.12 -77.77
1...	1311.11 0.14 -77.74	1311.25 0.15 -77.70	1311.45 0.17 -77.67	1311.77 0.18 -77.64	1311.75 0.20 -77.61	1311.95 0.21 -77.58	1312.16 0.23 -77.55	1312.39 0.24 -77.52	1312.63 0.26 -77.49	1312.88 0.27 -77.45
2...	1313.15 0.28 -77.42	1313.44 0.30 -77.39	1313.74 0.31 -77.36	1314.05 0.33 -77.33	1314.37 0.34 -77.30	1314.71 0.35 -77.27	1315.07 0.37 -77.24	1315.44 0.38 -77.21	1315.82 0.40 -77.18	1316.21 0.41 -77.16
3...	1316.62 0.42 -77.13	1317.05 0.44 -77.10	1317.49 0.45 -77.07	1317.94 0.47 -77.04	1318.40 0.48 -77.01	1318.88 0.49 -76.98	1319.37 0.51 -76.95	1319.88 0.52 -76.92	1320.40 0.53 -76.90	1320.93 0.55 -76.87



TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 18.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
4...	1321.48 0.56 -76.84	1322.04 0.57 -76.81	1322.61 0.59 -76.78	1323.20 0.60 -76.76	1323.80 0.61 -76.73	1324.41 0.63 -76.70	1325.03 0.64 -76.68	1325.67 0.65 -76.65	1326.33 0.66 -76.62	1326.99 0.68 -76.59
5...	1327.67 0.69 -76.57	1328.36 0.70 -76.54	1329.06 0.72 -76.51	1329.78 0.73 -76.49	1330.51 0.74 -76.46	1331.25 0.76 -76.44	1332.01 0.77 -76.41	1332.78 0.78 -76.38	1333.56 0.79 -76.36	1334.35 0.81 -76.33
6...	1335.16 0.82 -76.31	1335.98 0.83 -76.28	1336.81 0.84 -76.26	1337.65 0.86 -76.23	1338.51 0.87 -76.21	1339.38 0.88 -76.18	1340.26 0.89 -76.16	1341.15 0.91 -76.13	1342.06 0.92 -76.11	1342.98 0.93 -76.08
7...	1343.91 0.94 -76.06	1344.85 0.96 -76.03	1345.81 0.97 -76.01	1346.77 0.98 -75.99	1347.75 0.99 -75.96	1348.74 1.00 -75.94	1349.75 1.02 -75.91	1350.76 1.03 -75.89	1351.79 1.04 -75.87	1352.83 1.05 -75.84
8...	1353.88 1.06 -75.82	1354.95 1.08 -75.80	1356.02 1.09 -75.77	1357.11 1.10 -75.75	1358.21 1.11 -75.73	1359.32 1.12 -75.71	1360.44 1.13 -75.68	1361.58 1.15 -75.66	1362.72 1.16 -75.64	1363.88 1.17 -75.62
9...	1365.05 1.18 -75.59	1366.23 1.19 -75.57	1367.43 1.20 -75.55	1368.63 1.22 -75.53	1369.85 1.23 -75.51	1371.07 1.24 -75.48	1372.31 1.25 -75.46	1373.56 1.26 -75.44	1374.83 1.27 -75.42	1376.10 1.28 -75.40

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 18.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
10...	1377.38 1.30 -75.38	1378.68 1.31 -75.36	1379.99 1.32 -75.34	1381.31 1.33 -75.31	1382.63 1.34 -75.29	1383.98 1.35 -75.27	1385.33 1.36 -75.25	1386.69 1.37 -75.23	1388.07 1.39 -75.21	1389.45 1.40 -75.19
11...	1390.85 1.41 -75.17	1392.26 1.42 -75.15	1393.68 1.43 -75.13	1395.11 1.44 -75.11	1396.55 1.45 -75.09	1398.00 1.46 -75.07	1399.46 1.47 -75.05	1400.93 1.48 -75.03	1402.42 1.50 -75.01	1403.91 1.51 -75.00
12...	1405.42 1.52 -74.98	1406.94 1.53 -74.96	1408.47 1.54 -74.94	1410.00 1.55 -74.92	1411.55 1.56 -74.90	1413.11 1.57 -74.88	1414.69 1.58 -74.86	1416.27 1.59 -74.85	1417.86 1.60 -74.83	1419.46 1.61 -74.81
13...	1421.08 1.62 -74.79	1422.70 1.63 -74.77	1424.33 1.65 -74.75	1425.98 1.66 -74.74	1427.64 1.67 -74.72	1429.30 1.68 -74.70	1430.98 1.69 -74.68	1432.67 1.70 -74.67	1434.36 1.71 -74.65	1436.07 1.72 -74.63
14...	1437.79 1.73 -74.61	1439.52 1.74 -74.60	1441.26 1.75 -74.58	1443.01 1.76 -74.56	1444.77 1.77 -74.55	1446.54 1.78 -74.53	1448.32 1.79 -74.51	1450.11 1.80 -74.50	1451.91 1.81 -74.48	1453.72 1.82 -74.46
15...	1455.54 1.83 -74.45	1457.37 1.84 -74.43	1459.21 1.85 -74.42	1461.07 1.86 -74.40	1462.93 1.87 -74.38	1464.80 1.88 -74.37	1466.68 1.89 -74.35	1468.57 1.90 -74.34	1470.48 1.91 -74.32	1472.39 1.92 -74.30

TABLE 2 - 10<sup>5</sup> 1st FOR SALINITY 18.CO-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
16..	1474.31 1.93 -74.29	1476.24 1.94 -74.27	1478.19 1.95 -74.26	1480.14 1.96 -74.24	1482.10 1.97 -74.23	1484.07 1.98 -74.21	1486.05 1.99 -74.20	1488.04 2.00 -74.18	1490.05 2.01 -74.17	1492.06 2.02 -74.15
17..	1494.08 2.03 -74.14	1496.11 2.04 -74.12	1498.15 2.05 -74.11	1500.20 2.06 -74.10	1502.26 2.07 -74.08	1504.33 2.08 -74.07	1506.41 2.09 -74.05	1508.50 2.10 -74.04	1510.60 2.11 -74.03	1512.71 2.12 -74.01
18..	1514.83 2.13 -74.00	1516.96 2.14 -73.98	1519.09 2.15 -73.97	1521.24 2.16 -73.96	1523.40 2.17 -73.94	1525.57 2.18 -73.93	1527.74 2.19 -73.92	1529.93 2.20 -73.90	1532.12 2.20 -73.89	1534.33 2.21 -73.88
19..	1536.54 2.22 -73.86	1538.77 2.23 -73.85	1541.00 2.24 -73.84	1543.24 2.25 -73.83	1545.50 2.26 -73.81	1547.76 2.27 -73.80	1550.03 2.28 -73.79	1552.31 2.29 -73.78	1554.60 2.30 -73.76	1556.90 2.31 -73.75
20..	1559.21 2.32 -73.74	1561.53 2.33 -73.73	1563.85 2.34 -73.71	1566.19 2.35 -73.70	1568.54 2.36 -73.69	1570.89 2.36 -73.68	1573.26 2.37 -73.67	1575.63 2.38 -73.65	1578.01 2.39 -73.64	1580.41 2.40 -73.63
21..	1582.81 2.41 -73.62	1585.22 2.42 -73.61	1587.64 2.43 -73.60	1590.07 2.44 -73.59	1592.51 2.45 -73.57	1594.96 2.46 -73.56	1597.41 2.47 -73.55	1599.88 2.48 -73.54	1602.35 2.48 -73.53	1604.84 2.49 -73.52

TABLE 2 - 10<sup>5</sup> Ast FOR SALINITY 18.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22...	1607.33 2.50 -73.51	1608.33 2.51 -73.50	1612.32 2.52 -73.49	1614.87 2.53 -73.48	1617.00 2.54 -73.47	1619.54 2.55 -73.45	1622.48 2.56 -73.44	1625.04 2.57 -73.43	1627.61 2.58 -73.42	1630.18 2.58 -73.41
23...	1632.77 2.59 -73.40	1635.36 2.60 -73.39	1637.96 2.61 -73.38	1640.57 2.62 -73.37	1643.19 2.63 -73.36	1645.82 2.64 -73.35	1648.46 2.65 -73.34	1651.11 2.66 -73.33	1653.76 2.66 -73.32	1656.43 2.67 -73.31
24...	1659.10 2.68 -73.30	1661.78 2.69 -73.29	1664.48 2.70 -73.29	1667.18 2.71 -73.28	1669.89 2.72 -73.27	1672.60 2.73 -73.26	1675.33 2.74 -73.25	1678.07 2.74 -73.24	1680.81 2.75 -73.23	1683.56 2.76 -73.22
25...	1686.33 2.77 -73.21	1689.10 2.78 -73.20	1691.88 2.79 -73.19	1694.67 2.80 -73.19	1697.46 2.81 -73.18	1700.27 2.81 -73.17	1703.09 2.82 -73.16	1705.91 2.83 -73.15	1708.74 2.84 -73.14	1711.58 2.85 -73.13
26...	1714.43 2.86 -73.13	1717.29 2.87 -73.12	1720.16 2.88 -73.11	1723.03 2.88 -73.10	1725.92 2.89 -73.09	1728.81 2.90 -73.08	1731.72 2.91 -73.08	1734.63 2.92 -73.07	1737.55 2.93 -73.06	1740.47 2.94 -73.05
27...	1743.41 2.95 -73.04	1746.36 2.95 -73.04	1749.31 2.96 -73.03	1752.27 2.97 -73.02	1755.24 2.98 -73.01	1758.22 2.99 -73.01	1761.21 3.00 -73.00	1764.21 3.01 -72.99	1767.22 3.01 -72.98	1770.23 3.02 -72.98

TABLE 2 -  $10^5 \Delta st$  FOR SALINITY 18.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28...	1773.25 3.03 -72.97	1776.28 3.04 -72.96	1779.23 3.05 -72.95	1782.37 3.06 -72.95	1785.43 3.07 -72.94	1788.50 3.07 -72.93	1791.57 3.08 -72.93	1794.65 3.09 -72.92	1797.74 3.10 -72.91	1800.84 3.11 -72.90
29...	1803.95 3.12 -72.90	1807.07 3.13 -72.89	1810.19 3.13 -72.88	1813.33 3.14 -72.88	1816.47 3.15 -72.87	1819.62 3.16 -72.86	1822.78 3.17 -72.86	1825.95 3.18 -72.85	1829.12 3.18 -72.84	1832.31 3.19 -72.84
30...	1835.50 3.20 -72.83	1838.70 3.21 -72.83	1841.91 3.22 -72.82	1845.13 3.23 -72.81	1848.36 3.24 -72.81	1851.59 3.24 -72.80	1854.84 3.25 -72.79	1858.09 3.26 -72.79	1861.35 3.27 -72.78	1864.62 3.28 -72.78
31...	1867.90 3.29 -72.77	1871.18 3.29 -72.76	1874.48 3.30 -72.76	1877.78 3.31 -72.75	1881.09 3.32 -72.75	1884.41 3.33 -72.74	1887.74 3.34 -72.73	1891.07 3.34 -72.73	1894.42 3.35 -72.72	1897.77 3.36 -72.72
32...	1901.13 3.37 -72.71	1904.50 3.38 -72.71	1907.88 3.39 -72.70	1911.27 3.39 -72.70	1914.66 3.40 -72.69	1918.06 3.41 -72.69	1921.48 3.42 -72.68	1924.90 3.43 -72.67	1928.32 3.44 -72.67	1931.76 3.44 -72.66
33...	1935.20 3.45 -72.66	1938.66 3.45 -72.65	1942.12 3.47 -72.65	1945.59 3.48 -72.64	1949.07 3.49 -72.64	1952.55 3.49 -72.63	1956.05 3.50 -72.63	1959.55 3.51 -72.62	1963.06 3.52 -72.62	1966.58 3.53 -72.61

TABLE 2 -  $10^5 \Delta st$  FOR SALINITY 18.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
34...	1970.11 3.54 -72.61	1973.64 3.54 -72.60	1977.19 3.55 -72.60	1980.74 3.56 -72.59	1984.30 3.57 -72.59	1987.87 3.58 -72.58	1991.45 3.59 -72.58	1995.03 3.59 -72.58	1998.62 3.60 -72.57	2002.23 3.61 -72.57
35...	2005.84 3.62 -72.56	2009.46 3.63 -72.56	2013.08 3.63 -72.55	2016.72 3.64 -72.55	2020.36 3.65 -72.54	2024.01 3.66 -72.54	2027.67 3.67 -72.54	2031.34 3.68 -72.53	2035.02 3.68 -72.53	2038.70 3.69 -72.52

TABLE 2 -  $10^5 \Delta st$  FOR SALINITY 19.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1...	1233.11 0.15 -78.25	1233.25 0.16 -78.29	1233.42 0.18 -78.32	1233.60 0.20 -78.36	1233.79 0.21 -78.39	1234.00 0.23 -78.43	1234.23 0.24 -78.46	1234.47 0.26 -78.50	1234.73 0.28 -78.53	1235.01 0.29 -78.57
-0...	1232.48 0.01 -77.92	1232.48 0.01 -77.95	1232.48 0.02 -77.98	1232.51 0.04 -78.02	1232.55 0.05 -78.05	1232.60 0.07 -78.08	1232.67 0.09 -78.12	1232.76 0.10 -78.15	1232.86 0.12 -78.19	1232.97 0.13 -78.22
0.	1232.48 0.02 -77.92	1232.50 0.04 -77.89	1232.54 0.05 -77.85	1232.59 0.07 -77.82	1232.66 0.08 -77.79	1232.74 0.10 -77.76	1232.84 0.11 -77.72	1232.95 0.13 -77.69	1233.08 0.14 -77.66	1233.22 0.16 -77.63
1...	1233.37 0.17 -77.60	1233.54 0.19 -77.57	1233.73 0.20 -77.53	1233.93 0.21 -77.50	1234.14 0.23 -77.47	1234.37 0.24 -77.44	1234.62 0.26 -77.41	1234.87 0.27 -77.38	1235.14 0.29 -77.35	1235.43 0.30 -77.32
2...	1235.73 0.31 -77.29	1236.04 0.33 -77.26	1236.37 0.34 -77.23	1236.71 0.36 -77.20	1237.07 0.37 -77.17	1237.44 0.38 -77.14	1237.82 0.40 -77.11	1238.22 0.41 -77.08	1238.63 0.43 -77.05	1239.06 0.44 -77.02
3...	1239.50 0.45 -76.99	1239.95 0.47 -76.96	1240.42 0.48 -76.94	1240.90 0.49 -76.91	1241.39 0.51 -76.88	1241.90 0.52 -76.85	1242.42 0.53 -76.82	1242.95 0.55 -76.79	1243.50 0.56 -76.77	1244.06 0.57 -76.74

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 19.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
4...	1244.64 0.59 -76.71	1245.22 0.60 -76.68	1245.83 0.61 -76.65	1246.44 0.63 -76.63	1247.07 0.64 -76.60	1247.71 0.65 -76.57	1248.36 0.67 -76.55	1249.03 0.68 -76.52	1249.70 0.69 -76.49	1250.40 0.71 -76.47
5...	1251.10 0.72 -76.44	1251.82 0.73 -76.41	1252.55 0.74 -76.39	1253.29 0.76 -76.36	1254.05 0.77 -76.33	1254.82 0.78 -76.31	1255.60 0.79 -76.28	1256.39 0.81 -76.26	1257.20 0.82 -76.23	1258.02 0.83 -76.21
6...	1258.85 0.84 -76.18	1259.70 0.86 -76.16	1260.55 0.87 -76.13	1261.42 0.88 -76.11	1262.30 0.89 -76.08	1263.20 0.91 -76.06	1264.10 0.92 -76.03	1265.02 0.93 -76.01	1265.95 0.94 -75.98	1266.90 0.96 -75.96
7...	1267.65 0.97 -75.93	1268.82 0.98 -75.91	1269.80 0.99 -75.89	1270.79 1.00 -75.86	1271.79 1.02 -75.84	1272.81 1.03 -75.81	1273.83 1.04 -75.79	1274.87 1.05 -75.77	1275.93 1.06 -75.74	1276.99 1.07 -75.72
8...	1278.06 1.09 -75.70	1279.15 1.10 -75.67	1280.25 1.11 -75.65	1281.36 1.12 -75.63	1282.48 1.13 -75.61	1283.62 1.15 -75.58	1284.76 1.16 -75.56	1285.92 1.17 -75.54	1287.09 1.18 -75.52	1288.27 1.19 -75.50
9...	1289.46 1.20 -75.47	1290.66 1.21 -75.45	1291.88 1.23 -75.43	1293.10 1.24 -75.41	1294.34 1.25 -75.39	1295.59 1.26 -75.36	1296.85 1.27 -75.34	1298.12 1.28 -75.32	1299.41 1.29 -75.30	1300.70 1.31 -75.28



TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 19.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
10..	1302.01 1.32 -75.26	1303.32 1.33 -75.24	1304.65 1.34 -75.22	1305.99 1.35 -75.20	1307.34 1.36 -75.18	1308.70 1.37 -75.16	1310.08 1.38 -75.14	1311.46 1.39 -75.11	1312.85 1.41 -75.09	1314.26 1.42 -75.07
11..	1315.68 1.43 -75.05	1317.10 1.44 -75.03	1318.54 1.45 -75.02	1319.99 1.46 -75.00	1321.45 1.47 -74.98	1322.92 1.48 -74.96	1324.41 1.49 -74.94	1325.90 1.50 -74.92	1327.40 1.51 -74.90	1328.92 1.53 -74.88
12..	1330.44 1.54 -74.86	1331.98 1.55 -74.84	1333.53 1.56 -74.82	1335.08 1.57 -74.80	1336.65 1.58 -74.79	1338.23 1.59 -74.77	1339.82 1.60 -74.75	1341.42 1.61 -74.73	1343.03 1.62 -74.71	1344.65 1.63 -74.69
13..	1346.28 1.64 -74.68	1347.93 1.65 -74.66	1349.58 1.66 -74.64	1351.24 1.67 -74.62	1352.92 1.68 -74.61	1354.60 1.69 -74.59	1356.29 1.70 -74.57	1358.00 1.72 -74.55	1359.71 1.73 -74.54	1361.44 1.74 -74.52
14..	1363.18 1.75 -74.50	1364.92 1.76 -74.48	1366.68 1.77 -74.47	1368.44 1.78 -74.45	1370.22 1.79 -74.43	1372.01 1.80 -74.42	1373.80 1.81 -74.40	1375.61 1.82 -74.38	1377.43 1.83 -73.37	1379.26 1.84 -74.35
15..	1381.09 1.85 -74.34	1382.94 1.86 -74.32	1384.80 1.87 -74.30	1386.67 1.88 -74.29	1388.55 1.89 -74.27	1390.43 1.90 -74.26	1392.33 1.91 -74.24	1394.24 1.92 -74.22	1396.16 1.93 -74.21	1398.08 1.94 -74.19

TABLE 2 -  $10^5$   $\Delta$ st FOR SALINITY 19.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
16..	1400.01 1.97 -74.18	1401.77 1.96 -74.16	1403.93 1.97 -74.15	1405.89 1.98 -74.13	1407.87 1.99 -74.12	1409.86 2.00 -74.10	1411.85 2.01 -74.09	1413.86 2.02 -74.07	1415.88 2.03 -74.06	1417.90 2.04 -74.04
17..	1419.94 2.05 -74.05	1421.99 2.06 -74.02	1424.04 2.07 -74.00	1426.11 2.07 -73.99	1428.18 2.08 -73.97	1430.26 2.09 -73.96	1432.36 2.10 -73.94	1434.46 2.11 -73.93	1436.58 2.12 -73.92	1438.70 2.13 -73.90
18..	1440.83 2.14 -73.89	1442.97 2.15 -73.88	1445.12 2.16 -73.86	1447.29 2.17 -73.85	1449.46 2.18 -73.84	1451.64 2.19 -73.82	1453.83 2.20 -73.81	1456.02 2.21 -73.80	1458.23 2.22 -73.78	1460.45 2.23 -73.77
19..	1462.68 2.24 -73.76	1464.92 2.25 -73.74	1467.16 2.26 -73.73	1469.42 2.27 -73.72	1471.68 2.27 -73.71	1473.96 2.28 -73.69	1476.24 2.29 -73.68	1478.53 2.30 -73.67	1480.84 2.31 -73.66	1483.15 2.32 -73.64
20..	1485.47 2.33 -73.63	1487.80 2.34 -73.62	1490.14 2.35 -73.61	1492.49 2.36 -73.60	1494.85 2.37 -73.58	1497.21 2.38 -73.57	1499.59 2.39 -73.56	1501.98 2.40 -73.55	1504.37 2.40 -73.54	1506.78 2.41 -73.53
21..	1509.19 2.42 -73.51	1511.61 2.43 -73.50	1514.04 2.44 -73.49	1516.48 2.45 -73.48	1518.93 2.46 -73.47	1521.39 2.47 -73.46	1523.86 2.48 -73.45	1526.34 2.49 -73.44	1528.82 2.50 -73.43	1531.32 2.50 -73.41

TABLE 2 -  $10^5 \Delta s_t$  FOR SALINITY 19.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22...	1533.82 2.51 -73.40	1536.34 2.52 -73.39	1538.86 2.53 -73.38	1541.39 2.54 -73.37	1543.93 2.55 -73.36	1546.48 2.56 -73.35	1549.04 2.57 -73.34	1551.61 2.58 -73.33	1554.18 2.59 -73.32	1556.77 2.59 -73.31
23...	1559.36 2.60 -73.30	1561.97 2.61 -73.29	1564.58 2.62 -73.28	1567.20 2.63 -73.27	1569.83 2.64 -73.26	1572.47 2.65 -73.25	1575.12 2.66 -73.24	1577.77 2.67 -73.23	1580.44 2.67 -73.22	1583.11 2.68 -73.21
24...	1585.80 2.69 -73.20	1588.49 2.70 -73.19	1591.19 2.71 -73.18	1593.90 2.72 -73.17	1596.62 2.73 -73.17	1599.35 2.74 -73.16	1602.08 2.74 -73.15	1604.83 2.75 -73.14	1607.58 2.76 -73.13	1610.34 2.77 -73.12
25...	1613.12 2.78 -73.11	1615.90 2.79 -73.10	1618.68 2.80 -73.09	1621.48 2.81 -73.09	1624.29 2.81 -73.08	1627.10 2.82 -73.07	1629.93 2.83 -73.06	1632.76 2.84 -73.05	1635.60 2.85 -73.04	1638.45 2.86 -73.03
26...	1641.31 2.87 -73.03	1644.17 2.88 -73.02	1647.05 2.88 -73.01	1649.93 2.89 -73.00	1652.83 2.90 -72.99	1655.73 2.91 -72.99	1658.64 2.92 -72.98	1661.56 2.93 -72.97	1664.49 2.94 -72.96	1667.42 2.94 -72.95
27...	1670.37 2.95 -72.95	1673.32 2.96 -72.94	1676.28 2.97 -72.93	1679.25 2.98 -72.92	1682.23 2.99 -72.92	1685.22 3.00 -72.91	1688.21 3.00 -72.90	1691.22 3.01 -72.89	1694.23 3.02 -72.89	1697.25 3.03 -72.88

TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 19.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28...	1700.28 3.04 -72.87	1703.32 3.05 -72.87	1706.37 3.06 -72.86	1709.43 3.06 -72.85	1712.49 3.07 -72.84	1715.56 3.08 -72.84	1718.64 3.09 -72.83	1721.73 3.10 -72.82	1724.83 3.11 -72.82	1727.94 3.12 -72.81
29...	1731.05 3.12 -72.80	1734.18 3.13 -72.80	1737.31 3.14 -72.79	1740.45 3.15 -72.78	1743.60 3.16 -72.78	1746.76 3.17 -72.77	1749.92 3.17 -72.76	1753.10 3.18 -72.76	1756.28 3.19 -72.75	1759.47 3.20 -72.75
30...	1762.67 3.21 -72.74	1765.88 3.22 -72.73	1769.10 3.22 -72.73	1772.32 3.23 -72.72	1775.55 3.24 -72.71	1778.79 3.25 -72.71	1782.04 3.26 -72.70	1785.30 3.27 -72.70	1788.57 3.28 -72.69	1791.84 3.28 -72.69
31...	1795.13 3.29 -72.68	1798.42 3.30 -72.67	1801.72 3.31 -72.67	1805.03 3.32 -72.66	1808.35 3.33 -72.66	1811.67 3.33 -72.65	1815.00 3.34 -72.65	1818.35 3.35 -72.64	1821.70 3.36 -72.64	1825.05 3.37 -72.63
32...	1828.42 3.38 -72.62	1831.80 3.38 -72.62	1835.18 3.39 -72.61	1838.57 3.40 -72.61	1841.97 3.41 -72.60	1845.38 3.42 -72.60	1848.80 3.43 -72.59	1852.22 3.43 -72.59	1855.65 3.44 -72.58	1859.10 3.45 -72.58
33...	1862.55 3.46 -72.57	1866.00 3.47 -72.57	1869.47 3.47 -72.56	1872.94 3.48 -72.56	1876.43 3.49 -72.55	1879.92 3.50 -72.55	1883.42 3.51 -72.54	1886.93 3.52 -72.54	1890.44 3.52 -72.54	1893.97 3.53 -72.53

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 19.00-Continued

$T$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
34...	1897.50 3.54 -72.53	1901.04 3.55 -72.52	1904.59 3.56 -72.52	1908.14 3.57 -72.51	1911.71 3.57 -72.51	1915.28 3.58 -72.50	1918.87 3.59 -72.50	1922.46 3.60 -72.50	1926.05 3.61 -72.49	1929.66 3.61 -72.49
35...	1933.28 3.62 -72.48	1936.90 3.63 -72.48	1940.53 3.64 -72.47	1944.17 3.65 -72.47	1947.82 3.65 -72.47	1951.47 3.66 -72.46	1955.14 3.67 -72.46	1958.81 3.68 -72.45	1962.49 3.69 -72.45	1966.18 3.70 -72.45

TABLE 2 -  $10^{-4}$  Δ*s*t FOR SALINITY 20.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1...	1154.85 0.11 -78.11	1154.97 0.13 -78.15	1155.09 0.14 -78.18	1155.24 0.16 -78.21	1155.40 0.18 -78.25	1155.58 0.19 -78.28	1155.77 0.21 -78.32	1155.98 0.22 -78.35	1156.20 0.24 -78.39	1156.44 0.26 -78.42
-0...	1154.56 -0.04 -77.78	1154.58 -0.04 -77.81	1154.50 -0.01 -77.81	1154.49 0.01 -77.86	1154.50 0.02 -77.91	1154.52 0.04 -77.94	1154.55 0.05 -77.98	1154.60 0.07 -78.01	1154.67 0.08 -78.04	1154.75 0.10 -78.08
0...	1154.56 0.07 -77.78	1154.62 0.07 -77.75	1154.67 0.08 -77.72	1154.77 0.10 -77.68	1154.87 0.11 -77.65	1154.99 0.13 -77.62	1155.12 0.14 -77.59	1155.26 0.16 -77.56	1155.42 0.17 -77.52	1155.59 0.19 -77.49
1...	1155.78 0.15 -77.46	1155.98 0.22 -77.43	1156.20 0.23 -77.40	1156.43 0.25 -77.37	1156.67 0.26 -77.34	1156.93 0.27 -77.31	1157.21 0.29 -77.28	1157.49 0.30 -77.25	1157.80 0.32 -77.22	1158.11 0.33 -77.19
2...	1158.44 0.34 -77.16	1158.76 0.36 -77.13	1159.14 0.37 -77.10	1159.52 0.39 -77.07	1159.90 0.40 -77.04	1160.30 0.41 -77.01	1160.72 0.43 -76.98	1161.14 0.44 -76.95	1161.58 0.45 -76.92	1162.04 0.47 -76.89
3...	1162.51 0.48 -76.86	1162.99 0.50 -76.84	1163.48 0.51 -76.81	1163.99 0.52 -76.78	1164.51 0.54 -76.75	1165.05 0.55 -76.72	1165.60 0.56 -76.69	1166.16 0.58 -76.67	1166.74 0.59 -76.64	1167.33 0.60 -76.61

TABLE 2 -  $10^5 \Delta t$  FOR SALINITY  $\leq 0.00$ -Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
4...	1167.93 0.62 -76.58	1168.54 0.63 -76.56	1169.17 0.64 -76.53	1169.81 0.65 -76.50	1170.47 0.67 -76.47	1171.13 0.68 -76.45	1171.81 0.69 -76.42	1172.44 0.71 -76.39	1173.01 0.72 -76.37	1173.93 0.75 -76.34
5...	1174.66 0.74 -76.32	1175.41 0.76 -76.29	1176.16 0.77 -76.26	1176.93 0.78 -76.24	1177.71 0.79 -76.21	1178.51 0.81 -76.19	1179.32 0.82 -76.16	1180.14 0.83 -76.13	1180.97 0.84 -76.11	1181.81 0.86 -76.08
6...	1182.67 0.87 -76.06	1183.54 0.88 -76.03	1184.42 0.89 -76.01	1185.32 0.91 -75.98	1186.22 0.92 -75.96	1187.14 0.93 -75.94	1188.07 0.94 -75.91	1189.02 0.96 -75.89	1189.97 0.97 -75.86	1190.94 0.98 -75.84
7...	1191.92 0.99 -75.81	1192.91 1.00 -75.79	1193.91 1.02 -75.77	1194.93 1.03 -75.74	1195.95 1.04 -75.72	1196.99 1.05 -75.70	1198.04 1.06 -75.67	1199.11 1.07 -75.65	1200.18 1.09 -75.63	1201.27 1.10 -75.60
8...	1202.37 1.11 -75.58	1203.48 1.12 -75.56	1204.60 1.13 -75.53	1205.73 1.14 -75.51	1206.88 1.16 -75.49	1208.03 1.17 -75.47	1209.20 1.18 -75.44	1210.38 1.19 -75.42	1211.57 1.20 -75.40	1212.77 1.21 -75.38
9...	1213.99 1.23 -75.36	1215.21 1.24 -75.34	1216.45 1.25 -75.31	1217.70 1.26 -75.29	1218.96 1.27 -75.27	1220.23 1.28 -75.25	1221.51 1.29 -75.23	1222.80 1.30 -75.21	1224.11 1.32 -75.19	1225.42 1.33 -75.15

TABLE 2 - 10<sup>5</sup> Δst FOR SALINITY 26.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
10...	1226.72 1.34 -74.14	1228.09 1.32 -75.12	1229.43 1.36 -75.10	1230.79 1.37 -75.08	1232.17 1.38 -75.06	1233.52 1.39 -75.04	1234.84 1.40 -75.02	1236.34 1.42 -75.00	1237.76 1.43 -74.98	1239.19 1.44 -74.96
11...	1240.62 1.42 -74.94	1242.07 1.46 -74.92	1243.53 1.47 -74.90	1245.00 1.48 -74.88	1246.48 1.49 -74.86	1247.97 1.50 -74.84	1249.47 1.51 -74.82	1250.98 1.52 -74.81	1252.51 1.53 -74.79	1254.04 1.54 -74.77
12...	1255.58 1.56 -74.75	1257.14 1.57 -74.73	1258.70 1.58 -74.71	1260.28 1.59 -74.69	1261.87 1.60 -74.67	1263.46 1.61 -74.66	1265.07 1.62 -74.64	1266.69 1.63 -74.62	1268.32 1.64 -74.60	1269.96 1.65 -74.58
13...	1271.61 1.66 -74.57	1273.27 1.67 -74.55	1274.94 1.68 -74.53	1276.62 1.69 -74.51	1278.31 1.70 -74.50	1280.01 1.71 -74.48	1281.72 1.72 -74.46	1283.45 1.73 -74.44	1285.18 1.74 -74.43	1286.92 1.75 -74.41
14...	1288.67 1.76 -74.39	1290.44 1.77 -74.38	1292.21 1.78 -74.36	1293.99 1.79 -74.34	1295.79 1.80 -74.32	1297.59 1.81 -74.31	1299.40 1.82 -74.29	1301.23 1.83 -74.28	1303.06 1.84 -74.26	1304.90 1.85 -74.24
15...	1306.76 1.86 -74.23	1308.62 1.87 -74.21	1310.50 1.88 -74.20	1312.38 1.89 -74.18	1314.27 1.90 -74.16	1316.18 1.91 -74.15	1318.09 1.92 -74.13	1320.01 1.93 -74.12	1321.95 1.94 -74.10	1323.89 1.95 -74.09



TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 20.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
16...	1325.84 1.96 -74.07	1327.81 1.97 -74.06	1329.78 1.98 -74.04	1331.76 1.99 -74.03	1333.75 2.00 -74.01	1335.76 2.01 -74.00	1337.77 2.02 -73.93	1339.79 2.03 -73.97	1341.82 2.04 -73.95	1343.86 2.04 -73.94
17...	1345.91 2.06 -73.92	1347.97 2.07 -73.91	1350.04 2.08 -73.90	1352.12 2.09 -73.88	1354.21 2.10 -73.87	1356.31 2.11 -73.85	1358.41 2.12 -73.84	1360.53 2.13 -73.83	1362.66 2.14 -73.81	1364.80 2.15 -73.80
18...	1366.94 2.16 -73.78	1369.10 2.17 -73.77	1371.26 2.17 -73.76	1373.44 2.18 -73.74	1375.62 2.19 -73.73	1377.81 2.20 -73.72	1380.02 2.21 -72.70	1382.23 2.22 -73.69	1384.45 2.23 -73.68	1386.68 2.24 -73.67
19...	1388.92 2.25 -73.65	1391.17 2.26 -73.64	1393.43 2.27 -73.63	1395.70 2.28 -73.62	1397.98 2.29 -73.60	1400.26 2.30 -73.59	1402.56 2.31 -73.58	1404.87 2.31 -73.57	1407.18 2.32 -73.55	1409.50 2.33 -73.54
20...	1411.84 2.34 -73.53	1414.18 2.35 -73.52	1416.53 2.36 -73.51	1418.89 2.37 -73.49	1421.26 2.38 -73.48	1423.64 2.39 -73.47	1426.03 2.40 -73.46	1428.43 2.41 -73.45	1430.83 2.42 -73.44	1433.25 2.42 -73.42
21...	1435.67 2.43 -73.41	1438.11 2.44 -73.40	1440.55 2.45 -73.39	1443.00 2.46 -73.38	1445.46 2.47 -73.37	1447.93 2.48 -73.36	1450.41 2.49 -73.35	1452.90 2.50 -73.34	1455.40 2.51 -73.32	1457.91 2.52 -73.31

TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 20.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22...	1460.42 2.52 -73.30	1462.94 2.53 -73.29	1465.48 2.54 -73.28	1468.02 2.55 -73.27	1470.57 2.56 -73.26	1473.13 2.57 -73.25	1475.70 2.58 -73.24	1478.28 2.59 -73.23	1480.86 2.60 -73.22	1483.46 2.60 -73.21
23...	1486.06 2.61 -73.20	1488.68 2.62 -73.19	1491.30 2.63 -73.18	1493.93 2.64 -73.17	1496.57 2.65 -73.16	1499.22 2.66 -73.15	1501.88 2.67 -73.14	1504.54 2.68 -73.13	1507.22 2.68 -73.12	1509.90 2.69 -73.11
24...	1512.60 2.70 -73.10	1515.30 2.71 -73.10	1518.01 2.72 -73.09	1520.73 2.73 -73.08	1523.45 2.74 -73.07	1526.19 2.75 -73.06	1528.94 2.75 -73.05	1531.69 2.76 -73.04	1534.45 2.77 -73.03	1537.22 2.78 -73.02
25...	1540.00 2.79 -73.01	1542.79 2.80 -73.01	1545.59 2.81 -73.00	1548.40 2.81 -72.99	1551.21 2.82 -72.98	1554.03 2.83 -72.97	1556.87 2.84 -72.96	1559.71 2.85 -72.96	1562.56 2.86 -72.95	1565.41 2.87 -72.94
26...	1568.28 2.88 -72.93	1571.16 2.88 -72.92	1574.04 2.89 -72.92	1576.93 2.90 -72.91	1579.83 2.91 -72.90	1582.74 2.92 -72.89	1585.66 2.93 -72.88	1588.59 2.94 -72.88	1591.52 2.94 -72.87	1594.47 2.95 -72.86
27...	1597.42 2.96 -72.85	1600.38 2.97 -72.85	1603.35 2.98 -72.84	1606.33 2.99 -72.83	1609.31 3.00 -72.82	1612.31 3.00 -72.82	1615.31 3.01 -72.81	1618.32 3.02 -72.80	1621.35 3.03 -72.79	1624.37 3.04 -72.79

TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 20.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
28...	1627.41 3.05 -72.78	1630.46 3.05 -72.77	1633.51 3.06 -72.77	1636.57 3.07 -72.76	1639.65 3.08 -72.75	1642.73 3.09 -72.75	1645.81 3.10 -72.74	1648.91 3.10 -72.73	1652.02 3.11 -72.73	1655.13 3.12 -72.72
29...	1658.25 3.13 -72.71	1661.38 3.14 -72.71	1664.52 3.15 -72.70	1667.67 3.16 -72.69	1670.82 3.16 -72.69	1673.99 3.17 -72.68	1677.16 3.18 -72.68	1680.34 3.19 -72.67	1683.53 3.20 -72.66	1686.73 3.21 -72.66
30...	1689.93 3.21 -72.65	1693.15 3.22 -72.65	1696.37 3.23 -72.64	1699.60 3.24 -72.63	1702.84 3.25 -72.63	1706.09 3.26 -72.62	1709.34 3.26 -72.62	1712.61 3.27 -72.61	1715.88 3.28 -72.61	1719.16 3.29 -72.60
31...	1722.45 3.30 -72.59	1725.75 3.31 -72.59	1729.05 3.31 -72.58	1732.37 3.32 -72.58	1735.69 3.33 -72.57	1739.02 3.34 -72.57	1742.36 3.35 -72.56	1745.70 3.36 -72.56	1749.06 3.36 -72.55	1752.42 3.37 -72.55
32...	1755.80 3.38 -72.54	1759.18 3.39 -72.54	1762.57 3.40 -72.53	1765.96 3.41 -72.53	1769.37 3.41 -72.52	1772.78 3.42 -72.52	1776.20 3.43 -72.51	1779.63 3.44 -72.51	1783.07 3.45 -72.50	1786.52 3.45 -72.50
33...	1789.97 3.46 -72.49	1793.44 3.47 -72.49	1796.91 3.48 -72.48	1800.39 3.49 -72.48	1803.87 3.50 -72.47	1807.37 3.50 -72.47	1810.87 3.51 -72.46	1814.39 3.52 -72.46	1817.91 3.53 -72.46	1821.44 3.54 -72.45

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 20.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
34...	1824.97 3.55 -72.41	1828.52 3.55 -72.44	1832.07 3.56 -72.44	1835.63 3.57 -72.43	1839.20 3.58 -72.43	1842.76 3.59 -72.43	1846.37 3.59 -72.42	1849.96 3.60 -72.42	1853.56 3.61 -72.41	1857.17 3.62 -72.41
35...	1860.79 3.63 -72.41	1864.42 3.64 -72.40	1868.06 3.64 -72.40	1871.70 3.65 -72.39	1875.35 3.66 -72.39	1879.01 3.67 -72.39	1882.68 3.68 -72.38	1886.36 3.68 -72.38	1890.04 3.69 -72.38	1893.73 3.70 -72.37

TABLE 2 —  $10^4 \Delta_{\sigma_t}$  FOR SALINITY 21.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	1076.7 0.1 -78.0	1076.8 0.1 -78.0	1076.9 0.1 -78.1	1077.0 0.1 -78.1	1077.1 0.2 -78.1	1077.3 0.1 -78.2	1077.4 0.2 -78.2	1077.6 0.2 -78.2	1077.8 0.2 -78.3	1078.0 0.2 -78.3
-0---	1076.8 -0.1 -77.7	1076.7 -0.1 -77.7	1076.6 0.0 -77.7	1076.6 0.0 -77.8	1076.6 0.0 -77.9	1076.6 0.0 -77.9	1076.6 0.0 -77.9	1076.6 0.0 -77.9	1076.6 0.0 -77.9	1076.6 0.1 -77.9
+0---	1076.8 0.0 -77.7	1076.8 0.1 -77.6	1076.9 0.2 -77.6	1077.1 0.1 -77.6	1077.2 0.2 -77.5	1077.4 0.1 -77.5	1077.5 0.2 -77.4	1077.7 0.2 -77.4	1077.9 0.2 -77.4	1078.1 0.2 -77.4
1----	1078.3 0.2 -77.3	1078.5 0.3 -77.3	1078.8 0.2 -77.3	1079.0 0.3 -77.2	1079.3 0.3 -77.2	1079.6 0.3 -77.2	1079.9 0.3 -77.2	1080.2 0.4 -77.1	1080.6 0.3 -77.1	1080.9 0.3 -77.0
2----	1081.2 0.4 -77.0	1081.6 0.4 -77.0	1082.0 0.4 -77.0	1082.4 0.4 -76.9	1082.8 0.5 -76.9	1083.3 0.5 -76.9	1083.8 0.4 -76.9	1084.2 0.5 -76.9	1084.7 0.4 -76.9	1085.1 0.5 -76.8
3----	1885.6 0.5 -76.7	1086.1 0.6 -76.7	1086.7 0.5 -76.7	1087.2 0.5 -76.7	1087.7 0.6 -76.6	1088.3 0.6 -76.6	1088.9 0.6 -76.6	1089.5 0.6 -76.6	1090.1 0.6 -76.5	1090.7 0.6 -76.5
4----	1091.3 0.7 -76.5	1092.0 0.6 -76.5	1092.6 0.7 -76.4	1093.3 0.7 -76.4	1094.0 0.7 -76.4	1094.7 0.7 -76.4	1095.4 0.7 -76.3	1096.1 0.7 -76.3	1096.8 0.8 -76.3	1097.6 0.7 -76.3
5----	1088.3 0.8 -76.3	1099.1 0.8 -76.2	1099.9 0.8 -76.2	1100.7 0.8 -76.2	1101.5 0.8 -76.1	1102.3 0.8 -76.1	1103.1 0.9 -76.0	1104.0 0.8 -76.0	1104.8 0.9 -76.0	1105.7 0.9 -76.0

TABLE 2  $-10^4 \Delta_{s,t}$  FOR SALINITY 21.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6-----	1106.6 0.9 -76.0	1107.5 0.9 -75.9	1108.4 0.9 -75.9	1109.3 1.0 -75.9	1110.3 0.9 -75.9	1111.2 0.9 -75.9	1112.1 1.0 -75.8	1113.1 1.0 -75.8	1114.1 1.0 -75.8	1115.1 1.0 -75.8
7-----	1116.1 1.0 -75.8	1117.1 1.0 -75.7	1118.1 1.1 -75.7	1119.2 1.0 -75.7	1120.2 1.1 -75.6	1121.3 1.0 -75.6	1122.3 1.1 -75.5	1123.4 1.1 -75.5	1124.5 1.2 -75.5	1125.7 1.1 -75.5
8-----	1126.8 1.1 -75.5	1127.9 1.1 -75.5	1129.0 1.2 -75.4	1130.2 1.1 -75.4	1131.3 1.2 -75.3	1132.5 1.2 -75.5	1133.7 1.2 -75.3	1134.9 1.3 -75.3	1136.2 1.2 -75.3	1137.4 1.2 -75.3
9-----	1138.6 1.3 -75.3	1139.9 1.2 -75.3	1141.1 1.3 -75.2	1142.4 1.3 -75.2	1143.7 1.3 -75.2	1145.0 1.3 -75.2	1146.3 1.3 -75.2	1147.6 1.3 -75.2	1148.9 1.3 -75.1	1150.2 1.4 -75.1
10-----	1151.6 1.3 -75.1	1152.9 1.4 -75.0	1154.3 1.4 -75.0	1155.7 1.4 -75.0	1157.1 1.4 -75.0	1158.5 1.4 -75.0	1159.9 1.4 -74.9	1161.3 1.4 -74.9	1162.7 1.5 -74.9	1164.2 1.5 -74.9
11-----	1165.7 1.4 -74.9	1167.1 1.5 -74.8	1168.6 1.5 -74.8	1170.1 1.5 -74.8	1171.6 1.5 -74.8	1173.1 1.5 -74.8	1174.6 1.5 -74.7	1176.1 1.6 -74.7	1177.7 1.5 -74.7	1179.2 1.5 -74.7
12-----	1180.7 1.6 -74.6	1182.3 1.7 -74.6	1184.0 1.6 -74.6	1185.6 1.6 -74.6	1187.2 1.6 -74.6	1188.8 1.6 -74.6	1190.4 1.7 -74.6	1192.1 1.6 -74.6	1193.7 1.7 -74.5	1195.4 1.7 -74.5
13-----	1197.1 1.6 -74.5	1198.7 1.7 -74.5	1200.4 1.7 -74.5	1202.1 1.7 -74.4	1203.8 1.7 -74.4	1205.5 1.7 -74.4	1207.2 1.8 -74.4	1209.0 1.7 -74.4	1210.7 1.8 -74.3	1212.5 1.8 -74.3

TABLE 2  $-10^4 \Delta_{\sigma_t}$  FOR SALINITY 21.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14----	1214.3 1.7 -74.3	1216.0 1.8 -74.2	1217.8 1.8 -74.2	1219.6 1.8 -74.2	1221.4 1.9 -74.2	1223.3 1.8 -74.2	1225.1 1.8 -74.2	1226.9 1.9 -74.2	1228.8 1.8 -74.2	1230.6 1.9 -74.1
15----	1232.5 1.9 -74.1	1234.4 1.9 -74.1	1236.3 1.9 -74.1	1238.2 1.9 -74.1	1240.1 1.9 -74.1	1242.0 1.9 -74.1	1243.9 2.0 -74.0	1245.9 1.9 -74.0	1247.8 2.0 -74.0	1249.8 1.9 -74.0
16----	1251.7 2.0 -73.9	1253.7 2.0 -73.9	1255.7 2.0 -73.9	1257.7 2.0 -73.9	1259.7 2.0 -73.9	1261.7 2.1 -73.9	1263.8 2.0 -73.9	1265.8 2.1 -73.9	1267.9 2.0 -73.9	1269.9 2.1 -73.9
17----	1272.0 2.0 -73.9	1274.0 2.1 -73.8	1276.1 2.1 -73.8	1278.2 2.1 -73.8	1280.3 2.1 -73.8	1282.4 2.1 -73.7	1284.5 2.1 -73.7	1286.6 2.2 -73.7	1288.8 2.2 -73.7	1291.0 2.1 -73.7
18----	1293.1 2.2 -73.7	1295.3 2.2 -73.7	1297.5 2.2 -73.7	1299.7 2.2 -73.7	1301.9 2.2 -73.7	1304.1 2.2 -73.7	1306.3 2.2 -73.6	1308.5 2.2 -73.6	1310.7 2.3 -73.6	1313.0 2.2 -73.6
19----	1315.2 2.3 -73.6	1317.5 2.3 -73.6	1319.8 2.3 -73.6	1322.1 2.3 -73.6	1324.4 2.3 -73.6	1326.7 2.3 -73.6	1329.0 2.3 -73.5	1331.3 2.3 -73.5	1333.6 2.4 -73.5	1336.0 2.3 -73.5
20----	1338.3 2.3 -73.5	1340.6 2.4 -73.4	1343.0 2.4 -73.4	1345.4 2.3 -73.4	1347.7 2.4 -73.3	1350.1 2.4 -73.3	1352.5 2.4 -73.3	1354.9 2.4 -73.3	1357.3 2.4 -73.3	1359.7 2.5 -73.3
21----	1362.2 2.5 -73.3	1364.7 2.5 -73.3	1367.2 2.4 -73.3	1369.6 2.5 -73.3	1372.1 2.5 -73.3	1374.6 2.5 -73.3	1377.1 2.4 -73.3	1379.5 2.5 -73.2	1382.0 2.5 -73.2	1384.5 2.5 -73.2

TABLE 2 —  $10^4 \Delta_{\sigma_t}$  FOR SALINITY 21.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22	1387.0 2.6 -73.2	1389.6 2.6 -73.2	1392.2 2.5 -73.2	1394.7 2.6 -73.2	1397.3 2.6 -73.2	1399.9 2.6 -73.2	1402.5 2.5 -73.2	1405.0 2.6 -73.1	1407.6 2.6 -73.1	1410.2 2.7 -73.1
23	1412.9 2.6 -73.1	1415.5 2.6 -73.1	1418.1 2.7 -73.1	1420.8 2.6 -73.1	1423.4 2.6 -73.1	1426.0 2.7 -73.1	1428.7 2.7 -73.1	1431.4 2.7 -73.1	1434.1 2.7 -73.1	1436.8 2.7 -73.1
24	1439.5 2.7 -73.0	1442.2 2.7 -73.0	1444.9 2.8 -73.0	1447.7 2.7 -73.0	1450.4 2.8 -73.0	1453.2 2.7 -73.0	1455.9 2.7 -73.0	1458.6 2.8 -73.0	1461.4 2.8 -73.0	1464.2 2.8 -73.0
25	1467.0 2.8 -73.0	1469.8 2.8 -73.0	1472.6 2.8 -72.9	1475.4 2.8 -72.9	1478.2 2.8 -72.9	1481.0 2.9 -72.9	1483.9 2.8 -72.9	1486.7 2.9 -72.9	1489.6 2.9 -72.9	1492.5 2.8 -72.9
26	1495.3 2.9 -72.9	1498.2 2.9 -72.9	1501.1 2.9 -72.9	1504.0 2.9 -72.8	1506.9 2.9 -72.8	1509.8 3.0 -72.8	1512.8 2.9 -72.8	1515.7 2.9 -72.8	1518.6 3.0 -72.8	1521.6 3.0 -72.8
27	1524.6 2.9 -72.8	1527.5 3.0 -72.8	1530.5 3.0 -72.8	1533.5 3.0 -72.8	1536.5 3.0 -72.8	1539.5 3.0 -72.8	1542.5 3.0 -72.8	1545.5 3.0 -72.8	1548.5 3.1 -72.7	1551.6 3.0 -72.7
28	1554.0 3.1 -72.7	1557.7 3.1 -72.7	1560.8 3.0 -72.7	1563.8 3.1 -72.7	1566.9 3.1 -72.7	1570.0 3.1 -72.7	1573.1 3.1 -72.7	1576.2 3.1 -72.7	1579.3 3.2 -72.7	1582.5 3.1 -72.7
29	1585.6 3.1 -72.7	1588.7 3.2 -72.7	1591.9 3.2 -72.7	1595.1 3.2 -72.7	1598.3 3.1 -72.7	1601.4 3.2 -72.7	1604.6 3.1 -72.7	1607.7 3.2 -72.7	1610.9 3.2 -72.7	1614.1 3.2 -72.6



TABLE 2 - 10<sup>3</sup> st FOR SALINITY 21.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	1617.28 3.22 -72.57	1620.00 3.23 -72.56	1623.75 3.24 -72.56	1626.97 3.25 -72.55	1630.21 3.25 -72.54	1633.46 3.26 -72.54	1636.73 3.27 -72.53	1640.00 3.28 -72.53	1643.27 3.29 -72.52	1646.56 3.29 -72.52
31---	1649.81 3.30 -72.51	1653.16 3.31 -72.51	1656.47 3.32 -72.50	1659.74 3.33 -72.50	1663.12 3.34 -72.49	1666.44 3.34 -72.49	1669.80 3.35 -72.48	1673.15 3.36 -72.48	1676.51 3.37 -72.47	1679.88 3.38 -72.47
32---	1682.26 3.39 -72.46	1686.64 3.39 -72.46	1690.03 3.40 -72.45	1693.41 3.41 -72.45	1696.85 3.42 -72.44	1700.27 3.43 -72.44	1703.69 3.44 -72.43	1707.13 3.44 -72.43	1710.57 3.45 -72.42	1714.02 3.45 -72.42
33---	1717.48 3.47 -72.41	1720.95 3.48 -72.41	1724.41 3.48 -72.41	1727.91 3.49 -72.40	1731.40 3.50 -72.40	1734.90 3.51 -72.39	1738.41 3.52 -72.39	1741.93 3.52 -72.38	1745.46 3.53 -72.38	1748.98 3.53 -72.38
34---	1752.22 3.55 -72.37	1756.07 3.55 -72.37	1759.63 3.57 -72.36	1763.10 3.57 -72.36	1766.77 3.58 -72.36	1770.52 3.59 -72.35	1773.94 3.60 -72.35	1777.44 3.61 -72.35	1781.12 3.61 -72.34	1784.76 3.62 -72.34
35---	1788.37 3.63 -72.33	1792.02 3.64 -72.33	1795.66 3.65 -72.33	1799.30 3.66 -72.32	1802.96 3.66 -72.32	1806.62 3.67 -72.32	1810.30 3.68 -72.31	1813.98 3.69 -72.31	1817.66 3.70 -72.31	1821.36 3.70 -72.30

TABLE 2 — 10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 22.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1	998.7 0.1 -77.8	998.8 0.0 -77.7	998.8 0.1 -77.9	998.9 0.1 -77.9	999.0 0.1 -78.0	999.1 0.1 -78.0	999.2 0.2 -78.0	999.4 0.1 -78.1	999.5 0.2 -78.1	999.7 0.2 -78.1
-0	999.1 -0.1 -77.5	999.0 -0.1 -77.5	998.9 -0.1 -77.6	998.8 -0.1 -77.6	998.7 0.0 -77.6	998.7 0.0 -77.6	998.7 0.0 -77.7	998.7 0.0 -77.6	998.7 0.0 -77.6	998.7 0.0 -77.6
+0	999.1 0.1 -77.8	999.2 0.1 -77.4	999.3 0.2 -77.4	999.5 0.2 -77.4	999.7 0.2 -77.4	999.9 0.2 -77.4	1000.1 0.2 -77.6	1000.3 0.2 -77.4	1000.5 0.2 -77.3	1000.7 0.3 -77.2
1	1001.0 0.2 -77.2	1001.2 0.3 -77.2	1001.5 0.3 -77.2	1001.8 0.3 -77.1	1002.1 0.3 -77.1	1002.4 0.3 -77.1	1002.7 0.4 -77.0	1003.1 0.4 -77.0	1003.5 0.4 -77.0	1003.9 0.3 -77.0
2	1004.2 0.4 -76.9	1004.6 0.4 -76.8	1005.0 0.5 -76.8	1005.5 0.4 -76.8	1005.9 0.5 -76.7	1006.4 0.5 -76.7	1006.9 0.4 -76.7	1007.3 0.5 -76.6	1007.8 0.5 -76.6	1008.3 0.6 -76.6
3	1008.9 0.5 -76.6	1009.4 0.6 -76.6	1010.0 0.5 -76.6	1010.5 0.6 -76.5	1011.1 0.6 -76.5	1011.7 0.6 -76.5	1012.3 0.6 -76.5	1012.9 0.7 -76.4	1013.6 0.6 -76.4	1014.2 0.6 -76.4
4	1014.8 0.7 -76.3	1015.5 0.7 -76.3	1016.2 0.7 -76.3	1016.9 0.7 -76.3	1017.6 0.7 -76.2	1018.3 0.8 -76.2	1019.1 0.7 -76.2	1019.8 0.7 -76.1	1020.5 0.8 -76.1	1021.3 0.8 -76.1
5	1022.1 0.8 -76.1	1022.9 0.8 -76.0	1023.7 0.8 -76.0	1024.5 0.9 -75.9	1025.4 0.8 -75.9	1026.2 0.9 -75.9	1027.1 0.9 -75.9	1028.0 0.5 -75.9	1028.8 0.9 -75.8	1029.7 0.9 -75.8

TABLE 2 — 10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 22.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6	1030.6 1.0 -75.8	1031.6 0.9 -75.8	1032.5 0.9 -75.4	1033.4 1.0 -75.7	1034.4 0.9 -75.7	1035.3 1.0 -75.6	1036.3 1.0 -75.6	1037.3 1.0 -75.6	1038.3 1.0 -75.6	1039.3 1.0 -75.6
7	1040.3 1.1 -75.6	1041.4 1.0 -75.5	1042.4 1.1 -75.5	1043.5 1.1 -75.5	1044.6 1.1 -75.6	1045.7 1.1 -75.5	1046.8 1.1 -75.5	1047.9 1.1 -75.4	1049.0 1.2 -75.4	1050.2 1.1 -75.4
8	1051.3 1.1 -75.3	1052.4 1.2 -75.3	1053.6 1.2 -75.3	1054.8 1.2 -75.3	1056.0 1.2 -75.3	1057.2 1.2 -75.3	1058.4 1.2 -75.2	1059.6 1.3 -75.2	1060.9 1.2 -75.2	1062.1 1.2 -75.1
9	1063.3 1.3 -75.1	1064.6 1.3 -75.1	1065.9 1.3 -75.1	1067.2 1.3 -75.0	1068.5 1.3 -75.0	1069.8 1.3 -75.0	1071.1 1.3 -75.0	1072.4 1.4 -74.9	1073.8 1.3 -74.9	1075.1 1.4 -74.9
10	1076.5 1.4 -74.9	1077.9 1.4 -74.9	1079.3 1.4 -74.8	1080.7 1.4 -74.8	1082.1 1.4 -74.8	1083.5 1.5 -74.8	1085.0 1.4 -74.8	1086.4 1.4 -74.7	1087.8 1.5 -74.7	1089.3 1.5 -74.7
11	1090.8 1.6 -74.7	1092.3 1.6 -74.7	1093.8 1.6 -74.7	1095.3 1.6 -74.6	1096.8 1.6 -74.6	1098.3 1.6 -74.6	1099.9 1.5 -74.6	1101.4 1.6 -74.6	1103.0 1.6 -74.6	1104.5 1.6 -74.6
12	1106.1 1.6 -74.5	1107.7 1.7 -74.5	1109.4 1.6 -74.5	1111.0 1.6 -74.5	1112.6 1.6 -74.4	1114.2 1.6 -74.4	1115.8 1.7 -74.4	1117.5 1.7 -74.4	1119.2 1.7 -74.4	1120.9 1.7 -74.4
13	1122.6 1.6 -74.4	1124.2 1.7 -74.3	1125.9 1.6 -74.3	1127.7 1.7 -74.3	1129.4 1.7 -74.3	1131.1 1.7 -74.3	1132.8 1.8 -74.2	1134.6 1.8 -74.2	1136.4 1.8 -74.2	1138.2 1.8 -74.2

TABLE 2 --10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 22.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14-----	1140.0 1.8 -74.2	1141.8 1.8 -74.2	1143.6 1.8 -74.2	1145.4 1.8 -74.1	1147.2 1.9 -74.1	1149.1 1.8 -74.1	1150.9 1.8 -74.1	1152.7 1.9 -74.0	1154.6 1.9 -74.0	1156.5 1.9 -74.0
15-----	1158.4 1.9 -74.0	1160.3 1.9 -74.0	1162.2 1.9 -74.0	1164.1 1.9 -74.0	1166.0 1.9 -73.9	1167.9 2.0 -73.9	1169.9 2.0 -73.9	1171.9 1.9 -73.9	1173.8 2.0 -73.9	1175.8 2.0 -73.9
16-----	1177.8 2.0 -73.9	1179.8 2.0 -73.9	1181.8 2.0 -73.9	1183.8 2.0 -73.8	1185.8 2.0 -73.8	1187.8 2.1 -73.8	1189.9 2.0 -73.8	1191.9 2.1 -73.7	1194.0 2.0 -73.7	1196.0 2.1 -73.7
17-----	1198.1 2.1 -73.7	1200.2 2.1 -73.7	1202.3 2.1 -73.7	1204.4 2.1 -73.6	1206.5 2.2 -73.6	1208.7 2.1 -73.6	1210.8 2.1 -73.6	1213.9 2.2 -73.6	1215.1 2.2 -73.6	1217.3 2.1 -73.6
18-----	1219.4 2.2 -73.5	1221.6 2.2 -73.5	1223.8 2.2 -73.5	1226.0 2.2 -73.5	1228.2 2.2 -73.5	1230.4 2.3 -73.5	1232.7 2.2 -73.5	1234.9 2.2 -73.5	1237.1 2.3 -73.4	1239.4 2.2 -73.4
19-----	1241.6 2.3 -73.4	1243.9 2.3 -73.4	1246.2 2.3 -73.4	1248.5 2.3 -73.4	1250.8 2.3 -73.4	1253.1 2.4 -73.4	1255.5 2.3 -73.4	1257.8 2.3 -73.3	1260.1 2.4 -73.3	1262.5 2.3 -73.3
20-----	1264.8 2.4 -73.3	1267.2 2.4 -73.3	1269.6 2.4 -73.3	1272.0 2.4 -73.3	1274.4 2.4 -73.3	1276.8 2.4 -73.3	1279.2 2.4 -73.3	1281.6 2.4 -73.3	1284.0 2.4 -73.3	1286.4 2.5 -73.2
21-----	1288.9 2.5 -73.2	1291.4 2.5 -73.2	1293.9 2.4 -73.2	1296.3 2.5 -73.2	1298.8 2.5 -73.2	1301.3 2.5 -73.2	1303.8 2.5 -73.2	1306.3 2.5 -73.1	1308.8 2.5 -73.1	1311.3 2.5 -73.1

TABLE 2  $-10^{\Delta_{s,t}}$  FOR SALINITY 22.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22-----	1313.8 2.6 -73.1	1316.4 2.6 -73.1	1319.0 2.5 -73.1	1321.5 2.6 -73.1	1324.1 2.6 -73.1	1326.7 2.6 -73.1	1329.3 2.6 -73.1	1331.9 2.6 -73.1	1334.5 2.6 -73.0	1337.1 2.7 -73.0
23-----	1339.8 2.6 -73.0	1342.4 2.6 -73.0	1345.0 2.7 -73.0	1347.7 2.6 -73.0	1350.3 2.6 -73.0	1353.9 2.7 -72.9	1356.6 2.7 -72.9	1358.3 2.7 -72.9	1361.0 2.7 -72.9	1363.7 2.8 -72.9
24-----	1366.5 2.7 -72.9	1369.2 2.7 -72.9	1371.9 2.8 -72.9	1374.7 2.7 -72.9	1377.4 2.8 -72.9	1380.2 2.7 -72.9	1382.9 2.7 -72.8	1385.6 2.8 -72.8	1388.4 2.8 -72.8	1391.2 2.8 -72.8
25-----	1394.0 2.8 -72.8	1396.8 2.9 -72.8	1399.7 2.8 -72.8	1402.5 2.8 -72.8	1405.3 2.8 -72.8	1408.1 2.9 -72.8	1411.0 2.8 -72.8	1413.8 2.9 -72.7	1416.7 2.9 -72.7	1419.6 2.8 -72.7
26-----	1422.4 2.9 -72.7	1425.3 2.9 -72.7	1428.2 3.0 -72.7	1431.2 2.9 -72.7	1434.1 2.9 -72.7	1437.0 3.0 -72.7	1440.0 2.9 -72.7	1442.9 2.9 -72.7	1445.8 3.0 -72.7	1448.8 3.0 -72.7
27-----	1451.8 2.9 -72.7	1454.7 3.0 -72.6	1457.7 3.0 -72.6	1460.7 3.0 -72.6	1463.7 3.0 -72.6	1466.7 3.0 -72.6	1469.7 3.0 -72.6	1472.7 3.1 -72.6	1475.8 3.1 -72.6	1478.9 3.0 -72.6
28-----	1481.9 3.1 -72.6	1485.0 3.1 -72.6	1488.1 3.0 -72.6	1491.1 3.1 -72.6	1494.2 3.1 -72.6	1497.3 3.1 -72.6	1500.4 3.1 -72.6	1503.5 3.1 -72.6	1506.6 3.2 -72.5	1509.8 3.1 -72.5
29-----	1512.9 3.1 -72.5	1516.0 3.2 -72.5	1519.2 3.2 -72.5	1522.4 3.2 -72.5	1525.6 3.1 -72.5	1528.7 3.2 -72.5	1531.9 3.1 -72.5	1535.0 3.2 -72.5	1538.2 3.3 -72.5	1541.5 3.2 -72.5

TABLE 2 -  $10^5 \Delta$  at FOR SALINITY 22.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	1544.71 3.23 -72.49	1547.94 3.23 -72.48	1551.17 3.24 -72.48	1554.42 3.25 -72.47	1557.67 3.26 -72.46	1560.92 3.27 -72.46	1564.19 3.28 -72.45	1567.47 3.28 -72.45	1570.75 3.29 -72.44	1574.04 3.30 -72.44
31---	1577.34 3.31 -72.43	1580.65 3.32 -72.43	1583.97 3.32 -72.42	1587.29 3.33 -72.42	1590.63 3.34 -72.41	1593.97 3.35 -72.41	1597.32 3.36 -72.40	1600.67 3.37 -72.40	1604.04 3.37 -72.39	1607.41 3.38 -72.39
32---	1610.75 3.39 -72.38	1614.18 3.40 -72.38	1617.56 3.41 -72.38	1620.99 3.41 -72.37	1624.40 3.42 -72.37	1627.83 3.43 -72.36	1631.26 3.44 -72.36	1634.70 3.45 -72.35	1638.11 3.46 -72.35	1641.60 3.46 -72.34
33---	1645.07 3.47 -72.34	1648.54 3.48 -72.34	1652.02 3.49 -72.33	1655.51 3.50 -72.33	1659.00 3.50 -72.32	1662.51 3.51 -72.32	1666.02 3.52 -72.32	1669.54 3.53 -72.31	1673.07 3.54 -72.31	1676.61 3.55 -72.30
34---	1680.15 3.55 -72.30	1683.71 3.56 -72.30	1687.27 3.57 -72.29	1690.84 3.58 -72.29	1694.42 3.59 -72.29	1698.00 3.59 -72.28	1701.60 3.60 -72.28	1705.20 3.61 -72.28	1708.81 3.62 -72.27	1712.43 3.63 -72.27
35---	1716.05 3.63 -72.27	1719.69 3.64 -72.26	1723.33 3.65 -72.26	1726.98 3.66 -72.26	1730.64 3.67 -72.25	1734.31 3.68 -72.25	1737.98 3.68 -72.25	1741.67 3.69 -72.24	1745.36 3.70 -72.24	1749.06 3.71 -72.24

TABLE 2 —  $10^3 \Delta_{\sigma_t}$  FOR SALINITY 23.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	920.9 0.0 -77.7	920.9 0.0 -77.7	920.9 0.1 -77.7	921.0 0.0 -77.8	921.0 0.1 -77.8	921.1 0.1 -77.9	921.2 0.1 -77.9	921.3 0.1 -77.9	921.4 0.2 -77.9	921.6 0.1 -78.0
-0---	921.6 -0.1 -77.4	921.5 -0.2 -77.4	921.3 -0.1 -77.4	921.2 -0.1 -77.4	921.1 0.0 -77.5	921.1 -0.1 -77.6	921.0 -0.1 -77.6	920.9 0.0 -77.6	920.9 0.0 -77.6	920.9 0.0 -77.7
+0---	921.6 0.2 -77.4	921.8 0.1 -77.4	921.9 0.2 -77.3	922.1 0.2 -77.3	922.3 0.2 -77.3	922.5 0.2 -77.2	922.7 0.2 -77.2	922.9 0.3 -77.1	923.2 0.3 -77.1	923.5 0.3 -77.1
1---	923.8 0.3 -77.1	924.0 0.3 -77.0	924.3 0.4 -77.0	924.7 0.3 -77.0	925.0 0.3 -76.9	925.3 0.4 -76.9	925.7 0.4 -76.9	926.1 0.4 -76.8	926.5 0.4 -76.8	926.9 0.4 -76.8
2---	927.3 0.5 -76.7	927.8 0.4 -76.7	928.2 0.5 -76.7	928.7 0.5 -76.7	929.2 0.5 -76.7	929.7 0.5 -76.7	930.2 0.5 -76.7	930.7 0.5 -76.6	931.2 0.5 -76.6	931.7 0.6 -76.5
3---	932.3 0.5 -76.5	932.8 0.6 -76.4	933.4 0.6 -76.4	934.0 0.6 -76.4	934.6 0.6 -76.4	935.2 0.6 -76.3	935.8 0.7 -76.3	936.5 0.7 -76.3	937.2 0.6 -76.3	937.8 0.7 -76.2
4---	938.5 0.7 -76.2	939.2 0.7 -76.2	939.9 0.7 -76.1	940.6 0.8 -76.1	941.4 0.7 -76.1	942.1 0.8 -76.1	942.9 0.8 -76.1	943.7 0.7 -76.1	944.4 0.8 -76.0	945.2 0.8 -76.0
5---	946.0 0.9 -76.0	946.9 0.8 -76.0	947.7 0.9 -76.9	948.6 0.9 -76.9	949.5 0.8 -76.9	950.3 0.9 -76.9	951.2 0.9 -76.8	952.1 0.9 -76.8	953.0 0.9 -76.8	953.9 0.9 -75.7

TABLE 2 —10<sup>5</sup>Δ<sub>s</sub>, FOR SALINITY 23.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6	954.8 1.0 -75.7	955.8 0.9 -75.7	956.7 1.0 -75.7	957.7 1.0 -75.7	958.7 1.0 -75.6	959.7 1.0 -75.6	960.7 1.0 -75.6	961.7 1.0 -75.6	962.7 1.1 -75.5	963.8 1.0 -75.5
7	964.8 1.1 -75.6	965.9 1.0 -75.5	966.9 1.1 -75.4	968.0 1.1 -75.4	969.1 1.1 -75.4	970.2 1.1 -75.3	971.3 1.2 -75.3	972.5 1.1 -75.3	973.6 1.2 -75.3	974.8 1.2 -75.3
8	976.0 1.1 -75.3	977.1 1.2 -75.2	978.3 1.2 -75.2	979.5 1.2 -75.1	980.7 1.2 -75.1	981.9 1.3 -75.1	983.2 1.2 -75.1	984.4 1.3 -75.1	985.7 1.3 -75.1	987.0 1.2 -75.1
9	988.2 1.3 -75.0	989.5 1.3 -75.0	990.8 1.4 -75.0	992.2 1.3 -75.0	993.5 1.3 -75.0	994.8 1.3 -74.9	996.1 1.4 -74.9	997.5 1.4 -74.9	998.9 1.3 -74.9	1000.2 1.4 -74.8
10	1001.6 1.4 -74.8	1003.0 1.5 -74.8	1004.5 1.4 -74.8	1005.9 1.4 -74.8	1007.3 1.4 -74.8	1008.7 1.5 -74.7	1010.2 1.5 -74.7	1011.7 1.4 -74.7	1013.1 1.5 -74.6	1014.6 1.5 -74.6
11	1016.1 1.5 -74.6	1017.6 1.5 -74.6	1019.1 1.6 -74.6	1020.7 1.5 -74.6	1022.2 1.5 -74.5	1023.7 1.6 -74.5	1025.3 1.5 -74.5	1026.8 1.6 -74.4	1028.4 1.6 -74.4	1030.0 1.6 -74.4
12	1031.6 1.6 -74.4	1033.2 1.7 -74.4	1034.9 1.6 -74.4	1036.5 1.7 -74.4	1038.2 1.6 -74.4	1039.8 1.6 -74.3	1041.4 1.7 -74.3	1043.1 1.7 -74.3	1044.8 1.7 -74.3	1046.5 1.7 -74.3
13	1048.2 1.7 -74.2	1049.9 1.7 -74.2	1051.6 1.8 -74.2	1053.4 1.7 -74.2	1055.1 1.8 -74.2	1056.9 1.7 -74.2	1058.6 1.8 -74.1	1060.4 1.8 -74.1	1062.2 1.8 -74.1	1064.0 1.8 -74.1



TABLE 2 —  $10^4 \Delta_{s,t}$  FOR SALINITY 23.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14	1065.8 1.8 -74.1	1067.6 1.8 -74.0	1069.4 1.9 -74.0	1071.3 1.8 -74.0	1073.1 1.9 -74.0	1075.0 1.8 -74.0	1076.8 1.9 -74.0	1078.7 1.9 -74.0	1080.6 1.9 -74.0	1082.5 1.9 -74.0
15	1084.4 1.9 -74.0	1086.3 1.9 -73.9	1088.2 1.9 -73.9	1090.1 2.0 -73.9	1092.1 1.9 -73.9	1094.0 2.0 -73.8	1096.0 2.0 -73.8	1098.0 1.9 -73.8	1099.9 2.0 -73.8	1101.9 2.0 -73.8
16	1103.9 2.0 -73.8	1105.9 2.0 -73.7	1107.9 2.1 -73.7	1110.0 2.0 -73.7	1112.0 2.0 -73.7	1114.0 2.1 -73.7	1116.1 2.1 -73.7	1118.2 2.1 -73.7	1120.3 2.0 -73.7	1122.3 2.1 -73.6
17	1124.4 2.1 -73.6	1126.5 2.1 -73.6	1128.6 2.2 -73.6	1130.8 2.1 -73.6	1132.9 2.2 -73.6	1135.1 2.1 -73.6	1137.2 2.1 -73.5	1139.3 2.2 -73.5	1141.5 2.2 -73.5	1143.7 2.2 -73.5
18	1145.9 2.2 -73.5	1148.1 2.2 -73.5	1150.3 2.2 -73.5	1152.5 2.2 -73.5	1154.7 2.2 -73.4	1156.9 2.3 -73.4	1159.2 2.2 -73.4	1161.4 2.3 -73.4	1163.7 2.3 -73.4	1166.0 2.2 -73.4
19	1168.2 2.3 -73.3	1170.5 2.3 -73.3	1172.8 2.3 -73.3	1175.1 2.3 -73.3	1177.4 2.3 -73.3	1179.7 2.4 -73.3	1182.1 2.4 -73.3	1184.5 2.3 -73.3	1186.8 2.4 -73.3	1189.2 2.3 -73.3
20	1191.5 2.4 -73.2	1193.9 2.4 -73.2	1196.3 2.4 -73.2	1198.7 2.4 -73.2	1201.1 2.4 -73.2	1203.5 2.4 -73.2	1205.9 2.4 -73.2	1208.3 2.4 -73.1	1210.7 2.5 -73.1	1213.2 2.5 -73.1
21	1215.7 2.5 -73.1	1218.2 2.5 -73.1	1220.7 2.4 -73.1	1223.1 2.5 -73.1	1225.6 2.5 -73.1	1228.1 2.5 -73.0	1230.6 2.6 -73.0	1233.2 2.5 -73.0	1235.7 2.5 -73.0	1238.2 2.6 -73.0

TABLE 2 —10<sup>5</sup>Δ<sub>s</sub>: FOR SALINITY 23.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22-----	1240.7 2.6 -73.0	1243.3 2.6 -73.0	1245.9 2.5 -73.0	1248.4 2.6 -73.0	1251.0 2.6 -73.0	1253.6 2.6 -73.0	1256.2 2.6 -73.0	1258.8 2.7 -72.9	1261.5 2.6 -72.9	1264.1 2.7 -72.9
23-----	1266.8 2.6 -72.9	1269.4 2.6 -72.9	1272.0 2.7 -72.9	1274.7 2.6 -72.9	1277.3 2.7 -72.8	1280.0 2.7 -72.8	1282.7 2.7 -72.8	1285.4 2.7 -72.8	1288.1 2.7 -72.8	1290.8 2.8 -72.8
24-----	1293.6 2.7 -72.8	1296.3 2.7 -72.8	1299.0 2.8 -72.8	1301.8 2.7 -72.8	1304.5 2.8 -72.8	1307.3 2.8 -72.8	1310.1 2.7 -72.8	1312.8 2.8 -72.8	1315.6 2.8 -72.8	1318.4 2.8 -72.8
25-----	1321.2 2.8 -72.7	1324.0 2.8 -72.7	1326.9 2.8 -72.7	1329.7 2.8 -72.7	1332.5 2.8 -72.7	1335.3 2.9 -72.7	1338.2 2.9 -72.7	1341.1 2.9 -72.7	1344.0 2.9 -72.7	1346.9 2.8 -72.7
26-----	1349.7 2.9 -72.6	1352.6 2.9 -72.6	1355.5 3.0 -72.6	1358.5 2.9 -72.6	1361.4 2.9 -72.6	1364.3 3.0 -72.6	1367.3 2.9 -72.6	1370.2 2.9 -72.6	1373.1 3.0 -72.6	1376.1 3.0 -72.6
27-----	1379.1 3.0 -72.6	1382.1 3.0 -72.6	1385.1 3.0 -72.6	1388.1 3.0 -72.6	1391.1 3.0 -72.6	1394.1 3.0 -72.6	1397.1 3.0 -72.6	1400.1 3.1 -72.6	1403.2 3.1 -72.6	1406.3 3.0 -72.6
28-----	1409.3 3.1 -72.5	1412.4 3.1 -72.5	1415.5 3.0 -72.5	1418.5 3.1 -72.5	1421.6 3.1 -72.5	1424.7 3.1 -72.5	1427.8 3.1 -72.5	1430.9 3.2 -72.5	1434.1 3.2 -72.5	1437.3 3.1 -72.5
29-----	1440.4 3.1 -72.5	1443.5 3.2 -72.5	1446.7 3.2 -72.5	1449.9 3.2 -72.5	1453.1 3.1 -72.5	1456.2 3.2 -72.5	1459.4 3.1 -72.5	1462.5 3.2 -72.4	1465.7 3.3 -72.4	1469.0 3.1 -72.4

TABLE 2 -  $10^{-4}$  st FOR SALINITY 23.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	1472.23 3.23 -72.41	1475.46 3.24 -72.40	1478.70 3.25 -72.40	1481.95 3.26 -72.39	1485.20 3.26 -72.39	1488.47 3.27 -72.38	1491.74 3.28 -72.38	1495.02 3.29 -72.37	1498.31 3.30 -72.37	1501.60 3.31 -72.36
31---	1504.91 3.31 -72.36	1508.22 3.32 -72.35	1511.54 3.33 -72.35	1514.87 3.34 -72.34	1518.21 3.35 -72.34	1521.56 3.35 -72.33	1524.91 3.36 -72.33	1528.27 3.37 -72.33	1531.64 3.38 -72.32	1535.02 3.39 -72.32
32---	1538.41 3.40 -72.31	1541.81 3.40 -72.31	1545.21 3.41 -72.30	1548.62 3.42 -72.30	1552.04 3.43 -72.29	1555.47 3.44 -72.29	1558.90 3.44 -72.29	1562.35 3.45 -72.28	1565.80 3.46 -72.28	1569.26 3.47 -72.27
33---	1572.72 3.48 -72.27	1576.20 3.48 -72.27	1579.69 3.49 -72.26	1583.18 3.50 -72.26	1586.68 3.51 -72.26	1590.19 3.52 -72.25	1593.70 3.53 -72.25	1597.23 3.53 -72.24	1600.76 3.54 -72.24	1604.30 3.55 -72.24
34---	1607.85 3.56 -72.23	1611.41 3.57 -72.23	1614.97 3.57 -72.23	1618.55 3.58 -72.22	1622.13 3.59 -72.22	1625.72 3.60 -72.22	1629.32 3.61 -72.21	1632.92 3.61 -72.21	1636.54 3.62 -72.21	1640.16 3.63 -72.20
35---	1643.79 3.64 -72.20	1647.42 3.65 -72.20	1651.07 3.65 -72.20	1654.73 3.66 -72.19	1658.39 3.67 -72.19	1662.06 3.68 -72.19	1665.74 3.69 -72.18	1669.42 3.69 -72.18	1673.12 3.70 -72.18	1676.82 3.71 -72.18

TABLE 2 -10 $\Delta$ ., FOR SALINITY 24.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	843.2 0.0 -77.6	843.2 0.0 -77.7	843.2 0.0 -77.7	843.2 0.0 -77.7	843.2 0.0 -77.7	843.2 0.1 -77.7	843.3 0.1 -77.8	843.4 0.1 -77.9	843.5 0.1 -77.9	843.6 0.1 -77.9
-0---	844.2 -0.1 -77.2	844.1 -0.2 -77.3	843.8 -0.2 -77.4	843.6 -0.1 -77.4	843.6 -0.1 -77.4	843.5 -0.1 -77.4	843.4 -0.1 -77.4	843.3 0.0 -77.5	843.3 -0.1 -77.5	843.2 0.0 -77.5
+0---	844.2 0.2 -77.2	844.4 0.2 -77.2	844.8 0.2 -77.2	845.0 0.3 -77.2	845.0 0.3 -77.2	845.3 0.2 -77.2	845.5 0.3 -77.1	845.8 0.3 -77.1	846.1 0.3 -77.1	846.4 0.3 -77.0
1----	846.7 0.3 -77.0	847.0 0.3 -77.0	847.7 0.4 -76.9	848.1 0.3 -76.9	848.1 0.3 -76.9	848.4 0.4 -76.8	848.8 0.6 -76.8	849.3 0.4 -76.8	849.7 0.4 -76.8	850.1 0.4 -76.7
2----	850.6 0.5 -76.7	851.1 0.4 -76.7	852.0 0.5 -76.6	852.5 0.5 -76.5	852.5 0.5 -76.5	853.0 0.5 -76.5	853.5 0.6 -76.5	854.1 0.5 -76.5	854.6 0.6 -76.4	855.2 0.6 -76.4
3----	855.5 0.6 -76.4	856.4 0.6 -76.4	857.0 0.6 -76.4	857.6 0.6 -76.3	858.2 0.7 -76.3	858.9 0.6 -76.3	859.5 0.7 -76.2	860.2 0.7 -76.2	860.9 0.7 -76.2	861.6 0.7 -76.2
4----	862.3 0.7 -76.1	863.0 0.8 -76.1	864.5 0.8 -76.0	865.3 0.7 -76.0	865.3 0.7 -76.0	866.0 0.8 -75.9	866.8 0.8 -75.9	867.6 0.8 -75.8	868.4 0.8 -75.8	869.2 0.8 -75.8
5----	870.0 0.9 -75.8	870.9 0.9 -75.8	872.7 0.9 -75.8	873.6 0.9 -75.8	873.6 0.9 -75.8	874.5 0.9 -75.8	875.4 0.9 -75.8	876.3 0.9 -75.7	877.2 1.0 -75.7	878.2 0.9 -75.7

TABLE 2 —10‰. FOR SALINITY 24.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6-----	879.1 1.0 -75.6	880.1 0.9 -75.6	881.0 1.0 -75.6	882.0 1.1 -75.6	883.1 1.0 -75.6	884.1 1.0 -75.5	885.1 1.0 -75.5	886.1 1.1 -75.4	887.2 1.1 -75.4	888.3 1.0 -75.4
7-----	889.3 1.1 -75.3	890.4 1.1 -75.3	891.5 1.1 -75.3	892.6 1.1 -75.3	893.7 1.2 -75.3	894.9 1.1 -75.3	896.0 1.2 -75.3	897.2 1.1 -75.3	898.3 1.2 -75.2	899.5 1.2 -75.2
8-----	900.7 1.2 -75.1	901.9 1.2 -75.1	903.1 1.3 -75.1	904.4 1.2 -75.1	905.6 1.2 -75.1	906.8 1.3 -75.0	908.1 1.2 -75.0	909.3 1.3 -75.0	910.6 1.3 -75.0	911.9 1.3 -74.9
9-----	913.2 1.3 -74.9	914.5 1.3 -74.9	915.8 1.4 -74.9	917.2 1.3 -74.9	918.5 1.4 -74.8	919.9 1.3 -74.8	921.2 1.4 -74.8	922.6 1.4 -74.8	924.0 1.4 -74.7	925.4 1.4 -74.7
10-----	926.8 1.4 -74.7	928.2 1.5 -74.7	929.7 1.4 -74.7	931.1 1.4 -74.7	932.5 1.5 -74.6	934.0 1.5 -74.6	935.5 1.6 -74.6	937.0 1.5 -74.6	938.5 1.5 -74.6	940.0 1.5 -74.6
11-----	941.5 1.6 -74.5	943.0 1.6 -74.5	944.5 1.6 -74.5	946.1 1.6 -74.5	947.7 1.5 -74.5	949.2 1.6 -74.4	950.8 1.6 -74.4	952.4 1.6 -74.4	954.0 1.6 -74.4	955.6 1.6 -74.3
12-----	957.2 1.6 -74.3	958.8 1.7 -74.3	960.5 1.6 -74.3	962.1 1.7 -74.3	963.8 1.7 -74.3	965.5 1.6 -74.3	967.1 1.7 -74.2	968.8 1.7 -74.2	970.5 1.7 -74.2	972.2 1.8 -74.2
13-----	974.0 1.7 -74.3	975.7 1.7 -74.3	977.4 1.8 -74.1	979.2 1.7 -74.1	980.9 1.8 -74.1	982.7 1.8 -74.1	984.5 1.8 -74.1	986.3 1.8 -74.1	988.1 1.8 -74.1	989.9 1.8 -74.0

TABLE 2 --10<sup>5</sup>Δ<sub>s</sub>, FOR SALINITY 24.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14-----	991.7 1.9 -74.0	993.6 1.8 -74.0	995.4 1.9 -74.0	997.3 1.8 -74.0	999.1 1.9 -74.0	1001.0 1.8 -74.0	1002.8 1.9 -73.9	1004.7 1.9 -73.9	1006.6 1.9 -73.8	1008.5 1.9 -73.8
15-----	1010.4 2.0 -74.8	1012.4 1.9 -74.8	1014.3 1.9 -74.8	1016.2 2.0 -74.8	1018.2 2.0 -74.8	1020.2 2.0 -74.8	1022.2 2.0 -74.8	1024.2 1.9 -74.8	1026.1 2.0 -74.7	1028.1 2.0 -74.7
16-----	1030.1 2.1 -73.7	1032.2 2.0 -73.7	1034.2 2.1 -73.6	1036.3 2.0 -73.6	1038.3 2.0 -73.6	1040.3 2.1 -73.6	1042.4 2.1 -73.6	1044.5 2.1 -73.6	1046.6 2.1 -73.6	1048.7 2.1 -73.6
17-----	1050.8 2.1 -73.5	1052.9 2.1 -73.5	1055.0 2.2 -73.5	1057.2 2.1 -73.5	1059.3 2.2 -73.5	1061.5 2.2 -73.5	1063.7 2.1 -73.5	1065.8 2.2 -73.4	1068.0 2.2 -73.4	1070.2 2.2 -73.4
18-----	1072.4 2.2 -73.4	1074.6 2.2 -73.4	1076.8 2.2 -73.4	1079.0 2.3 -73.3	1081.3 2.2 -73.3	1083.5 2.3 -73.3	1085.8 2.2 -73.3	1088.0 2.3 -73.3	1090.3 2.3 -73.3	1092.6 2.3 -73.3
19-----	1094.9 2.3 -73.3	1097.2 2.3 -73.3	1099.5 2.3 -73.3	1101.8 2.3 -73.3	1104.1 2.3 -73.2	1106.4 2.4 -73.2	1108.8 2.4 -73.2	1111.2 2.3 -73.2	1113.5 2.4 -73.2	1115.9 2.4 -73.2
20-----	1118.3 2.4 -73.2	1120.7 2.4 -73.2	1123.1 2.4 -73.2	1125.5 2.4 -73.2	1127.9 2.4 -73.2	1130.3 2.4 -73.1	1132.7 2.5 -73.1	1135.2 2.4 -73.1	1137.6 2.5 -73.1	1140.1 2.5 -73.1
21-----	1142.6 2.5 -73.1	1145.1 2.5 -73.1	1147.6 2.4 -73.1	1150.0 2.5 -73.0	1152.5 2.6 -73.0	1155.1 2.5 -73.0	1157.6 2.6 -73.0	1160.2 2.5 -73.0	1162.7 2.5 -73.0	1165.2 2.5 -73.0

TABLE 2 -10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 24.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22	1167.7 2.6 -72.9	1170.3 2.6 -72.9	1172.9 2.5 -72.9	1175.4 2.6 -72.9	1178.0 2.6 -72.9	1180.6 2.6 -72.9	1183.2 2.7 -72.9	1185.9 2.7 -72.9	1188.6 2.6 -72.9	1191.2 2.7 -72.9
23	1193.9 2.6 -72.9	1196.5 2.6 -72.8	1199.1 2.7 -72.9	1201.8 2.7 -72.8	1204.5 2.7 -72.8	1207.2 2.7 -72.8	1209.9 2.7 -72.8	1212.6 2.7 -72.8	1215.3 2.7 -72.8	1218.0 2.8 -72.9
24	1220.8 2.7 -72.8	1223.5 2.7 -72.8	1226.2 2.8 -72.7	1229.0 2.7 -72.7	1231.7 2.8 -72.7	1234.5 2.8 -72.7	1237.3 2.7 -72.7	1240.0 2.8 -72.7	1242.8 2.8 -72.7	1245.6 2.9 -72.7
25	1248.5 2.8 -72.7	1251.3 2.9 -72.7	1254.2 2.8 -72.7	1257.0 2.8 -72.7	1259.8 2.9 -72.6	1262.6 2.9 -72.6	1265.5 2.9 -72.6	1268.4 2.9 -72.6	1271.3 2.9 -72.6	1274.2 2.9 -72.6
26	1277.1 2.9 -72.6	1280.0 2.9 -72.6	1282.9 3.0 -72.6	1285.9 2.9 -72.6	1288.8 2.9 -72.6	1291.7 3.0 -72.6	1294.7 2.9 -72.6	1297.6 2.9 -72.5	1300.5 3.0 -72.5	1303.5 3.0 -72.5
27	1306.5 3.0 -72.5	1309.5 3.0 -72.5	1312.5 3.0 -72.5	1315.5 3.0 -72.5	1318.5 3.0 -72.5	1321.5 3.0 -72.5	1324.5 3.0 -72.4	1327.5 3.1 -72.4	1330.6 3.1 -72.4	1333.7 3.1 -72.4
28	1336.8 3.1 -72.4	1339.9 3.1 -72.4	1343.0 3.0 -72.4	1346.0 3.1 -72.4	1349.1 3.1 -72.4	1352.2 3.1 -72.4	1355.3 3.1 -72.4	1358.4 3.2 -72.4	1361.6 3.2 -72.4	1364.8 3.1 -72.4
29	1367.9 3.1 -72.4	1371.0 3.2 -72.4	1374.2 3.2 -72.4	1377.4 3.2 -72.4	1380.6 3.1 -72.4	1383.7 3.2 -72.4	1386.9 3.2 -72.4	1390.1 3.2 -72.4	1393.3 3.3 -72.4	1396.6 3.2 -72.4

TABLE 2 -  $10^5 \Delta$  st FOR SALINITY 24.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	1399.82 3.24 -72.34	1403.05 3.24 -72.33	1406.30 3.25 -72.33	1409.55 3.26 -72.32	1412.81 3.27 -72.32	1416.08 3.28 -72.31	1419.36 3.29 -72.31	1422.65 3.29 -72.30	1425.94 3.30 -72.30	1429.24 3.31 -72.29
31---	1432.55 3.32 -72.29	1435.87 3.33 -72.28	1439.20 3.33 -72.28	1442.53 3.34 -72.27	1445.87 3.35 -72.27	1449.22 3.36 -72.27	1452.58 3.37 -72.26	1455.95 3.37 -72.26	1459.32 3.38 -72.25	1462.71 3.39 -72.25
32---	1466.10 3.40 -72.24	1469.50 3.41 -72.24	1472.90 3.42 -72.24	1476.32 3.42 -72.23	1479.74 3.43 -72.23	1483.18 3.44 -72.22	1486.61 3.45 -72.22	1490.06 3.46 -72.22	1493.52 3.46 -72.21	1496.98 3.47 -72.21
33---	1500.45 3.48 -72.20	1503.93 3.49 -72.20	1507.42 3.50 -72.20	1510.92 3.50 -72.19	1514.42 3.51 -72.19	1517.93 3.52 -72.19	1521.46 3.53 -72.18	1524.98 3.54 -72.18	1528.52 3.54 -72.18	1532.06 3.55 -72.17
34---	1535.62 3.56 -72.17	1539.18 3.57 -72.17	1542.75 3.58 -72.16	1546.32 3.58 -72.16	1549.91 3.59 -72.16	1553.50 3.60 -72.15	1557.10 3.61 -72.15	1560.71 3.62 -72.15	1564.33 3.63 -72.15	1567.95 3.63 -72.14
35---	1571.59 3.64 -72.14	1575.23 3.65 -72.14	1578.88 3.66 -72.14	1582.53 3.67 -72.13	1586.20 3.67 -72.13	1589.87 3.68 -72.13	1593.55 3.69 -72.12	1597.24 3.70 72.12	1600.94 3.71 -72.12	1604.64 3.71 -72.12



TABLE 2 —  $10^4 \Delta_s$ , FOR SALINITY 25.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	765.6 0.0 -77.5	765.6 -0.1 -77.5	765.5 0.0 -77.5	765.5 0.0 -77.6	765.5 0.0 -77.6	765.5 0.0 -77.6	765.5 0.0 -77.6	765.5 0.1 -77.6	765.6 0.1 -77.7	765.7 0.1 -77.8
-0---	767.0 -0.2 -77.2	766.8 -0.2 -77.2	766.6 -0.2 -77.3	766.4 -0.2 -77.3	766.2 -0.2 -77.3	766.1 -0.1 -77.3	766.0 -0.1 -77.4	765.9 -0.1 -77.4	765.9 -0.1 -77.4	765.7 -0.1 -77.5
+0---	767.0 0.2 -77.2	767.2 0.2 -77.2	767.4 0.2 -77.1	767.6 0.2 -77.0	767.8 0.3 -77.0	768.1 0.3 -77.0	768.4 0.3 -76.9	768.7 0.3 -76.9	769.0 0.4 -76.9	769.4 0.3 -76.9
1----	769.7 0.3 -76.8	770.0 0.4 -76.8	770.4 0.4 -76.8	770.8 0.4 -76.7	771.2 0.4 -76.7	771.6 0.4 -76.7	772.0 0.5 -76.7	772.5 0.4 -76.7	772.9 0.5 -76.6	773.4 0.5 -76.6
2----	773.9 0.5 -76.6	774.4 0.5 -76.6	774.9 0.5 -76.5	775.4 0.6 -76.5	776.0 0.5 -76.5	776.5 0.5 -76.5	777.0 0.6 -76.4	777.6 0.6 -76.4	778.2 0.6 -76.4	778.8 0.6 -76.4
3----	779.4 0.6 -76.3	780.0 0.6 -76.3	780.6 0.7 -76.2	781.3 0.6 -76.2	781.9 0.7 -76.1	782.6 0.7 -76.1	783.3 0.7 -76.1	784.0 0.7 -76.1	784.7 0.7 -76.1	785.4 0.8 -76.0
4----	785.2 0.7 -76.0	786.9 0.8 -76.0	787.7 0.8 -76.0	788.5 0.8 -76.0	789.3 0.8 -76.0	790.1 0.8 -75.9	790.9 0.8 -75.9	791.7 0.8 -75.9	792.5 0.9 -75.8	793.4 0.8 -75.8
5----	794.2 0.9 -75.7	795.1 0.9 -75.7	796.0 0.9 -75.7	796.9 0.9 -75.7	797.8 0.9 -75.7	798.7 0.9 -75.6	799.6 1.0 -75.6	800.6 0.9 -75.6	801.5 1.0 -75.5	802.5 1.0 -75.5

TABLE 2 --10<sup>3</sup>Δ<sub>s</sub>, FOR SALINITY 25.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6-----	803.5 1.0 -75.5	804.5 0.9 -75.5	805.4 1.0 -75.4	806.4 1.1 -75.4	807.5 1.1 -75.4	808.6 1.0 -75.4	809.6 1.1 -75.3	810.7 1.1 -75.3	811.8 1.1 -75.3	812.9 1.1 -75.3
7-----	814.0 1.1 -75.3	815.1 1.1 -75.2	816.2 1.1 -75.2	817.3 1.1 -75.2	818.4 1.2 -75.2	819.6 1.1 -75.2	820.7 1.2 -75.1	821.9 1.2 -75.1	823.1 1.2 -75.1	824.3 1.3 -75.1
8-----	825.6 1.2 -75.1	826.8 1.2 -75.1	828.0 1.3 -75.0	829.3 1.2 -75.0	830.5 1.3 -75.0	831.8 1.3 -75.0	833.1 1.2 -75.0	834.3 1.3 -74.9	835.6 1.4 -74.9	837.0 1.3 -74.9
9-----	838.3 1.3 -74.9	839.6 1.3 -74.8	840.9 1.4 -74.8	842.3 1.4 -74.8	843.7 1.4 -74.8	845.1 1.3 -74.8	846.4 1.4 -74.7	847.8 1.5 -74.7	849.3 1.4 -74.7	850.7 1.4 -74.7
10-----	852.1 1.4 -74.7	853.5 1.5 -74.6	855.0 1.4 -74.6	856.4 1.5 -74.6	857.9 1.5 -74.6	859.4 1.5 -74.6	860.9 1.5 -74.5	862.4 1.5 -74.5	863.9 1.5 -74.5	865.4 1.6 -74.5
11-----	867.0 1.5 -74.5	868.5 1.5 -74.5	870.0 1.6 -74.4	871.6 1.6 -74.4	873.2 1.6 -74.4	874.8 1.6 -74.4	876.4 1.6 -74.3	878.0 1.6 -74.3	879.6 1.7 -74.3	881.3 1.6 -74.3
12-----	882.9 1.6 -74.3	884.5 1.7 -74.2	886.2 1.6 -74.2	887.8 1.7 -74.2	889.5 1.7 -74.2	891.2 1.7 -74.1	892.9 1.7 -74.1	894.6 1.7 -74.1	896.3 1.7 -74.1	898.0 1.8 -74.1
13-----	899.8 1.7 -74.1	901.5 1.8 -74.0	903.3 1.8 -74.0	905.1 1.7 -74.0	906.8 1.8 -74.0	908.6 1.8 -74.0	910.4 1.8 -73.9	912.2 1.8 -73.9	914.0 1.9 -73.9	915.9 1.8 -73.9

TABLE 2 -10<sup>Δ</sup><sub>s,t</sub> FOR SALINITY 25.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14	917.7 1.9 -73.9	919.6 1.8 -73.9	921.4 1.9 -73.9	923.3 1.8 -73.9	925.1 1.9 -73.8	927.0 1.9 -73.8	928.9 1.9 -73.8	930.8 2.0 -73.8	932.8 1.9 -73.8	934.7 1.9 -73.8
15	936.6 2.0 -73.8	938.6 1.9 -73.8	940.5 1.9 -73.7	942.4 2.0 -73.7	944.4 2.0 -73.7	946.4 2.0 -73.6	948.4 2.0 -73.6	950.4 2.0 -73.6	952.4 2.0 -73.6	954.4 2.0 -73.6
16	956.4 2.1 -73.6	958.5 2.1 -73.6	960.6 2.1 -73.6	962.7 2.0 -73.6	964.7 2.0 -73.6	966.7 2.1 -73.5	968.8 2.1 -73.5	970.9 2.1 -73.5	973.0 2.1 -73.5	975.1 2.2 -73.5
17	977.3 2.1 -73.5	979.4 2.1 -73.4	981.5 2.2 -73.4	983.7 2.1 -73.4	985.8 2.2 -73.4	988.0 2.2 -73.4	990.2 2.2 -73.4	992.4 2.2 -73.4	994.6 2.2 -73.4	996.8 2.2 -73.4
18	999.0 2.2 -73.3	1001.2 2.2 -73.3	1003.4 2.2 -73.3	1005.7 2.3 -73.3	1008.0 2.2 -73.3	1010.2 2.3 -73.3	1012.5 2.2 -73.3	1014.7 2.3 -73.2	1017.0 2.3 -73.2	1019.3 2.3 -73.2
19	1021.6 2.3 -73.2	1023.9 2.3 -73.2	1026.2 2.3 -73.1	1028.5 2.4 -73.1	1030.9 2.3 -73.1	1033.2 2.4 -73.1	1035.6 2.4 -73.1	1038.0 2.3 -73.1	1040.3 2.4 -73.1	1042.7 2.4 -73.1
20	1045.1 2.4 -73.1	1047.5 2.4 -73.0	1049.9 2.4 -73.0	1052.3 2.4 -73.0	1054.7 2.5 -73.0	1057.2 2.4 -73.0	1059.6 2.5 -73.0	1062.1 2.4 -73.0	1064.5 2.5 -72.9	1067.0 2.5 -72.9
21	1069.5 2.5 -72.9	1072.0 2.5 -72.9	1074.5 2.5 -72.9	1077.0 2.5 -72.9	1079.5 2.6 -72.9	1082.1 2.5 -72.9	1084.6 2.6 -72.9	1087.2 2.5 -72.9	1089.7 2.5 -72.9	1092.2 2.6 -72.8

TABLE 2 —10<sup>4</sup>Δ<sub>s</sub>, FOR SALINITY 25.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22	1094.8 2.6 -72.8	1097.4 2.6 -72.8	1100.0 2.5 -72.8	1102.5 2.6 -72.8	1105.1 2.6 -72.8	1107.7 2.6 -72.8	1110.3 2.7 -72.8	1113.0 2.7 -72.8	1115.7 2.6 -72.8	1118.3 2.7 -72.8
23	1121.0 2.7 -72.8	1123.7 2.6 -72.8	1126.3 2.7 -72.8	1129.0 2.7 -72.8	1131.7 2.7 -72.8	1134.4 2.7 -72.8	1137.1 2.7 -72.7	1139.8 2.7 -72.7	1142.5 2.7 -72.7	1145.2 2.8 -72.7
24	1148.0 2.7 -72.7	1150.7 2.7 -72.7	1153.5 2.8 -72.7	1156.3 2.7 -72.7	1159.0 2.8 -72.7	1161.8 2.8 -72.7	1164.6 2.7 -72.7	1167.3 2.8 -72.6	1170.1 2.8 -72.6	1172.9 2.9 -72.6
25	1175.8 2.8 -72.6	1178.6 2.9 -72.6	1181.5 2.8 -72.6	1184.3 2.9 -72.6	1187.2 2.8 -72.6	1190.0 2.9 -72.5	1192.9 2.9 -72.5	1195.8 2.9 -72.5	1198.7 2.9 -72.5	1201.6 2.9 -72.5
26	1204.5 2.9 -72.5	1207.4 2.9 -72.5	1210.3 3.0 -72.5	1213.3 2.9 -72.5	1216.2 2.9 -72.5	1219.1 3.0 -72.5	1222.1 3.0 -72.5	1225.1 2.9 -72.5	1228.0 3.0 -72.4	1231.0 3.0 -72.4
27	1234.0 3.0 -72.4	1237.0 3.0 -72.4	1240.0 3.0 -72.4	1243.0 3.0 -72.4	1246.0 3.0 -72.4	1249.0 3.1 -72.4	1252.1 3.0 -72.4	1255.1 3.1 -72.4	1258.2 3.1 -72.4	1261.3 3.1 -72.4
28	1264.4 3.1 -72.4	1267.5 3.1 -72.4	1270.6 3.0 -72.4	1273.6 3.1 -72.4	1276.7 3.1 -72.4	1279.8 3.1 -72.3	1282.9 3.1 -72.3	1286.0 3.2 -72.3	1289.2 3.2 -72.3	1292.4 3.1 -72.3
29	1295.5 3.1 -72.3	1298.6 3.2 -72.3	1301.8 3.2 -72.3	1305.0 3.2 -72.3	1308.2 3.1 -72.3	1311.3 3.2 -72.3	1314.5 3.2 -72.3	1317.7 3.2 -72.3	1320.9 3.3 -72.3	1324.2 3.3 -72.3

TABLE 2 -  $10^5 \Delta$  st FOR SALINITY 25.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	1327.48 3.24 -72.27	1330.72 3.25 -72.26	1333.97 3.26 -72.26	1337.23 3.27 -72.25	1340.50 3.27 -72.25	1343.77 3.28 -72.24	1347.05 3.29 -72.24	1350.34 3.30 -72.23	1353.64 3.31 -72.23	1356.95 3.31 -72.22
31---	1360.26 3.32 -72.22	1363.59 3.33 -72.22	1366.92 3.34 -72.21	1370.26 3.35 -72.21	1373.60 3.36 -72.20	1376.96 3.36 -72.20	1380.32 3.37 -72.19	1383.69 3.38 -72.19	1387.07 3.39 -72.19	1390.46 3.40 -72.18
32---	1393.85 3.40 -72.18	1397.26 3.41 -72.17	1400.67 3.42 -72.17	1404.09 3.43 -72.17	1407.52 3.44 -72.16	1410.95 3.44 -72.16	1414.40 3.45 -72.16	1417.85 3.46 -72.15	1421.31 3.47 -72.15	1424.77 3.48 -72.14
33---	1428.25 3.48 -72.14	1431.73 3.49 -72.14	1435.23 3.50 -72.13	1438.73 3.51 -72.13	1442.23 3.52 -72.13	1445.75 3.52 -72.13	1449.27 3.53 -72.12	1452.80 3.54 -72.12	1456.34 3.55 -72.12	1459.89 3.56 -72.11
34---	1463.45 3.56 -72.11	1467.01 3.57 -72.11	1470.58 3.58 -72.10	1474.16 3.59 -72.10	1477.75 3.60 -72.10	1481.35 3.60 -72.10	1484.95 3.61 -72.09	1488.56 3.62 -72.09	1492.18 3.63 -72.09	1495.81 3.64 -72.09
35---	1499.45 3.64 -72.08	1503.09 3.65 -72.08	1506.74 3.66 -72.08	1510.40 3.67 -72.08	1514.07 3.68 -72.07	1517.74 3.68 -72.07	1521.43 3.69 -72.07	1525.12 3.70 -72.07	1528.82 3.71 -72.06	1532.55 3.72 -72.06

TABLE 2  $-10^4 \Delta_{\sigma_t}$  FOR SALINITY 26.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	688.1 0.0 -77.3	688.1 -0.1 -77.4	688.0 -0.1 -77.4	687.9 0.0 -77.4	687.9 0.0 -77.5	687.9 0.0 -77.5	687.9 0.0 -77.6	687.9 0.0 -77.6	687.9 0.0 -77.6	687.9 0.0 -77.6
-0---	689.8 -0.2 -77.1	689.6 -0.3 -77.1	689.3 -0.2 -77.1	689.1 -0.2 -77.1	688.9 -0.1 -77.1	688.8 -0.2 -77.2	688.6 -0.1 -77.2	688.5 -0.1 -77.3	688.4 -0.2 -77.3	688.2 -0.1 -77.3
+0---	690.8 0.2 -77.1	690.0 0.3 -77.0	690.3 0.3 -77.0	690.6 0.2 -77.0	690.8 0.3 -76.9	691.1 0.4 -76.9	691.5 0.3 -76.9	691.8 0.3 -76.8	692.1 0.4 -76.8	692.5 0.4 -76.8
1----	692.9 0.3 -76.8	693.2 0.4 -76.7	693.6 0.5 -76.7	694.1 0.4 -76.7	694.5 0.4 -76.7	694.9 0.4 -76.6	695.3 0.5 -76.5	695.8 0.5 -76.5	696.3 0.5 -76.5	696.8 0.5 -76.5
2----	697.3 0.5 -76.6	697.8 0.6 -76.4	698.4 0.5 -76.4	698.9 0.5 -76.4	699.5 0.5 -76.4	700.0 0.6 -76.3	700.6 0.6 -76.3	701.2 0.6 -76.3	701.8 0.6 -76.2	702.4 0.7 -76.2
3----	703.1 0.6 -76.3	703.7 0.7 -76.1	704.4 0.7 -76.1	705.1 0.7 -76.1	705.8 0.7 -76.1	706.5 0.7 -76.1	707.2 0.7 -76.0	707.9 0.7 -76.0	708.6 0.8 -75.9	709.4 0.8 -75.9
4----	710.2 0.7 -76.0	710.9 0.8 -75.8	711.7 0.8 -75.8	712.5 0.8 -75.8	713.3 0.9 -75.8	714.2 0.8 -75.8	715.0 0.8 -75.7	715.8 0.9 -75.7	716.7 0.9 -75.7	717.6 0.9 -75.7
5----	718.5 0.9 -75.7	719.4 0.9 -75.7	720.3 0.9 -75.7	721.2 0.9 -75.6	722.1 1.0 -75.6	723.1 0.9 -75.6	724.0 1.0 -75.5	725.0 1.0 -75.5	726.0 1.0 -75.5	727.0 1.0 -75.5

TABLE 2 --10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 26.00 -- Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6-----	728.0 1.0 -78.4	729.0 1.0 -78.4	730.0 1.0 -78.4	731.0 1.1 -78.3	732.1 1.1 -78.3	733.2 1.1 -78.3	734.3 1.1 -78.3	735.4 1.1 -78.3	736.5 1.1 -78.3	737.6 1.1 -78.3
7-----	738.7 1.2 -78.2	739.9 1.1 -78.2	741.0 1.1 -78.1	742.1 1.1 -78.1	743.2 1.2 -78.0	744.4 1.2 -78.0	745.6 1.2 -78.0	746.8 1.2 -78.0	748.0 1.2 -78.0	749.2 1.3 -78.0
8-----	750.5 1.2 -78.0	751.7 1.3 -74.9	753.0 1.3 -74.9	754.3 1.3 -74.9	755.5 1.3 -74.8	756.8 1.3 -74.8	758.1 1.3 -74.8	759.4 1.3 -74.8	760.7 1.4 -74.8	762.1 1.3 -74.8
9-----	763.4 1.4 -74.7	764.8 1.3 -74.7	766.1 1.4 -74.7	767.5 1.4 -74.7	768.9 1.4 -74.7	770.3 1.4 -74.6	771.7 1.4 -74.6	773.1 1.5 -74.6	774.6 1.4 -74.6	776.0 1.4 -74.6
10-----	777.4 1.6 -74.8	778.9 1.6 -74.8	780.4 1.4 -74.8	781.8 1.6 -74.4	783.3 1.6 -74.6	784.8 1.6 74.4	786.4 1.6 -74.4	787.9 1.6 -74.4	789.4 1.6 -74.4	790.9 1.6 -74.3
11-----	792.5 1.6 -74.3	794.0 1.6 -74.3	795.6 1.6 -74.3	797.2 1.6 -74.3	798.8 1.6 -74.2	800.4 1.7 -74.2	802.1 1.6 -74.2	803.7 1.6 -74.2	805.3 1.7 -74.2	807.0 1.6 -74.2
12-----	808.6 1.7 -74.3	810.3 1.7 -74.2	812.0 1.6 -74.2	813.6 1.7 -74.1	815.3 1.8 -74.1	817.1 1.7 -74.1	818.8 1.7 -74.1	820.5 1.7 -74.1	822.2 1.7 -74.0	823.9 1.8 -74.0
13-----	825.7 1.8 -74.0	827.5 1.8 -74.0	829.3 1.8 -74.0	831.1 1.7 -73.9	832.8 1.8 -73.9	834.6 1.9 -73.9	836.5 1.8 -73.9	838.3 1.8 -73.9	840.1 1.9 -73.8	842.0 1.8 -73.8

TABLE 2 — 10‰, FOR SALINITY 26.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14	843.8 1.9 -73.8	845.7 1.6 -73.8	847.5 1.9 -73.8	849.4 1.9 -73.8	851.3 1.9 -73.7	853.2 1.9 -73.7	855.1 1.9 -73.7	857.0 2.0 -73.7	859.0 1.9 -73.7	860.9 1.9 -73.7
15	862.8 2.0 -73.6	864.6 2.0 -73.6	866.5 1.9 -73.6	868.7 2.0 -73.6	870.7 2.1 -73.6	872.8 2.0 -73.6	874.8 2.0 -73.6	876.8 2.0 -73.6	878.8 2.0 -73.6	880.8 2.0 -73.5
16	882.8 2.1 -73.5	884.9 2.1 -73.5	887.0 2.1 -73.5	889.1 2.0 -73.5	891.1 2.1 -73.4	893.2 2.1 -73.4	895.3 2.1 -73.4	897.4 2.1 -73.4	899.5 2.1 -73.4	901.6 2.2 -73.4
17	903.8 2.2 -73.4	906.0 2.1 -73.4	908.1 2.2 -73.4	910.3 2.1 -73.4	912.4 2.2 -73.3	914.6 2.2 -73.3	916.8 2.2 -73.3	919.0 2.2 -73.3	921.2 2.2 -73.3	923.4 2.3 -73.3
18	925.7 2.3 -73.3	927.9 2.3 -73.3	930.1 2.3 -73.3	932.4 2.3 -73.3	934.7 2.3 -73.3	936.9 2.3 -73.3	939.2 2.3 -73.3	941.5 2.3 -73.1	943.8 2.3 -73.1	946.1 2.3 -73.1
19	948.4 2.3 -73.1	950.7 2.4 -73.1	953.1 2.3 -73.1	955.4 2.4 -73.1	957.8 2.3 -73.1	960.1 2.4 -73.1	962.5 2.4 -73.1	964.9 2.3 -73.1	967.2 2.4 -73.0	969.6 2.4 -73.0
20	972.0 2.5 -73.0	974.5 2.4 -73.0	976.9 2.4 -73.0	979.3 2.4 -73.0	981.7 2.5 -73.0	984.2 2.4 -73.0	986.6 2.5 -73.0	989.1 2.5 -73.0	991.6 2.5 -73.0	994.1 2.5 -73.0
21	996.6 2.5 -73.0	999.1 2.5 -73.0	1001.6 2.5 -73.0	1004.1 2.5 -73.0	1006.6 2.6 -73.0	1009.2 2.5 -73.0	1011.7 2.6 -73.0	1014.3 2.5 -73.0	1016.8 2.6 -73.0	1019.4 2.6 -73.0



TABLE 2 —10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 26.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22-----	1022.0 2.6 -72.8	1024.6 2.6 -72.8	1027.2 2.5 -72.8	1029.7 2.6 -72.7	1032.3 2.6 -72.7	1034.9 2.6 -72.7	1037.5 2.7 -72.7	1040.2 2.7 -72.7	1042.9 2.6 -72.7	1045.5 2.7 -72.7
23-----	1048.2 2.7 -72.7	1050.9 2.6 -72.7	1053.5 2.7 -72.6	1056.2 2.7 -72.6	1058.9 2.7 -72.6	1061.6 2.8 -72.6	1064.4 2.7 -72.6	1067.1 2.7 -72.6	1069.8 2.7 -72.6	1072.5 2.8 -72.6
24-----	1075.3 2.7 -72.6	1078.0 2.8 -72.6	1080.8 2.8 -72.6	1083.6 2.7 -72.6	1086.3 2.8 -72.5	1089.1 2.8 -72.5	1091.9 2.8 -72.5	1094.7 2.8 -72.5	1097.5 2.8 -72.5	1100.3 2.9 -72.5
25-----	1103.2 2.8 -72.5	1106.0 2.9 -72.5	1108.9 2.8 -72.5	1111.7 2.9 -72.5	1114.6 2.9 -72.5	1117.5 2.9 -72.5	1120.4 2.9 -72.5	1123.3 2.9 -72.5	1126.2 2.9 -72.5	1129.1 2.9 -72.5
26-----	1132.0 2.9 -72.5	1134.9 2.9 -72.4	1137.8 3.0 -72.4	1140.8 2.9 -72.4	1143.7 2.9 -72.4	1146.6 3.0 -72.4	1149.6 3.0 -72.4	1152.6 3.0 -72.4	1155.6 3.0 -72.4	1158.6 3.0 -72.4
27-----	1161.6 3.0 -72.4	1164.6 3.0 -72.4	1167.6 3.0 -72.4	1170.6 3.0 -72.4	1173.6 3.0 -72.4	1176.6 3.1 -72.3	1179.7 3.0 -72.3	1182.7 3.1 -72.3	1185.8 3.1 -72.3	1188.9 3.1 -72.3
28-----	1192.0 3.1 -72.3	1195.1 3.1 -72.3	1198.2 3.0 -72.3	1201.2 3.1 -72.3	1204.3 3.2 -72.3	1207.5 3.1 -72.3	1210.6 3.1 -72.3	1213.7 3.2 -72.3	1216.9 3.2 -72.3	1221.1 3.1 -72.3
29-----	1223.2 3.1 -72.3	1226.3 3.2 -72.3	1229.5 3.2 -72.3	1232.7 3.2 -72.3	1235.9 3.1 -72.3	1239.0 3.2 -72.3	1242.2 3.2 -72.3	1245.4 3.2 -72.3	1248.6 3.2 -72.3	1251.9 3.2 -72.3

TABLE 2 -  $10^5 \Delta \sigma_t$  FOR SALINITY 26.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	1255.21 3.25 -72.20	1258.46 3.25 -72.20	1261.72 3.26 -72.19	1264.98 3.27 -72.19	1268.25 3.28 -72.18	1271.53 3.29 -72.18	1274.82 3.29 -72.17	1278.11 3.30 -72.17	1281.41 3.31 -72.16	1284.73 3.32 -72.16
31---	1288.04 3.33 -72.16	1291.37 3.34 -72.15	1294.71 3.34 -72.15	1298.05 3.35 -72.14	1301.40 3.36 -72.14	1304.76 3.37 -72.14	1308.13 3.38 -72.13	1311.50 3.38 -72.13	1314.89 3.39 -72.12	1318.28 3.40 -72.12
32---	1321.68 3.41 -72.12	1325.08 3.42 -72.11	1328.50 3.42 -72.11	1331.92 3.43 -72.11	1335.35 3.44 -72.10	1338.79 3.45 -72.10	1342.24 3.46 -72.10	1345.70 3.46 -72.09	1349.16 3.47 -72.09	1352.63 3.48 -72.09
33---	1356.11 3.49 -72.08	1359.60 3.50 -72.08	1363.09 3.50 -72.08	1366.59 3.51 -72.07	1370.10 3.52 -72.07	1373.62 3.53 -72.07	1377.15 3.53 -72.06	1380.69 3.54 -72.06	1384.23 3.55 -72.06	1387.78 3.56 -72.06
34---	1391.34 3.57 -72.05	1394.90 3.57 -72.05	1398.48 3.58 -72.05	1402.06 3.59 -72.05	1405.65 3.60 -72.04	1409.25 3.61 -72.04	1412.86 3.61 -72.04	1416.47 3.62 -72.04	1420.09 3.63 -72.03	1423.72 3.64 -72.03
35---	1427.36 3.65 -72.03	1431.01 3.65 -72.03	1434.66 3.66 -72.03	1438.32 3.67 -72.02	1441.99 3.68 -72.02	1445.67 3.69 -72.02	1449.36 3.69 -72.02	1453.05 3.70 -72.02	1456.75 3.71 -72.01	1460.46 3.72 -72.01

TABLE 2  $-10^5 \Delta_{s,t}$  FOR SALINITY 27.00

T	C.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1----	610.8 -0.1 -77.2	610.7 -0.1 -77.3	610.6 -0.1 -77.3	610.5 -0.1 -77.4	610.4 0.0 -77.4	610.4 -0.1 -77.4	610.3 0.0 -77.4	610.3 0.0 -77.5	610.3 0.0 -77.5	610.3 0.0 -77.6
-0----	612.7 -0.2 -76.9	612.5 -0.3 -77.0	612.2 -0.2 -77.0	612.0 -0.2 -77.1	611.8 -0.2 -77.1	611.6 -0.2 -77.1	611.4 -0.2 -77.1	611.2 -0.1 -77.1	611.1 -0.2 -77.2	610.9 -0.1 -77.2
+0----	612.7 0.3 -76.9	613.0 0.3 -76.9	613.3 0.3 -76.9	613.6 0.3 -76.8	613.9 0.3 -76.8	614.2 0.4 -76.7	614.6 0.4 -76.7	615.0 0.3 -76.7	615.3 0.4 -76.6	615.7 0.4 -76.6
1----	616.1 0.4 -76.6	616.5 0.4 -76.6	616.9 0.5 -76.6	617.4 0.4 -76.6	617.8 0.5 -76.5	618.3 0.5 -76.5	618.8 0.5 -76.5	619.3 0.5 -76.4	619.8 0.5 -76.4	620.3 0.5 -76.3
2----	620.8 0.6 -76.3	621.4 0.6 -76.3	622.0 0.5 -76.3	622.5 0.6 -76.2	623.1 0.6 -76.2	623.7 0.6 -76.2	624.3 0.6 -76.1	624.9 0.7 -76.1	625.6 0.6 -76.1	626.2 0.7 -76.0
3----	626.9 0.7 -76.0	627.6 0.7 -76.0	628.3 0.7 -76.0	629.0 0.7 -76.0	629.7 0.7 -76.0	630.4 0.8 -75.9	631.2 0.7 -75.9	631.9 0.8 -75.9	632.7 0.8 -75.9	633.5 0.8 -75.9
4----	634.3 0.8 -75.8	635.1 0.8 -75.8	635.9 0.8 -75.8	636.7 0.8 -75.7	637.5 0.9 -75.7	638.4 0.9 -75.7	639.3 0.8 -75.7	640.1 0.9 -75.6	641.0 0.9 -75.6	641.9 0.9 -75.6
5----	642.8 0.9 -75.5	643.7 0.9 -75.5	644.6 1.0 -75.5	645.6 0.9 -75.5	646.5 1.0 -75.4	647.5 1.0 -75.4	648.5 1.0 -75.4	649.5 1.0 -75.4	650.5 1.0 -75.3	651.5 1.1 -75.3

TABLE 2 —10<sup>2</sup>Δ<sub>s</sub>: FOR SALINITY 27.00 — Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6	652.6 1.0 -75.3	653.6 1.0 -75.3	654.6 1.1 -75.2	655.7 1.1 -75.2	656.8 1.1 -75.2	657.9 1.1 -75.2	659.0 1.1 -75.2	660.1 1.1 -75.1	661.2 1.1 -75.1	662.3 1.2 -75.1
7	663.5 1.2 -75.1	664.7 1.2 -75.0	665.9 1.1 -75.0	667.0 1.2 -75.0	668.2 1.2 -75.0	669.4 1.2 -75.0	670.6 1.2 -74.9	671.8 1.2 -74.9	673.0 1.2 -74.9	674.2 1.3 -74.8
8	675.5 1.3 -74.8	676.8 1.3 -74.8	678.1 1.3 -74.8	679.4 1.3 -74.8	680.7 1.3 -74.8	682.0 1.3 -74.7	683.3 1.3 -74.7	684.6 1.3 -74.7	685.9 1.4 -74.7	687.3 1.4 -74.7
9	688.7 1.4 -74.7	690.1 1.3 -74.7	691.4 1.4 -74.6	692.8 1.4 -74.6	694.2 1.5 -74.6	695.7 1.4 -74.6	697.1 1.4 -74.5	698.5 1.5 -74.5	700.0 1.5 -74.5	701.5 1.4 -74.5
10	702.9 1.5 -74.4	704.4 1.5 -74.4	705.9 1.5 -74.4	707.4 1.5 -74.4	708.9 1.5 -74.4	710.4 1.6 -74.3	712.0 1.5 -74.3	713.5 1.5 -74.3	715.0 1.6 -74.3	716.6 1.6 -74.3
11	718.2 1.5 -74.3	719.7 1.6 -74.2	721.3 1.6 -74.2	722.9 1.7 -74.2	724.6 1.6 -74.2	726.2 1.7 -74.2	727.9 1.6 -74.2	729.5 1.6 -74.2	731.1 1.7 -74.1	732.8 1.6 -74.1
12	734.4 1.7 -74.0	736.1 1.7 -74.0	737.8 1.7 -74.0	739.5 1.7 -74.0	741.2 1.8 -74.0	743.0 1.7 -74.0	744.7 1.7 -74.0	746.4 1.8 -73.9	748.2 1.7 -73.9	749.9 1.8 -73.9
13	751.7 1.8 -73.9	753.5 1.8 -73.9	755.3 1.8 -73.8	757.1 1.8 -73.8	758.9 1.8 -73.8	760.7 1.9 -73.8	762.6 1.8 -73.8	764.4 1.9 -73.8	766.3 1.9 -73.8	768.2 1.8 -73.8

TABLE 2  $-10^{\Delta_s}$ , FOR SALINITY 27.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14	770.0 1.9 -73.7	771.9 1.8 -73.7	773.7 1.9 -73.7	775.6 2.0 -73.7	777.6 1.9 -73.7	779.5 1.9 -73.7	781.4 1.9 -73.6	783.3 2.0 -73.6	785.3 1.9 -73.6	787.2 2.0 -73.6
15	789.2 2.0 -73.6	791.2 2.0 -73.6	793.2 1.9 -73.6	795.1 2.0 -73.5	797.1 2.1 -73.5	799.2 2.0 -73.5	801.2 2.0 -73.5	803.2 2.0 -73.5	805.2 2.1 -73.4	807.3 2.0 -73.4
16	809.3 2.1 -73.4	811.4 2.1 -73.4	813.5 2.1 -73.4	815.6 2.1 -73.4	817.7 2.1 -73.4	819.8 2.1 -73.4	821.9 2.1 -73.3	824.0 2.1 -73.3	826.1 2.1 -73.3	828.2 2.2 -73.3
17	830.4 2.2 -73.3	832.6 2.1 -73.3	834.7 2.2 -73.2	836.9 2.2 -73.2	839.1 2.2 -73.2	841.3 2.2 -73.2	843.5 2.2 -73.2	845.7 2.2 -73.2	847.9 2.2 -73.2	850.1 2.3 -73.1
18	852.4 2.3 -73.1	854.7 2.2 -73.1	856.9 2.3 -73.1	859.2 2.3 -73.1	861.5 2.2 -73.1	863.7 2.3 -73.1	866.0 2.4 -73.1	868.4 2.3 -73.1	870.7 2.3 -73.1	873.0 2.3 -73.1
19	875.3 2.3 -73.0	877.6 2.4 -73.0	880.0 2.3 -73.0	882.3 2.4 -73.0	884.7 2.3 -73.0	887.0 2.4 -72.9	889.4 2.4 -72.9	891.8 2.4 -72.9	894.2 2.4 -72.9	896.6 2.4 -72.9
20	899.0 2.5 -72.9	901.5 2.4 -72.9	903.9 2.4 -72.9	906.3 2.5 -72.9	908.8 2.5 -72.9	911.3 2.4 -72.9	913.7 2.5 -72.8	916.2 2.5 -72.8	918.7 2.5 -72.8	921.2 2.5 -72.8
21	923.7 2.5 -72.8	926.2 2.5 -72.8	928.7 2.5 -72.8	931.2 2.5 -72.8	933.7 2.6 -72.7	936.3 2.6 -72.7	938.9 2.6 -72.7	941.5 2.5 -72.7	944.0 2.6 -72.7	946.6 2.6 -72.7

TABLE 2 —10<sup>4</sup>Δ<sub>s</sub>, FOR SALINITY 27.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22-----	949.2 2.6 -72.7	951.8 2.6 -72.7	954.4 2.6 -72.7	957.0 2.6 -72.7	959.6 2.6 -72.7	962.2 2.6 -72.6	964.8 2.7 -72.6	967.5 2.7 -72.6	970.2 2.6 -72.6	972.8 2.7 -72.6
23-----	975.5 2.7 -72.6	978.2 2.7 -72.6	980.9 2.7 -72.6	983.6 2.7 -72.6	986.3 2.7 -72.6	989.0 2.8 -72.6	991.8 2.7 -72.6	994.5 2.7 -72.6	997.2 2.7 -72.5	999.9 2.8 -72.5
24-----	1002.7 2.7 -72.5	1005.4 2.8 -72.5	1008.2 2.8 -72.5	1011.0 2.8 -72.5	1013.8 2.8 -72.5	1016.6 2.8 -72.5	1019.4 2.8 -72.5	1022.2 2.8 -72.5	1025.0 2.8 -72.4	1027.8 2.9 -72.4
25-----	1030.7 2.8 -72.4	1033.5 2.9 -72.4	1036.4 2.8 -72.4	1039.2 2.9 -72.4	1042.1 2.9 -72.4	1045.0 2.9 -72.4	1047.9 2.9 -72.4	1050.8 2.9 -72.4	1053.7 2.9 -72.4	1056.6 2.9 -72.4
26-----	1059.5 3.0 -72.4	1062.5 2.9 -72.4	1065.4 3.0 -72.4	1068.4 2.9 -72.4	1071.3 2.9 -72.3	1074.2 3.0 -72.3	1077.2 3.0 -72.3	1080.2 3.0 -72.3	1083.2 3.0 -72.3	1086.2 3.0 -72.3
27-----	1089.2 3.0 -72.3	1092.2 3.0 -72.3	1095.2 3.0 -72.3	1098.2 3.0 -72.3	1101.2 3.1 -72.3	1104.3 3.1 -72.3	1107.4 3.0 -72.3	1110.4 3.1 -72.3	1113.5 3.1 -72.3	1116.6 3.1 -72.3
28-----	1119.7 3.1 -72.3	1122.8 3.1 -72.3	1125.9 3.0 -72.3	1128.9 3.1 -72.3	1132.0 3.2 -72.3	1135.2 3.1 -72.2	1138.3 3.1 -72.2	1141.4 3.2 -72.2	1144.6 3.2 -72.2	1147.8 3.2 -72.2
29-----	1151.0 3.1 -72.3	1154.1 3.2 -72.3	1157.3 3.2 -72.3	1160.5 3.2 -72.3	1163.7 3.1 -72.3	1166.8 3.2 -72.1	1170.0 3.2 -72.1	1173.2 3.2 -72.1	1176.4 3.3 -72.1	1179.7 3.3 -72.1

TABLE 2 - 10<sup>5</sup> Δ st FOR SALINITY 27.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	1183.01 3.25 -72.14	1186.26 3.26 -72.13	1189.42 3.27 -72.13	1192.75 3.28 -72.13	1196.07 3.28 -72.12	1199.35 3.29 -72.12	1202.64 3.30 -72.11	1205.94 3.31 -72.11	1209.21 3.32 -72.10	1212.57 3.32 -72.10
31---	1211.89 3.33 -72.10	1219.22 3.34 -72.09	1222.16 3.35 -72.09	1225.91 3.36 -72.08	1229.26 3.36 -72.08	1232.62 3.37 -72.08	1236.00 3.38 -72.07	1239.38 3.39 -72.07	1242.76 3.40 -72.07	1246.16 3.40 -72.06
32---	1249.56 3.41 -72.06	1252.97 3.42 -72.06	1256.39 3.43 -72.05	1259.82 3.43 -72.05	1263.25 3.44 -72.05	1266.69 3.45 -72.04	1270.14 3.46 -72.04	1273.60 3.47 -72.04	1277.07 3.47 -72.03	1280.54 3.48 -72.03
33---	1284.03 3.49 -72.03	1287.52 3.50 -72.02	1291.01 3.51 -72.02	1294.52 3.51 -72.02	1298.03 3.52 -72.02	1301.56 3.53 -72.01	1305.09 3.54 -72.01	1308.62 3.55 -72.01	1312.17 3.55 -72.01	1315.72 3.56 -72.00
34---	1319.28 3.57 -72.00	1322.85 3.58 -72.00	1326.43 3.59 -72.00	1330.02 3.59 -71.99	1333.61 3.60 -71.99	1337.21 3.61 -71.99	1340.82 3.62 -71.99	1344.44 3.62 -71.99	1348.06 3.63 -71.98	1351.69 3.64 -71.98
35---	1355.33 3.65 -71.98	1358.98 3.66 -71.98	1362.64 3.66 -71.98	1366.30 3.67 -71.97	1369.97 3.68 -71.97	1373.65 3.68 -71.97	1377.34 3.70 -71.97	1381.04 3.70 -71.97	1384.74 3.71 -71.97	1388.45 3.72 -71.96

TABLE 2 —10‰, FOR SALINITY 28.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	533.6 -0.2 -77.2	533.4 -0.1 -77.2	533.3 -0.2 -77.3	533.1 -0.1 -77.3	533.0 0.0 -77.3	533.0 -0.1 -77.4	532.9 -0.1 -77.5	532.8 0.0 -77.5	532.8 -0.1 -77.5	532.7 -0.1 -77.5
-0---	535.8 -0.3 -76.8	535.5 -0.3 -76.9	535.2 -0.3 -76.9	534.9 -0.2 -76.9	534.7 -0.2 -76.9	534.5 -0.2 -77.0	534.3 -0.2 -77.1	534.1 -0.2 -77.1	533.9 -0.2 -77.1	533.7 -0.1 -77.1
+0---	535.8 0.3 -76.8	536.1 0.3 -76.8	536.4 0.4 -76.8	536.8 0.3 -76.8	537.1 0.4 -76.7	537.5 0.4 -76.7	537.9 0.4 -76.7	538.3 0.4 -76.7	538.7 0.4 -76.7	539.1 0.4 -76.6
1----	539.5 0.4 -76.8	539.9 0.4 -76.8	540.3 0.5 -76.4	540.8 0.5 -76.4	541.3 0.5 -76.4	541.8 0.5 -76.4	542.3 0.6 -76.4	542.9 0.5 -76.4	543.4 0.6 -76.3	544.0 0.5 -76.3
2----	544.5 0.6 -76.2	545.1 0.6 -76.2	545.7 0.6 -76.2	546.3 0.6 -76.2	546.9 0.6 -76.2	547.5 0.7 -76.1	548.2 0.6 -76.1	548.8 0.7 -76.0	549.5 0.7 -76.0	550.2 0.7 -76.0
3----	550.9 0.7 -76.0	551.6 0.7 -76.0	552.8 0.7 -76.0	553.0 0.8 -75.9	553.8 0.7 -75.9	554.5 0.8 -75.9	555.3 0.7 -75.9	556.0 0.8 -75.8	556.8 0.8 -75.7	557.6 0.9 -75.7
4----	558.5 0.8 -75.7	559.3 0.8 -75.7	560.1 0.9 -75.7	561.0 0.8 -75.7	561.8 0.9 -75.6	562.7 0.9 -75.6	563.6 0.9 -75.6	564.5 0.9 -75.6	565.4 0.9 -75.5	566.3 1.0 -75.5
5----	567.3 0.9 -75.5	568.2 0.9 -75.4	569.1 1.0 -75.4	570.1 1.0 -75.4	571.1 1.0 -75.3	572.1 1.0 -75.3	573.1 1.0 -75.3	574.1 1.1 -75.3	575.2 1.0 -75.3	576.2 1.1 -75.3



TABLE 2 -10<sup>4</sup>... FOR SALINITY 28.00 — Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6	577.3 1.0 -75.3	578.3 1.1 -75.2	579.4 1.1 -75.2	580.5 1.1 -75.2	581.6 1.1 -75.2	582.7 1.1 -75.1	583.8 1.2 -75.1	585.0 1.1 -75.1	586.1 1.1 -75.1	587.2 1.2 -75.0
7	588.4 1.2 -75.0	589.6 1.2 -75.0	590.8 1.2 -75.0	592.0 1.2 -75.0	593.2 1.2 -75.0	594.4 1.3 -74.9	595.7 1.2 -74.9	596.9 1.2 -74.9	598.1 1.3 -74.8	599.4 1.3 -74.8
8	600.7 1.3 -74.8	602.0 1.3 -74.8	603.3 1.3 -74.8	604.6 1.3 -74.8	605.9 1.4 -74.7	607.3 1.3 -74.7	608.6 1.3 -74.7	609.9 1.3 -74.6	611.2 1.4 -74.5	612.6 1.4 -74.5
9	614.0 1.4 -74.5	615.4 1.4 -74.5	616.8 1.4 -74.5	618.2 1.4 -74.5	619.6 1.5 -74.4	621.1 1.5 -74.4	622.6 1.4 -74.4	624.0 1.5 -74.4	625.5 1.5 -74.4	627.0 1.5 -74.4
10	628.5 1.5 -74.4	630.0 1.5 -74.4	631.5 1.5 -74.3	633.0 1.5 -74.3	634.5 1.6 -74.3	636.1 1.6 -74.3	637.7 1.5 -74.3	639.2 1.5 -74.3	640.7 1.6 -74.2	642.3 1.6 -74.2
11	643.9 1.6 -74.3	645.5 1.6 -74.2	647.1 1.6 -74.1	648.7 1.7 -74.1	650.4 1.6 -74.1	652.0 1.7 -74.1	653.7 1.6 -74.1	655.3 1.7 -74.0	657.0 1.7 -74.0	658.7 1.7 -74.0
12	660.4 1.7 -74.0	662.1 1.7 -74.0	663.8 1.7 -73.9	665.5 1.7 -73.9	667.2 1.8 -73.9	669.0 1.7 -73.9	670.7 1.8 -73.9	672.5 1.8 -73.9	674.3 1.7 -73.9	676.0 1.8 -73.8
13	677.8 1.8 -73.8	679.6 1.8 -73.8	681.4 1.9 -73.8	683.3 1.8 -73.8	685.1 1.8 -73.8	686.9 1.9 -73.8	688.8 1.8 -73.8	690.6 1.9 -73.7	692.5 1.9 -73.7	694.4 1.9 -73.7

TABLE 2 —10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 28.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14-----	696.3 1.9 -73.7	698.2 1.8 -73.7	700.0 1.9 -73.6	701.9 2.0 -73.6	703.9 1.9 -73.6	705.8 2.0 -73.6	707.8 1.9 -73.6	709.7 2.0 -73.6	711.7 1.9 -73.6	713.6 2.0 -73.5
15-----	715.6 2.0 -73.5	717.6 2.0 -73.6	719.6 2.0 -73.5	721.6 2.0 -73.4	723.6 2.1 -73.4	725.7 2.0 -73.4	727.7 2.0 -73.4	729.7 2.1 -73.4	731.8 2.1 -73.4	733.9 2.0 -73.4
16-----	735.9 2.1 -73.3	738.0 2.1 -73.3	740.1 2.1 -73.3	742.2 2.1 -73.3	744.3 2.1 -73.3	746.4 2.2 -73.3	748.6 2.1 -73.3	750.7 2.1 -73.3	752.8 2.1 -73.2	755.9 2.2 -73.2
17-----	757.1 2.2 -73.2	759.3 2.2 -73.2	761.5 2.2 -73.2	763.7 2.2 -73.2	765.9 2.2 -73.2	768.1 2.2 -73.2	770.3 2.2 -73.2	772.5 2.2 -73.1	774.7 2.3 -73.1	777.0 2.3 -73.1
18-----	779.3 2.3 -73.1	781.6 2.3 -73.1	783.8 2.3 -73.1	786.1 2.3 -73.1	788.4 2.2 -73.1	790.6 2.3 -73.0	792.9 2.4 -73.0	795.3 2.3 -73.0	797.6 2.3 -73.0	799.9 2.4 -73.0
19-----	802.3 2.3 -73.0	804.6 2.4 -73.0	807.0 2.3 -73.0	809.3 2.4 -72.9	811.7 2.4 -72.9	814.1 2.4 -72.9	816.5 2.4 -72.9	818.9 2.4 -72.9	821.3 2.4 -72.9	823.7 2.4 -72.8
20-----	826.1 2.5 -72.8	828.6 2.4 -72.8	831.0 2.4 -72.8	833.4 2.5 -72.8	835.9 2.5 -72.8	838.4 2.5 -72.8	840.9 2.5 -72.8	843.4 2.5 -72.8	845.9 2.5 -72.8	848.4 2.5 -72.8
21-----	850.9 2.6 -72.8	853.4 2.5 -72.8	855.9 2.5 -72.7	858.4 2.6 -72.7	861.0 2.6 -72.7	863.6 2.6 -72.7	866.2 2.6 -72.7	868.8 2.5 -72.7	871.3 2.6 -72.7	873.9 2.6 -72.7

TABLE 2 —10<sup>4</sup>A<sub>s</sub> FOR SALINITY 28.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22	870.5 2.6 -72.7	879.1 2.6 -72.7	881.7 2.6 -72.7	884.3 2.6 -72.6	886.9 2.7 -72.6	889.6 2.6 -72.6	892.2 2.7 -72.6	894.9 2.7 -72.6	897.6 2.6 -72.6	900.2 2.7 -72.5
23	902.0 2.7 -72.5	905.6 2.7 -72.5	908.3 2.7 -72.5	911.0 2.7 -72.5	913.7 2.7 -72.5	916.4 2.8 -72.5	919.2 2.7 -72.5	921.9 2.8 -72.5	924.7 2.7 -72.5	927.4 2.8 -72.5
24	930.2 2.7 -72.5	932.9 2.8 -72.4	935.7 2.8 -72.4	938.5 2.8 -72.4	941.3 2.8 -72.4	944.1 2.8 -72.4	946.9 2.8 -72.4	949.7 2.9 -72.4	952.6 2.8 -72.4	955.4 2.9 -72.4
25	958.3 2.8 -72.4	961.1 2.9 -72.4	964.0 2.8 -72.4	966.8 2.9 -72.3	969.7 2.9 -72.3	972.6 2.9 -72.3	975.5 2.9 -72.3	978.4 2.9 -72.3	981.3 2.9 -72.3	984.2 2.9 -72.3
26	987.1 2.9 -72.3	990.1 2.9 -72.3	993.0 3.0 -72.3	996.0 3.0 -72.3	999.0 2.9 -72.3	1001.9 3.0 -72.3	1004.9 3.0 -72.3	1007.9 3.0 -72.3	1010.9 3.0 -72.3	1013.9 3.0 -72.3
27	1016.9 2.9 -72.3	1019.9 3.0 -72.2	1022.9 3.0 -72.2	1025.9 3.0 -72.2	1028.9 3.1 -72.2	1032.0 3.1 -72.2	1035.1 3.0 -72.2	1038.1 3.1 -72.2	1041.2 3.1 -72.2	1044.3 3.2 -72.2
28	1047.5 3.1 -72.2	1050.6 3.1 -72.2	1053.7 3.0 -72.2	1056.7 3.1 -72.1	1059.8 3.2 -72.1	1063.0 3.1 -72.1	1066.1 3.1 -72.1	1069.2 3.2 -72.1	1072.4 3.2 -72.1	1075.6 3.2 -72.1
29	1078.8 3.1 -72.1	1081.9 3.2 -72.1	1085.1 3.2 -72.1	1088.3 3.2 -72.1	1091.5 3.2 -72.1	1094.7 3.2 -72.1	1097.9 3.2 -72.1	1101.1 3.2 -72.1	1104.3 3.2 -72.1	1107.6 3.2 -72.1

TABLE 2 - 10'  $\Delta$  st FOR SALINITY 28.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
30---	1110.87 3.26 -72.08	1117.39 3.27 -72.07	1124.67 3.28 -72.07	1132.03 3.29 -72.06	1139.59 3.30 -72.06	1147.43 3.30 -72.06	1155.23 3.30 -72.06	1163.92 3.30 -72.06	1172.83 3.31 -72.05	1181.11 3.32 -72.05	1190.46 3.33 -72.04
31---	1113.79 3.34 -72.04	1120.47 3.35 -72.03	1127.82 3.36 -72.03	1135.82 3.37 -72.03	1143.18 3.37 -72.03	1150.55 3.38 -72.02	1158.52 3.38 -72.02	1167.31 3.39 -72.01	1176.70 3.40 -72.01	1186.10 3.41 -72.01	
32---	1177.20 3.41 -72.01	1184.92 3.42 -72.00	1192.77 3.44 -72.00	1200.77 3.44 -72.00	1208.91 3.45 -71.99	1217.11 3.45 -71.99	1225.36 3.46 -71.99	1233.62 3.47 -71.98	1241.98 3.48 -71.98	1250.41 3.49 -71.98	
33---	1212.00 3.59 -71.98	1218.99 3.61 -71.97	1226.10 3.62 -71.97	1233.32 3.62 -71.97	1240.64 3.62 -71.97	1248.06 3.63 -71.96	1255.58 3.63 -71.96	1263.10 3.64 -71.96	1270.62 3.64 -71.96	1278.14 3.64 -71.95	
34---	1247.28 3.67 -71.95	1254.43 3.69 -71.95	1261.62 3.69 -71.95	1268.83 3.69 -71.95	1276.04 3.69 -71.95	1283.25 3.69 -71.95	1290.46 3.69 -71.95	1297.67 3.69 -71.95	1304.88 3.69 -71.95	1312.09 3.69 -71.95	
35---	1283.32 3.68 -71.93	1290.66 3.67 -71.93	1298.00 3.67 -71.93	1305.33 3.67 -71.93	1312.66 3.68 -71.93	1320.00 3.68 -71.93	1327.33 3.68 -71.93	1334.66 3.68 -71.93	1342.00 3.68 -71.93	1349.33 3.68 -71.93	

TABLE 2 --10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 29.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	456.4 -0.3 -77.6	456.2 -0.2 -77.0	456.0 -0.2 -77.0	455.8 -0.1 -77.0	455.7 -0.1 -77.0	455.6 -0.2 -77.1	455.4 -0.1 -77.1	455.3 0.0 -77.1	455.3 -0.1 -77.2	455.2 0.0 -77.2
-0---	459.0 -0.4 -76.7	458.6 -0.3 -76.7	458.3 -0.3 -76.7	458.0 -0.2 -76.7	457.8 -0.3 -76.8	457.5 -0.3 -76.8	457.2 -0.2 -76.8	457.0 -0.3 -76.9	456.8 -0.2 -76.9	456.6 -0.2 -77.0
+0---	459.0 0.3 -76.7	459.3 0.3 -76.7	459.6 0.4 -76.6	460.0 0.4 -76.6	460.4 0.4 -76.6	460.8 0.4 -76.6	461.2 0.4 -76.5	461.6 0.4 -76.5	462.0 0.5 -76.4	462.5 0.5 -76.4
1----	463.0 0.4 -76.4	463.4 0.5 -76.4	463.9 0.5 -76.4	464.4 0.5 -76.3	464.9 0.5 -76.3	465.4 0.5 -76.2	465.9 0.6 -76.2	466.5 0.6 -76.2	467.1 0.6 -76.2	467.7 0.6 -76.2
2----	468.3 0.6 -76.2	468.9 0.6 -76.2	469.5 0.6 -76.1	470.1 0.6 -76.1	470.7 0.7 -76.0	471.4 0.7 -76.0	472.1 0.7 -76.0	472.8 0.7 -76.0	473.5 0.7 -76.0	474.2 0.7 -76.0
3----	474.9 0.7 -75.9	475.6 0.7 -75.9	476.3 0.8 -75.8	477.1 0.8 -75.8	477.9 0.7 -75.8	478.6 0.8 -75.7	479.4 0.8 -75.7	480.2 0.9 -75.7	481.1 0.8 -75.7	481.9 0.9 -75.7
4----	482.8 0.8 -75.7	483.6 0.8 -75.6	484.4 0.9 -75.5	485.3 0.9 -75.5	486.2 0.9 -75.5	487.1 0.9 -75.5	488.0 0.9 -75.5	488.9 1.0 -75.4	489.9 0.9 -75.4	490.8 1.0 -75.4
5----	491.8 1.0 -75.4	492.8 0.9 -75.4	493.7 1.0 -75.3	494.7 1.1 -75.3	495.8 1.0 -75.3	496.8 1.0 -75.3	497.8 1.0 -75.3	498.8 1.1 -75.2	499.9 1.0 -75.2	500.9 1.1 -75.1

TABLE 2 --10<sup>3</sup>Δ<sub>s,t</sub> FOR SALINITY 29.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6----	502.0	503.1	504.2	505.3	506.4	507.6	508.7	509.9	511.0	512.2
	1.1 -75.1	1.1 -75.1	1.1 -75.1	1.1 -75.1	1.2 -75.0	1.1 -75.0	1.2 -75.0	1.1 -75.0	1.2 -74.9	1.2 -74.9
7----	513.4	514.6	515.8	517.0	518.2	519.5	520.8	522.0	523.3	524.6
	1.2 -74.9	1.2 -74.9	1.2 -74.8	1.2 -74.8	1.3 -74.8	1.3 -74.8	1.2 -74.8	1.3 -74.7	1.3 -74.7	1.3 -74.7
8----	525.9	527.2	528.5	529.8	531.2	532.6	533.9	535.3	536.7	538.1
	1.3 -74.7	1.3 -74.7	1.3 -74.6	1.4 -74.6	1.4 -74.6	1.3 -74.6	1.4 -74.5	1.4 -74.5	1.4 -74.5	1.4 -74.5
9----	539.5	540.9	542.3	543.7	545.2	546.7	548.2	549.6	551.1	552.6
	1.4 -74.5	1.4 -74.5	1.4 -74.4	1.5 -74.4	1.5 -74.4	1.5 -74.4	1.4 -74.4	1.5 -74.3	1.5 -74.3	1.5 -74.3
10----	554.1	555.6	557.2	558.7	560.2	561.8	563.4	564.9	566.5	568.1
	1.5 -74.3	1.6 -74.3	1.5 -74.3	1.5 -74.3	1.6 -74.2	1.6 -74.2	1.5 -74.2	1.6 -74.1	1.6 -74.1	1.6 -74.1
11----	569.7	571.3	573.0	574.6	576.3	577.9	579.6	481.3	583.0	584.7
	1.6 -74.1	1.7 -74.1	1.6 -74.1	1.7 -74.0	1.6 -74.0	1.7 -74.0	1.7 -74.0	1.7 -74.0	1.7 -74.0	1.7 -74.0
12----	586.4	588.1	589.9	591.6	593.3	595.1	596.8	598.6	600.4	602.2
	1.7 -74.0	1.8 -73.9	1.7 -73.9	1.7 -73.9	1.8 -73.8	1.7 -73.8	1.8 -73.8	1.8 -73.8	1.8 -73.8	1.8 -73.7
13----	604.0	605.8	607.6	609.5	611.3	613.1	615.0	616.9	618.8	620.7
	1.8 -73.7	1.8 -73.7	1.9 -73.7	1.8 -73.7	1.8 -73.6	1.9 -73.6	1.9 -73.6	1.9 -73.6	1.9 -73.6	1.9 -73.6

TABLE 2 —10<sup>4</sup>A<sub>s</sub> FOR SALINITY 29.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14----	622.6 1.9 -73.6	624.5 1.9 -73.6	626.4 1.9 -73.5	628.3 2.0 -73.5	630.3 1.9 -73.5	632.2 2.0 -73.5	634.2 1.9 -73.5	636.1 2.0 -73.4	638.1 2.0 -73.4	640.1 2.0 -73.4
15----	642.1 2.0 -73.4	644.1 2.0 -73.4	646.1 2.1 -73.4	648.2 2.0 -73.4	650.2 2.1 -73.4	652.3 2.0 -73.4	654.3 2.0 -73.4	656.3 2.1 -73.3	658.4 2.1 -73.3	660.5 2.1 -73.3
16----	662.6 2.1 -73.3	664.7 2.1 -73.3	666.8 2.1 -73.3	668.9 2.1 -73.2	671.0 2.1 -73.2	673.1 2.2 -73.2	675.3 2.1 -73.2	677.4 2.2 -73.2	679.6 2.1 -73.2	681.7 2.2 -73.1
17----	683.9 2.2 -73.1	686.1 2.2 -73.1	688.3 2.2 -73.1	690.5 2.2 -73.1	692.7 2.2 -73.1	694.9 2.2 -73.0	697.1 2.3 -73.0	699.4 2.2 -73.0	701.6 2.3 -73.0	703.9 2.3 -73.0
18----	706.2 2.3 -73.0	708.5 2.2 -73.0	710.7 2.3 -72.9	713.0 2.3 -72.9	715.3 2.3 -72.9	717.6 2.3 -72.9	719.9 2.4 -72.9	722.3 2.3 -72.9	724.6 2.3 -72.9	726.9 2.4 -72.9
19----	729.3 2.3 -72.9	731.6 2.4 -72.8	734.0 2.4 -72.8	736.4 2.4 -72.8	738.8 2.4 -72.8	741.2 2.4 -72.8	743.6 2.4 -72.8	746.0 2.4 -72.8	748.4 2.5 -72.8	750.9 2.4 -72.8
20----	753.3 2.5 -72.8	755.8 2.4 -72.8	758.2 2.4 -72.8	760.6 2.5 -72.7	763.1 2.5 -72.7	765.6 2.5 -72.7	768.1 2.5 -72.7	770.6 2.5 -72.7	773.1 2.5 -72.7	775.6 2.5 -72.6
21----	778.1 2.5 -72.6	780.6 2.6 -72.6	783.2 2.5 -72.6	785.7 2.6 -72.6	788.3 2.6 -72.6	790.9 2.6 -72.6	793.5 2.6 -72.6	796.1 2.5 -72.6	798.6 2.6 -72.5	801.2 2.6 -72.5

TABLE 2 —10<sup>5</sup>Δ<sub>s</sub>, FOR SALINITY 29.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22-----	803.8 2.6 -72.5	806.4 2.6 -72.5	809.0 2.7 -72.5	811.7 2.6 -72.5	814.3 2.7 -72.5	817.0 2.6 -72.5	819.6 2.7 -72.5	822.3 2.7 -72.5	825.0 2.7 -72.5	827.7 2.7 -72.6
23-----	830.4 2.7 -72.5	833.1 2.7 -72.5	835.8 2.7 -72.5	838.5 2.7 -72.5	841.2 2.7 -72.4	843.9 2.8 -72.4	846.7 2.7 -72.4	849.4 2.8 -72.4	852.2 2.7 -72.4	854.9 2.8 -72.4
24-----	857.7 2.8 -72.4	860.5 2.8 -72.4	863.3 2.8 -72.4	866.1 2.8 -72.4	868.9 2.8 -72.4	871.7 2.8 -72.4	874.5 2.8 -72.3	877.3 2.9 -72.3	880.2 2.8 -72.3	883.0 2.9 -72.3
25-----	885.9 2.8 -72.3	888.7 2.9 -72.3	891.6 2.9 -72.3	894.5 2.9 -72.3	897.4 2.9 -72.3	900.3 2.9 -72.3	903.2 2.9 -72.3	906.1 2.9 -72.3	909.0 2.9 -72.2	911.9 2.9 -72.2
26-----	914.8 3.0 -72.2	917.8 2.9 -72.2	920.7 3.0 -72.2	923.7 3.0 -72.2	926.7 2.9 -72.2	929.6 3.0 -72.2	932.6 3.0 -72.2	935.6 3.0 -72.2	938.6 3.0 -72.2	941.6 3.0 -72.2
27-----	944.6 3.1 -72.2	947.7 3.0 -72.2	950.7 3.0 -72.1	953.7 3.0 -72.1	956.7 3.1 -72.1	959.8 3.1 -72.1	962.9 3.0 -72.1	965.9 3.1 -72.1	969.0 3.1 -72.1	972.1 3.2 -72.1
28-----	975.3 3.1 -72.1	978.4 3.1 -72.1	981.5 3.1 -72.1	984.6 3.1 -72.1	987.7 3.2 -72.1	990.9 3.1 -72.1	994.0 3.1 -72.1	997.1 3.2 -72.1	1000.3 3.2 -72.1	1003.5 3.2 -72.1
29-----	1006.7 3.1 -72.1	1009.8 3.2 -72.1	1013.0 3.2 -72.1	1016.0 3.2 -72.1	1019.4 3.2 -72.1	1022.6 3.2 -72.1	1025.8 3.2 -72.0	1029.0 3.2 -72.0	1032.2 3.3 -72.0	1035.5 3.3 -72.0



TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 29.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	1038.79 3.26 -72.03	1042.05 3.27 -72.02	1045.32 3.28 -72.02	1048.60 3.28 -72.01	1051.88 3.29 -72.01	1055.17 3.30 -72.01	1058.47 3.31 -72.00	1061.78 3.32 -72.00	1065.10 3.32 -71.99	1068.42 3.33 -71.99
31---	1071.75 3.34 -71.99	1075.09 3.35 -71.98	1078.44 3.35 -71.98	1081.79 3.36 -71.98	1085.16 3.37 -71.97	1088.53 3.38 -71.97	1091.90 3.39 -71.97	1095.29 3.39 -71.96	1098.68 3.40 -71.96	1102.09 3.41 -71.96
32---	1105.50 3.42 -71.95	1108.91 3.43 -71.95	1112.34 3.43 -71.95	1115.77 3.44 -71.95	1119.21 3.45 -71.94	1122.66 3.46 -71.94	1126.12 3.46 -71.94	1129.58 3.47 -71.94	1133.06 3.48 -71.93	1136.54 3.49 -71.93
33---	1140.02 3.50 -71.93	1143.52 3.50 -71.93	1147.02 3.51 -71.92	1150.53 3.52 -71.92	1154.05 3.53 -71.92	1157.58 3.53 -71.92	1161.11 3.54 -71.91	1164.66 3.55 -71.91	1168.21 3.56 -71.91	1171.77 3.57 -71.91
34---	1175.33 3.57 -71.91	1178.91 3.58 -71.90	1182.49 3.59 -71.90	1186.08 3.60 -71.90	1189.67 3.60 -71.90	1193.28 3.61 -71.90	1196.89 3.62 -71.90	1200.51 3.63 -71.89	1204.14 3.64 -71.89	1207.78 3.64 -71.89
35---	1211.42 3.65 -71.89	1215.07 3.66 -71.89	1218.73 3.67 -71.89	1222.40 3.68 -71.89	1226.07 3.68 -71.89	1229.76 3.69 -71.88	1233.45 3.70 -71.88	1237.15 3.71 -71.88	1240.85 3.71 -71.88	1244.57 3.72 -71.88

TABLE 2 —10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 30.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1----	379.4 -0.2 -77.0	379.2 -0.2 -77.0	379.0 -0.2 -77.0	378.8 -0.1 -77.0	378.7 -0.2 -77.1	378.5 -0.2 -77.1	378.3 -0.1 -77.1	378.2 -0.1 -77.1	378.1 -0.1 -77.2	378.0 -0.1 -77.2
-0----	382.3 -0.4 -76.7	381.9 -0.3 -76.7	381.6 -0.3 -76.7	381.3 -0.3 -76.7	381.0 -0.3 -76.8	380.7 -0.3 -76.8	380.4 -0.3 -76.8	380.1 -0.2 -76.8	379.9 -0.3 -76.9	379.6 -0.2 -76.9
+0----	382.3 0.3 -76.7	382.6 0.4 -76.6	383.0 0.4 -76.6	383.4 0.4 -76.5	383.8 0.4 -76.5	384.2 0.5 -76.5	384.7 0.4 -76.5	385.1 0.5 -76.4	385.6 0.5 -76.4	386.1 0.5 -76.4
1----	386.6 0.4 -76.4	387.0 0.5 -76.3	387.5 0.6 -76.3	388.1 0.5 -76.3	388.6 0.6 -76.2	389.2 0.5 -76.2	389.7 0.6 -76.1	390.3 0.6 -76.1	390.9 0.6 -76.1	391.5 0.6 -76.1
2----	392.1 0.6 -76.0	392.7 0.7 -76.0	393.4 0.6 -76.0	394.0 0.7 -75.9	394.7 0.7 -75.9	395.4 0.7 -75.9	396.1 0.7 -75.9	396.8 0.7 -75.9	397.5 0.7 -75.8	398.2 0.8 -75.8
3----	399.0 0.7 -75.8	399.7 0.8 -75.7	400.5 0.8 -75.7	401.3 0.8 -75.7	402.1 0.8 -75.7	402.9 0.8 -75.7	403.7 0.8 -75.6	404.5 0.9 -75.6	405.4 0.8 -75.6	406.2 0.9 -75.5
4----	407.1 0.9 -75.5	408.0 0.9 -75.5	408.9 0.9 -75.5	409.8 0.9 -75.5	410.7 0.9 -75.4	411.6 0.9 -75.4	412.5 1.0 -75.4	413.5 1.0 -75.4	414.5 0.9 -75.4	415.4 1.0 -75.3
5----	416.4 1.0 -75.3	417.4 1.0 -75.3	418.4 1.0 -75.2	419.4 1.1 -75.2	420.5 1.0 -75.2	421.5 1.1 -75.2	422.6 1.0 -75.2	423.6 1.1 -75.1	424.7 1.1 -75.1	425.8 1.1 -75.1

TABLE 2 — 10‰, FOR SALINITY 30.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6-----	426.9 1.1 -73.1	428.0 1.1 -75.0	429.1 1.1 -75.0	430.2 1.2 -75.0	431.4 1.2 -75.0	432.6 1.1 -75.0	433.7 1.2 -74.9	434.9 1.2 -74.9	436.1 1.2 -74.9	437.3 1.2 -74.9
7-----	438.5 1.2 -74.8	439.7 1.3 -74.8	441.0 1.2 -74.8	442.2 1.2 -74.8	443.4 1.3 -74.7	444.7 1.3 -74.7	446.0 1.3 -74.7	447.3 1.3 -74.7	448.6 1.3 -74.7	449.9 1.3 -74.6
8-----	451.2 1.3 -74.6	452.5 1.4 -74.6	453.9 1.3 -74.6	455.2 1.4 -74.5	456.6 1.4 -74.5	458.0 1.4 -74.5	459.4 1.4 -74.5	460.8 1.4 -74.5	462.2 1.4 -74.5	463.6 1.4 -74.5
9-----	465.0 1.4 -74.4	466.4 1.5 -74.4	467.9 1.4 -74.4	469.3 1.5 -74.3	470.8 1.5 -74.3	472.3 1.5 -74.3	473.8 1.5 -74.3	475.3 1.5 -74.3	476.8 1.5 -74.3	478.3 1.5 -74.2
10-----	479.8 1.5 -74.2	481.3 1.6 -74.2	482.9 1.5 -74.2	484.4 1.6 -74.1	486.0 1.6 -74.1	487.6 1.6 -74.1	489.2 1.6 -74.1	490.8 1.6 -74.1	492.4 1.6 -74.1	494.0 1.6 -74.0
11-----	495.6 1.6 -74.0	497.2 1.7 -74.0	498.9 1.7 -74.0	500.6 1.7 -74.0	502.3 1.6 -74.0	503.9 1.7 -73.9	505.6 1.7 -73.9	507.3 1.7 -73.9	509.0 1.7 -73.9	510.7 1.7 -73.9
12-----	512.4 1.6 -73.8	514.2 1.6 -73.8	516.0 1.7 -73.8	517.7 1.8 -73.8	519.5 1.8 -73.8	521.3 1.7 -73.8	523.0 1.8 -73.7	524.8 1.8 -73.7	526.6 1.9 -73.7	528.5 1.8 -73.7
13-----	530.3 1.8 -73.7	532.1 1.8 -73.6	533.9 1.9 -73.6	535.8 1.9 -73.6	537.7 1.8 -73.6	539.5 1.9 -73.6	541.4 1.9 -73.6	543.3 1.9 -73.6	545.2 1.9 -73.6	547.1 1.9 -73.6

TABLE 2 —10<sup>4</sup>Δ<sub>s</sub>, FOR SALINITY 30.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14.---	549.0 1.9 -73.5	550.9 2.0 -73.5	552.9 1.9 -73.5	554.8 2.0 -73.5	556.8 1.9 -73.5	558.7 2.0 -73.4	560.7 2.0 -73.4	562.7 2.0 -73.4	564.7 2.0 -73.4	566.7 2.0 -73.4
15.---	568.7 2.0 -73.4	570.7 2.0 -73.3	572.7 2.1 -73.3	574.8 2.0 -73.3	576.8 2.1 -73.3	578.9 2.0 -73.3	580.9 2.1 -73.2	583.0 2.1 -73.2	585.1 2.1 -73.2	587.2 2.1 -73.2
16.---	589.3 2.1 -73.2	591.4 2.1 -73.2	593.5 2.2 -73.2	595.7 2.1 -73.2	597.8 2.1 -73.2	599.9 2.2 -73.1	602.1 2.1 -73.1	604.2 2.2 -73.1	606.4 2.2 -73.1	608.6 2.2 -73.1
17.---	610.8 2.2 -73.1	613.0 2.2 -73.1	615.2 2.2 -73.1	617.4 2.2 -73.0	619.6 2.3 -73.0	621.9 2.2 -73.0	624.1 2.3 -73.0	626.4 2.2 -73.0	628.6 2.3 -73.0	630.9 2.3 -73.0
18.---	633.2 2.3 -73.0	635.5 2.3 -73.0	637.8 2.3 -73.0	640.1 2.3 -73.0	642.4 2.3 -73.0	644.7 2.3 -72.9	647.0 2.4 -72.9	649.4 2.3 -72.9	651.7 2.3 -72.9	654.0 2.4 -72.8
19.---	656.4 2.4 -72.8	658.8 2.4 -72.8	661.2 2.4 -72.8	663.6 2.4 -72.8	666.0 2.4 -72.8	668.4 2.4 -72.8	670.8 2.4 -72.8	673.2 2.4 -72.7	675.6 2.5 -72.7	678.1 2.4 -72.7
20.---	680.5 2.5 -72.7	683.0 2.4 -72.7	685.4 2.5 -72.7	687.9 2.5 -72.7	690.4 2.5 -72.7	692.9 2.5 -72.7	695.4 2.5 -72.7	697.9 2.5 -72.6	700.4 2.6 -72.6	703.0 2.5 -72.6
21.---	705.5 2.5 -72.6	708.0 2.6 -72.6	710.6 2.5 -72.6	713.1 2.6 -72.6	715.7 2.6 -72.6	718.3 2.6 -72.6	720.9 2.6 -72.6	723.5 2.6 -72.6	726.1 2.6 -72.6	728.7 2.6 -72.6

TABLE 2 — 10<sup>Δ<sub>s</sub></sup> FOR SALINITY 30.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22-----	731.3 2.6 -72.6	733.9 2.6 -72.5	736.5 2.7 -72.5	739.2 2.6 -72.5	741.8 2.7 -72.5	744.5 2.6 -72.5	747.1 2.7 -72.4	749.8 2.7 -72.4	752.5 2.7 -72.4	755.2 2.7 -72.4
23-----	757.9 2.7 -72.4	760.6 2.7 -72.4	763.3 2.7 -72.4	766.0 2.8 -72.4	768.8 2.7 -72.4	771.5 2.8 -72.4	774.3 2.7 -72.4	777.0 2.8 -72.4	779.8 2.7 -72.4	782.5 2.8 -72.3
24-----	785.3 2.8 -72.3	788.1 2.8 -72.3	790.9 2.8 -72.3	793.7 2.8 -72.3	796.5 2.8 -72.3	799.3 2.9 -72.3	802.2 2.8 -72.3	805.0 2.9 -72.3	807.9 2.8 -72.3	810.7 2.9 -72.3
25-----	813.6 2.8 -72.3	816.4 2.9 -72.2	819.3 2.9 -72.2	822.2 2.9 -72.2	825.1 2.9 -72.2	828.0 2.9 -72.2	830.9 2.9 -72.2	833.8 3.0 -72.2	836.8 2.9 -72.2	839.7 2.9 -72.2
26-----	842.6 3.0 -72.2	845.6 2.9 -72.2	848.5 3.0 -72.2	851.5 3.0 -72.2	854.5 2.9 -72.2	857.4 3.0 -72.1	860.4 3.0 -72.1	863.4 3.0 -72.1	866.4 3.0 -72.1	869.4 3.0 -72.1
27-----	872.4 3.1 -72.1	875.5 3.1 -72.1	878.6 3.0 -72.1	881.6 3.0 -72.1	884.6 3.1 -72.1	887.7 3.1 -72.1	890.8 3.0 -72.1	893.8 3.1 -72.1	896.9 3.1 -72.1	900.0 3.2 -72.1
28-----	903.2 3.1 -72.1	906.3 3.1 -72.1	909.4 3.1 -72.1	912.5 3.1 -72.1	915.6 3.2 -72.1	918.8 3.1 -72.1	921.9 3.1 -72.1	925.0 3.2 -72.0	928.2 3.2 -72.0	931.4 3.2 -72.0
29-----	934.6 3.1 -72.0	937.7 3.2 -72.0	940.9 3.2 -72.0	944.1 3.2 -72.0	947.3 3.2 -72.0	950.5 3.3 -72.0	953.8 3.2 -72.0	957.0 3.2 -72.0	960.2 3.3 -72.0	963.5 3.3 -72.0

TABLE 2 -  $10^5 \Delta_{st}$  FOR SALINITY 30.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	966.77 3.26 -71.98	970.03 3.27 -71.97	973.30 3.28 -71.97	976.58 3.29 -71.96	979.87 3.30 -71.96	983.17 3.30 -71.96	986.47 3.31 -71.95	989.78 3.32 -71.95	993.10 3.33 -71.95	996.43 3.33 -71.94
31---	999.76 3.34 -71.94	1003.11 3.35 -71.94	1006.46 3.36 -71.93	1009.82 3.37 -71.93	1013.18 3.37 -71.93	1016.56 3.38 -71.92	1019.94 3.39 -71.92	1023.33 3.40 -71.92	1026.72 3.41 -71.91	1030.13 3.41 -71.91
32---	1033.54 3.42 -71.91	1036.96 3.43 -71.91	1040.39 3.44 -71.90	1043.83 3.44 -71.90	1047.27 3.45 -71.90	1050.72 3.46 -71.89	1054.18 3.47 -71.89	1057.65 3.47 -71.89	1061.12 3.48 -71.89	1064.61 3.49 -71.89
33---	1068.10 3.50 -71.88	1071.59 3.51 -71.88	1075.10 3.51 -71.88	1078.61 3.52 -71.88	1082.13 3.53 -71.87	1085.66 3.54 -71.87	1089.20 3.54 -71.87	1092.75 3.55 -71.87	1096.30 3.56 -71.87	1099.86 3.57 -71.87
34---	1103.43 3.58 -71.86	1107.00 3.58 -71.86	1110.58 3.59 -71.86	1114.18 3.60 -71.86	1117.77 3.61 -71.86	1121.38 3.61 -71.86	1124.99 3.62 -71.86	1128.62 3.63 -71.85	1132.25 3.64 -71.85	1135.88 3.65 -71.85
35---	1139.53 3.65 -71.85	1143.18 3.66 -71.85	1146.84 3.67 -71.85	1150.51 3.68 -71.85	1154.19 3.68 -71.85	1157.87 3.69 -71.85	1161.56 3.70 -71.85	1165.26 3.71 -71.85	1168.97 3.72 -71.85	1172.68 3.72 -71.84

TABLE 2 —10‰, FOR SALINITY 31.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1----	302.4 -0.3 -76.8	302.2 -0.3 -76.9	302.0 -0.3 -76.9	301.8 -0.3 -77.0	301.6 -0.3 -77.0	301.4 -0.3 -77.0	301.2 -0.1 -77.0	301.1 -0.3 -77.1	300.9 -0.1 -77.1	300.8 -0.1 -77.1
-0----	305.6 -0.4 -76.5	305.2 -0.3 -76.5	304.9 -0.3 -76.6	304.6 -0.4 -76.7	304.2 -0.3 -76.7	303.9 -0.3 -76.7	303.6 -0.3 -76.8	303.3 -0.3 -76.8	303.0 -0.3 -76.8	302.7 -0.3 -76.8
+0----	305.6 0.4 -76.5	306.0 0.4 -76.5	306.4 0.5 -76.5	306.9 0.4 -76.5	307.3 0.4 -76.4	307.7 0.5 -76.3	308.2 0.5 -76.3	308.7 0.5 -76.3	309.2 0.5 -76.3	309.7 0.5 -76.3
1-----	310.2 0.5 -76.3	310.7 0.5 -76.3	311.2 0.5 -76.3	311.8 0.6 -76.3	312.4 0.6 -76.3	313.0 0.6 -76.3	313.6 0.6 -76.1	314.2 0.6 -76.1	314.8 0.6 -76.1	315.4 0.7 -76.0
2-----	316.1 0.6 -76.0	316.7 0.7 -76.9	317.4 0.7 -76.9	318.1 0.7 -76.9	318.8 0.7 -76.9	319.5 0.7 -76.9	320.2 0.7 -76.9	320.9 0.8 -76.8	321.7 0.7 -76.8	322.4 0.8 -76.7
3-----	323.2 0.9 -75.7	324.0 0.9 -75.7	324.8 0.9 -75.7	325.6 0.8 -75.7	326.4 0.8 -75.6	327.2 0.9 -75.6	328.1 0.8 -75.6	328.9 0.9 -75.5	329.8 0.9 -75.5	330.7 0.9 -75.5
4-----	331.6 0.9 -75.5	332.5 0.9 -75.5	333.4 0.9 -75.5	334.3 1.0 -75.4	335.3 0.9 -75.4	336.2 0.9 -75.4	337.1 1.0 -75.3	338.1 1.0 -75.3	339.1 1.0 -75.3	340.1 1.0 -75.2
5-----	341.1 1.0 -75.3	342.1 1.1 -75.3	343.2 1.0 -75.3	344.2 1.1 -75.3	345.3 1.0 -75.3	346.3 1.1 -75.1	347.4 1.1 -75.1	348.5 1.1 -75.1	349.6 1.1 -75.1	350.7 1.1 -75.0

TABLE 2 —10‰, FOR SALINITY 31.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6	351.5 1.2 -73.0	353.0 1.1 -73.0	354.1 1.1 -74.9	355.2 1.2 -74.9	356.4 1.2 -74.9	357.6 1.2 -74.9	358.8 1.2 -74.8	360.0 1.2 -74.8	361.2 1.2 -74.8	362.4 1.3 -74.8
7	363.7 1.2 -74.8	364.9 1.3 -74.7	366.2 1.2 -74.7	367.4 1.3 -74.7	368.7 1.3 -74.7	370.0 1.3 -74.7	371.3 1.3 -74.6	372.6 1.3 -74.6	373.9 1.4 -74.6	375.3 1.3 -74.6
8	376.6 1.3 -74.6	377.9 1.4 -74.6	379.3 1.4 -74.6	380.7 1.4 -74.5	382.1 1.4 -74.5	383.5 1.4 -74.5	384.9 1.4 -74.5	386.3 1.4 -74.4	387.7 1.4 -74.4	389.1 1.5 -74.3
9	390.6 1.4 -74.3	392.0 1.5 -74.3	393.5 1.5 -74.3	395.0 1.5 -74.3	396.5 1.5 -74.3	398.0 1.5 -74.3	399.5 1.5 -74.3	401.0 1.5 -74.2	402.5 1.6 -74.2	404.1 1.5 -74.2
10	405.6 1.5 -74.3	407.1 1.6 -74.1	408.7 1.6 -74.1	410.3 1.6 -74.1	411.9 1.6 -74.1	413.5 1.6 -74.1	415.1 1.6 -74.0	416.7 1.6 -74.0	418.3 1.7 -74.0	420.0 1.6 -74.0
11	421.6 1.6 -73.9	423.2 1.7 -73.9	424.9 1.7 -73.9	426.6 1.7 -73.9	428.3 1.7 -73.9	430.0 1.7 -73.9	431.7 1.7 -73.8	433.4 1.7 -73.8	435.1 1.8 -73.8	436.9 1.7 -73.8
12	438.6 1.8 -73.8	440.4 1.8 -73.8	442.2 1.7 -73.8	443.9 1.8 -73.7	445.7 1.8 -73.7	447.5 1.8 -73.7	449.3 1.8 -73.7	451.1 1.8 -73.7	452.9 1.9 -73.6	454.8 1.8 -73.6
13	456.6 1.8 -73.6	458.4 1.9 -73.6	460.3 1.9 -73.6	462.2 1.9 -73.6	464.1 1.8 -73.6	465.9 1.9 -73.5	467.8 1.9 -73.5	469.7 1.9 -73.5	471.6 1.9 -73.4	473.5 2.0 -73.4



TABLE 2 —10‰, FOR SALINITY 31.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14-----	475.5 1.9 -73.4	477.4 2.0 -73.4	479.4 1.9 -73.4	481.3 2.0 -73.4	483.3 2.0 -73.4	485.3 2.0 -73.4	487.3 2.0 -73.4	489.3 2.0 -73.3	491.3 2.0 -73.3	493.3 2.0 -73.3
15-----	495.3 2.1 -73.3	497.4 2.0 -73.3	499.4 2.1 -73.3	501.5 2.0 -73.3	503.5 2.1 -73.3	505.6 2.1 -73.2	507.7 2.1 -73.2	509.8 2.1 -73.2	511.9 2.1 -73.2	514.0 2.1 -73.2
16-----	516.1 2.1 -73.2	518.2 2.1 -73.1	520.3 2.2 -73.1	522.5 2.1 -73.1	524.6 2.2 -73.1	526.8 2.2 -73.1	529.0 2.2 -73.1	531.1 2.2 -73.0	533.3 2.2 -73.0	535.5 2.2 -73.0
17-----	537.7 2.2 -73.0	539.9 2.2 -73.0	542.1 2.3 -73.0	544.4 2.2 -73.0	546.6 2.3 -73.0	548.9 2.2 -73.0	551.1 2.3 -72.9	553.4 2.2 -72.9	555.6 2.3 -72.9	557.9 2.3 -72.9
18-----	560.2 2.3 -72.9	562.5 2.3 -72.8	564.8 2.3 -72.8	567.1 2.3 -72.8	569.4 2.4 -72.8	571.8 2.3 -72.8	574.1 2.4 -72.8	576.5 2.3 -72.8	578.8 2.4 -72.8	581.2 2.4 -72.8
19-----	583.6 2.4 -72.8	586.0 2.4 -72.8	588.4 2.4 -72.8	590.8 2.4 -72.7	593.2 2.4 -72.7	595.6 2.4 -72.7	598.0 2.5 -72.7	600.5 2.4 -72.7	602.9 2.5 -72.7	605.4 2.4 -72.7
20-----	607.8 2.5 -72.7	610.3 2.4 -72.7	612.7 2.5 -72.6	615.2 2.5 -72.6	617.7 2.5 -72.6	620.2 2.5 -72.6	622.7 2.6 -72.6	625.3 2.5 -72.6	627.8 2.6 -72.6	630.4 2.5 -72.6
21-----	632.9 2.5 -72.6	635.4 2.5 -72.5	638.0 2.5 -72.5	640.5 2.6 -72.5	643.1 2.6 -72.5	645.7 2.6 -72.5	648.3 2.6 -72.5	650.9 2.6 -72.5	653.5 2.6 -72.4	656.1 2.6 -72.4

TABLE 2  $-10^{\circ}\Delta_{\sigma_t}$  FOR SALINITY 31.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22	658.7 2.7 -72.4	661.4 2.6 -72.4	664.0 2.7 -72.4	666.7 2.6 -72.4	669.3 2.7 -72.4	672.0 2.7 -72.4	674.7 2.7 -72.4	677.4 2.7 -72.4	680.1 2.7 -72.4	682.8 2.7 -72.4
23	685.5 2.7 -72.4	688.2 2.7 -72.3	690.9 2.7 -72.3	693.6 2.8 -72.3	696.4 2.7 -72.3	699.1 2.8 -72.3	701.9 2.7 -72.3	704.6 2.8 -72.3	707.4 2.8 -72.3	710.2 2.8 -72.3
24	713.0 2.8 -72.3	715.8 2.8 -72.3	718.6 2.8 -72.3	721.4 2.8 -72.2	724.2 2.8 -72.2	727.0 2.9 -72.2	729.9 2.8 -72.2	732.7 2.9 -72.2	735.6 2.8 -72.2	738.4 2.9 -72.2
25	741.3 2.9 -72.2	744.2 2.9 -72.2	747.1 2.9 -72.2	750.0 2.9 -72.2	752.9 2.9 -72.2	755.8 2.9 -72.2	758.7 2.9 -72.2	761.6 3.0 -72.2	764.6 2.9 -72.2	767.5 2.9 -72.2
26	770.4 3.0 -72.1	773.4 2.9 -72.1	776.3 3.0 -72.1	779.3 3.0 -72.1	782.3 3.0 -72.1	785.3 3.0 -72.1	788.3 3.0 -72.1	791.3 3.0 -72.1	794.3 3.0 -72.1	797.3 3.0 -72.1
27	800.3 3.1 -72.1	803.4 3.1 -72.1	806.5 3.0 -72.1	809.5 3.0 -72.1	812.5 3.1 -72.0	815.6 3.1 -72.0	818.7 3.0 -72.0	821.7 3.1 -72.0	824.8 3.1 -72.0	827.9 3.2 -72.0
28	831.1 3.1 -72.0	834.2 3.1 -72.0	837.3 3.1 -72.0	840.4 3.1 -72.0	843.5 3.2 -72.0	846.7 3.1 -72.0	849.8 3.2 -72.0	853.0 3.2 -72.0	856.2 3.2 -72.0	859.4 3.2 -72.0
29	862.6 3.1 -72.0	865.7 3.2 -71.9	868.9 3.2 -71.9	872.1 3.2 -71.9	875.3 3.2 -71.9	878.5 3.3 -71.9	881.8 3.2 -71.9	885.0 3.2 -71.9	888.2 3.3 -71.9	891.5 3.3 -71.9

TABLE 2 -  $10^5 \Delta$  st FOR SALINITY 31.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	894.79 3.27 -71.93	898.06 3.28 -71.92	901.34 3.28 -71.92	904.62 3.29 -71.92	907.91 3.30 -71.91	911.21 3.31 -71.91	914.52 3.32 -71.91	917.83 3.32 -71.90	921.16 3.33 -71.90	924.49 3.34 -71.90
31---	927.63 3.35 -71.89	931.17 3.35 -71.89	934.55 3.36 -71.89	937.89 3.37 -71.89	941.26 3.38 -71.88	944.63 3.38 -71.88	948.02 3.39 -71.88	951.41 3.40 -71.87	954.81 3.41 -71.87	958.22 3.42 -71.87
32---	961.63 3.42 -71.86	965.06 3.43 -71.86	968.49 3.44 -71.86	971.93 3.45 -71.86	975.37 3.45 -71.86	978.83 3.46 -71.85	982.29 3.47 -71.85	985.76 3.48 -71.85	989.24 3.48 -71.85	992.72 3.49 -71.84
33---	996.21 3.50 -71.84	999.71 3.51 -71.84	1003.22 3.52 -71.84	1006.74 3.52 -71.84	1010.26 3.53 -71.84	1013.79 3.54 -71.83	1017.35 3.54 -71.83	1020.86 3.55 -71.83	1024.43 3.56 -71.83	1027.99 3.57 -71.83
34---	1031.56 3.58 -71.83	1035.14 3.58 -71.83	1038.72 3.59 -71.82	1042.32 3.60 -71.82	1045.92 3.61 -71.82	1049.52 3.62 -71.82	1053.14 3.62 -71.82	1056.76 3.63 -71.82	1060.39 3.64 -71.82	1064.03 3.65 -71.82
35---	1067.68 3.65 -71.82	1071.31 3.66 -71.82	1074.99 3.67 -71.81	1078.66 3.68 -71.81	1082.34 3.68 -71.81	1086.02 3.69 -71.81	1089.72 3.70 -71.81	1093.41 3.71 -71.81	1097.12 3.72 -71.81	1100.84 3.72 -71.81

TABLE 2  $-10^{\circ}\Delta_{\sigma_t}$  FOR SALINITY 32.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	225.6 -0.3 -76.7	225.3 -0.2 -76.7	225.1 -0.3 -76.8	224.8 -0.2 -76.8	224.6 -0.2 -76.8	224.4 -0.2 -76.9	224.2 -0.2 -76.9	224.0 -0.2 -76.9	223.8 -0.1 -76.9	223.7 -0.1 -77.0
-0---	229.1 -0.4 -76.5	228.7 -0.4 -76.5	228.3 -0.4 -76.5	227.9 -0.4 -76.5	227.5 -0.3 -76.5	227.2 -0.4 -76.6	226.8 -0.3 -76.6	226.5 -0.3 -76.6	226.2 -0.3 -76.7	225.9 -0.3 -76.7
+0---	229.1 0.4 -76.5	229.5 0.4 -76.4	229.9 0.5 -76.3	230.4 0.5 -76.3	230.9 0.5 -76.3	231.4 0.5 -76.3	231.9 0.5 -76.3	232.4 0.5 -76.3	232.9 0.5 -76.3	233.4 0.5 -76.2
1----	233.9 0.6 -76.1	234.5 0.5 -76.1	235.0 0.6 -76.1	235.6 0.6 -76.1	236.2 0.6 -76.0	236.8 0.7 -76.0	237.5 0.6 -76.0	238.1 0.6 -76.0	238.7 0.7 -75.9	239.4 0.7 -75.9
2----	240.1 0.7 -75.9	240.8 0.7 -75.9	241.5 0.7 -75.9	242.2 0.7 -75.9	242.9 0.7 -75.8	243.6 0.7 -75.7	244.3 0.8 -75.7	245.1 0.8 -75.7	245.9 0.8 -75.7	246.7 0.8 -75.7
3----	247.5 0.8 -75.7	248.3 0.8 -75.6	249.1 0.8 -75.6	249.9 0.9 -75.5	250.8 0.8 -75.5	251.6 0.9 -75.5	252.5 0.9 -75.5	253.4 0.9 -75.5	254.3 0.9 -75.4	255.2 0.9 -75.4
4----	256.1 0.9 -75.4	257.0 0.9 -75.3	257.9 1.0 -75.3	258.9 1.0 -75.3	259.9 0.9 -75.3	260.8 1.0 -75.2	261.8 1.0 -75.2	262.8 1.0 -75.2	263.8 1.1 -75.2	264.9 1.0 -75.2
5----	265.9 1.0 -75.1	266.9 1.1 -75.1	268.0 1.0 -75.1	269.0 1.1 -75.0	270.1 1.1 -75.0	271.2 1.1 -75.0	272.3 1.1 -75.0	273.4 1.1 -74.9	274.5 1.2 -74.9	275.7 1.1 -74.9

TABLE 2  $-10^5 \Delta_s$ ; FOR SALINITY 32.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6----	276.8 1.2 -74.9	278.0 1.2 -74.9	279.2 1.1 -74.9	280.3 1.2 -74.8	281.5 1.2 -74.8	282.7 1.3 -74.8	284.0 1.2 -74.8	285.2 1.2 -74.8	286.4 1.2 -74.7	287.6 1.3 -74.7
7----	288.9 1.3 -74.7	290.2 1.3 -74.7	291.5 1.2 -74.7	292.7 1.3 -74.6	294.0 1.3 -74.6	295.3 1.4 -74.6	296.7 1.3 -74.6	298.0 1.3 -74.5	299.3 1.4 -74.5	300.7 1.3 -74.5
8----	302.0 1.4 -74.4	303.4 1.4 -74.4	304.8 1.4 -74.4	306.2 1.4 -74.4	307.6 1.4 -74.4	309.0 1.4 -74.4	310.4 1.5 -74.3	311.9 1.4 -74.3	313.3 1.5 -74.3	314.8 1.5 -74.3
9----	316.3 1.4 -74.3	317.7 1.5 -74.2	319.2 1.5 -74.2	320.7 1.5 -74.2	322.2 1.5 -74.2	323.7 1.5 -74.2	325.2 1.6 -74.1	326.8 1.5 -74.1	328.3 1.6 -74.1	329.9 1.5 -74.1
10----	331.4 1.6 -74.0	333.0 1.6 -74.0	334.6 1.6 -74.0	336.2 1.6 -74.0	337.8 1.6 -74.0	339.4 1.7 -74.0	341.1 1.6 -74.0	342.7 1.6 -74.0	344.3 1.7 -73.9	346.0 1.7 -73.9
11----	347.7 1.6 -73.9	349.3 1.7 -73.8	351.0 1.7 -73.8	352.7 1.7 -73.8	354.4 1.7 -73.8	356.1 1.8 -73.8	357.9 1.7 -73.8	359.6 1.7 -73.8	361.3 1.8 -73.7	363.1 1.7 -73.7
12----	364.8 1.8 -73.7	366.6 1.8 -73.7	368.4 1.8 -73.7	370.2 1.8 -73.7	372.0 1.8 -73.7	373.8 1.8 -73.6	375.6 1.8 -73.6	377.4 1.9 -73.6	379.3 1.9 -73.6	381.2 1.8 -73.6
13----	383.0 1.8 -73.6	384.8 1.9 -73.5	386.7 1.9 -73.5	388.6 1.9 -73.5	390.5 1.9 -73.5	392.4 1.9 -73.5	394.3 1.9 -73.4	396.2 2.0 -73.4	398.2 1.9 -73.4	400.1 2.0 -73.4

TABLE 2  $-10^{\circ}\Delta_s$  FOR SALINITY 32.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14	402.1 1.9 -73.4	404.0 2.0 -73.4	406.0 1.9 -73.4	407.9 2.0 -73.3	409.9 2.0 -73.3	411.9 2.0 -73.3	413.9 2.1 -73.3	416.0 2.0 -73.3	418.0 2.0 -73.3	420.0 2.0 -73.2
15	422.0 2.1 -73.2	424.1 2.0 -73.2	426.1 2.1 -73.2	428.2 2.1 -73.2	430.3 2.1 -73.2	432.4 2.1 -73.2	434.5 2.1 -73.2	436.6 2.1 -73.1	438.7 2.1 -73.1	440.8 2.1 -73.1
16	442.9 2.2 -73.1	445.1 2.1 -73.1	447.2 2.2 -73.1	449.4 2.1 -73.1	451.5 2.2 -73.0	453.7 2.2 -73.0	455.9 2.2 -73.0	458.1 2.2 -73.0	460.3 2.2 -73.0	462.5 2.2 -73.0
17	464.7 2.2 -73.0	466.9 2.2 -72.9	469.1 2.3 -72.9	471.4 2.2 -72.9	473.6 2.3 -72.9	475.9 2.3 -72.9	478.2 2.3 -72.9	480.5 2.2 -72.9	482.7 2.3 -72.8	485.0 2.3 -72.8
18	487.3 2.4 -72.8	489.7 2.3 -72.8	492.0 2.3 -72.8	494.3 2.3 -72.8	496.6 2.4 -72.8	499.0 2.3 -72.8	501.3 2.4 -72.7	503.7 2.3 -72.7	506.0 2.4 -72.7	508.4 2.4 -72.7
19	510.8 2.4 -72.7	513.2 2.4 -72.7	515.6 2.5 -72.7	518.1 2.4 -72.7	520.5 2.4 -72.7	522.9 2.4 -72.6	525.3 2.5 -72.6	527.8 2.4 -72.6	530.2 2.5 -72.6	532.7 2.4 -72.6
20	535.1 2.5 -72.5	537.6 2.5 -72.5	540.1 2.5 -72.5	542.6 2.5 -72.5	545.1 2.5 -72.5	547.6 2.5 -72.5	550.1 2.6 -72.5	552.7 2.5 -72.5	555.2 2.6 -72.5	557.8 2.5 -72.5
21	560.3 2.6 -72.5	562.9 2.6 -72.5	565.5 2.5 -72.5	568.0 2.6 -72.4	570.6 2.6 -72.4	573.2 2.6 -72.4	575.8 2.6 -72.4	578.4 2.7 -72.4	581.1 2.6 -72.4	583.7 2.6 -72.4

TABLE 2 —10<sup>4</sup>Δ... FOR SALINITY 32.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22	586.3 2.7 -72.4	589.0 2.6 -72.4	591.6 2.7 -72.4	594.3 2.6 -72.4	596.9 2.7 -72.3	599.6 2.7 -72.3	602.3 2.7 -72.3	605.0 2.7 -72.3	607.7 2.7 -72.3	610.4 2.7 -72.3
23	613.1 2.8 -72.3	615.9 2.7 -72.3	618.6 2.7 -72.3	621.3 2.8 -72.3	624.1 2.7 -72.3	626.8 2.8 -72.3	629.6 2.7 -72.3	632.3 2.8 -72.2	635.1 2.8 -72.2	637.9 2.8 -72.2
24	640.7 2.8 -72.2	643.5 2.8 -72.2	646.3 2.9 -72.2	649.2 2.8 -72.2	652.0 2.9 -72.2	654.8 2.9 -72.2	657.7 2.8 -72.2	660.5 2.9 -72.2	663.4 2.8 -72.2	666.2 2.9 -72.1
25	669.1 2.9 -72.1	672.0 2.9 -72.1	674.9 2.9 -72.1	677.8 2.9 -72.1	680.7 2.9 -72.1	683.6 2.9 -72.1	686.5 2.9 -72.1	689.4 3.0 -72.1	692.4 2.9 -72.1	695.3 3.0 -72.1
26	698.3 3.0 -72.1	701.3 2.9 -72.1	704.2 3.0 -72.0	707.2 3.0 -72.0	710.2 3.0 -72.0	713.2 3.0 -72.0	716.2 3.0 -72.0	719.2 3.0 -72.0	722.2 3.0 -72.0	725.2 3.0 -72.0
27	728.2 3.1 -72.0	731.3 3.1 -72.0	734.4 3.0 -72.0	737.4 3.1 -72.0	740.5 3.1 -72.0	743.6 3.1 -72.0	746.7 3.0 -72.0	749.7 3.1 -72.0	752.8 3.1 -72.0	755.9 3.2 -72.0
28	759.1 3.1 -72.0	762.2 3.1 -72.0	765.3 3.1 -72.0	768.4 3.1 -72.0	771.5 3.2 -71.9	774.7 3.1 -71.9	777.8 3.2 -71.9	781.0 3.2 -71.9	784.2 3.2 -71.9	787.4 3.2 -71.9
29	790.6 3.2 -71.9	793.8 3.2 -71.9	797.0 3.2 -71.9	800.2 3.2 -71.9	803.4 3.2 -71.9	806.6 3.2 -71.9	809.9 3.2 -71.9	813.1 3.2 -71.9	816.3 3.2 -71.9	819.6 3.2 -71.9

TABLE 2 - 10' Δ st FOR SALINITY 32.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	822.86 3.27 -71.88	826.13 3.28 -71.88	829.42 3.29 -71.88	832.70 3.30 -71.87	836.00 3.30 -71.87	839.30 3.31 -71.87	842.61 3.32 -71.86	845.93 3.33 -71.86	849.26 3.33 -71.86	852.59 3.34 -71.85
31---	852.93 3.35 -71.85	859.28 3.36 -71.85	862.64 3.36 -71.85	866.00 3.37 -71.84	869.38 3.38 -71.84	872.76 3.39 -71.84	876.14 3.39 -71.84	879.54 3.40 -71.83	882.94 3.41 -71.83	886.32 3.42 -71.83
32---	889.77 3.43 -71.83	893.20 3.43 -71.82	896.63 3.44 -71.82	900.07 3.45 -71.82	903.52 3.46 -71.82	906.97 3.46 -71.81	910.44 3.47 -71.81	913.91 3.48 -71.81	917.39 3.49 -71.81	920.88 3.49 -71.81
33---	924.37 3.50 -71.81	927.87 3.51 -71.80	931.38 3.52 -71.80	934.90 3.53 -71.80	938.42 3.53 -71.80	941.96 3.54 -71.80	945.50 3.55 -71.80	949.05 3.56 -71.79	952.60 3.56 -71.79	956.16 3.57 -71.79
34---	959.73 3.58 -71.79	963.31 3.59 -71.79	966.90 3.59 -71.79	970.49 3.60 -71.79	974.09 3.61 -71.79	977.70 3.62 -71.79	981.32 3.62 -71.79	984.94 3.63 -71.79	988.58 3.64 -71.79	992.21 3.65 -71.78
35---	995.86 3.65 -71.78	999.52 3.66 -71.78	1003.18 3.67 -71.78	1006.85 3.68 -71.78	1010.53 3.69 -71.78	1014.21 3.69 -71.78	1017.90 3.70 -71.78	1021.60 3.71 -71.78	1025.31 3.72 -71.78	1029.03 3.72 -71.78



TABLE 2 —10<sup>4</sup>Δ<sub>s</sub>: FOR SALINITY 33.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	148.9 -0.3 -76.7	148.6 -0.3 -76.7	148.3 -0.3 -76.7	148.0 -0.2 -76.7	147.8 -0.3 -76.8	147.5 -0.2 -76.8	147.3 -0.2 -76.8	147.1 -0.2 -76.9	146.9 -0.2 -76.9	146.7 -0.2 -76.9
-0---	152.6 -0.4 -76.3	152.2 -0.4 -76.4	151.8 -0.4 -76.4	151.4 -0.4 -76.5	151.0 -0.4 -76.5	150.6 -0.4 -76.5	150.2 -0.3 -76.5	149.9 -0.4 -76.6	149.5 -0.3 -76.6	149.2 -0.3 -76.6
+0---	152.6 0.5 -76.3	153.1 0.5 -76.3	153.6 0.5 -76.3	154.1 0.5 -76.3	154.6 0.5 -76.3	155.1 0.5 -76.3	155.6 0.5 -76.2	156.1 0.5 -76.2	156.6 0.6 -76.1	157.2 0.6 -76.1
1----	157.8 0.6 -76.1	158.4 0.5 -76.1	158.9 0.6 -76.0	159.5 0.7 -76.0	160.2 0.6 -76.0	160.8 0.7 -76.0	161.5 0.6 -76.0	162.1 0.7 -75.9	162.8 0.7 -75.9	163.5 0.7 -75.9
2----	164.2 0.7 -75.9	164.9 0.7 -75.8	165.6 0.7 -75.8	166.3 0.8 -75.7	167.1 0.8 -75.7	167.9 0.7 -75.7	168.6 0.8 -75.6	169.4 0.8 -75.6	170.2 0.8 -75.6	171.0 0.8 -75.6
3----	171.8 0.9 -75.5	172.7 0.8 -75.5	173.5 0.9 -75.5	174.4 0.9 -75.5	175.3 0.8 -75.5	176.1 0.9 -75.4	177.0 0.9 -75.4	177.9 1.0 -75.4	178.9 0.9 -75.4	179.8 0.9 -75.4
4----	180.7 1.0 -75.3	181.7 0.9 -75.3	182.6 1.0 -75.2	183.6 1.0 -75.2	184.6 1.0 -75.2	185.6 1.0 -75.2	186.6 1.0 -75.2	187.6 1.0 -75.1	188.6 1.1 -75.1	189.7 1.1 -75.1
5----	190.8 1.0 -75.1	191.8 1.1 -75.0	192.9 1.1 -75.0	194.0 1.1 -75.0	195.1 1.1 -75.0	196.2 1.1 -75.0	197.3 1.2 -74.9	198.5 1.1 -74.9	199.6 1.2 -74.9	200.8 1.1 -74.9

TABLE 2 —10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 33.00— Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6	201.9 1.2 -74.8	203.1 1.2 -74.8	204.3 1.2 -74.8	205.5 1.2 -74.8	206.7 1.2 -74.7	207.9 1.3 -74.7	209.2 1.2 -74.7	210.4 1.3 -74.7	211.7 1.2 -74.7	212.9 1.3 -74.6
7	214.2 1.3 -74.6	215.5 1.3 -74.6	216.8 1.3 -74.6	218.1 1.3 -74.6	219.4 1.3 -74.5	220.7 1.4 -74.5	222.1 1.4 -74.5	223.5 1.3 -74.5	224.8 1.4 -74.4	226.2 1.4 -74.4
8	227.6 1.4 -74.4	229.0 1.4 -74.4	230.4 1.4 -74.4	231.8 1.4 -74.4	233.2 1.4 -74.4	234.6 1.5 -74.3	236.1 1.5 -74.3	237.6 1.4 -74.3	239.0 1.5 -74.2	240.5 1.5 -74.2
9	242.0 1.5 -74.2	243.5 1.5 -74.2	245.0 1.5 -74.2	246.5 1.5 -74.2	248.0 1.5 -74.1	249.5 1.6 -74.1	251.1 1.6 -74.1	252.7 1.5 -74.1	254.2 1.6 -74.0	255.8 1.6 -74.0
10	257.4 1.6 -74.0	259.0 1.6 -74.0	260.6 1.6 -74.0	262.2 1.6 -74.0	263.8 1.6 -73.9	265.4 1.7 -73.9	267.1 1.6 -73.9	268.7 1.7 -73.9	270.4 1.7 -73.9	272.1 1.7 -73.9
11	273.8 1.7 -73.9	275.5 1.7 -73.9	277.2 1.7 -73.8	278.9 1.7 -73.8	280.6 1.7 -73.8	282.3 1.8 -73.7	284.1 1.7 -73.7	285.8 1.8 -73.7	287.6 1.8 -73.7	289.4 1.7 -73.7
12	291.1 1.8 -73.6	292.9 1.8 -73.6	294.7 1.8 -73.6	296.5 1.8 -73.6	298.3 1.9 -73.6	300.2 1.8 -73.6	302.0 1.8 -73.5	303.8 1.9 -73.5	305.7 1.9 -73.5	307.6 1.8 -73.5
13	309.4 1.9 -73.5	311.3 1.9 -73.5	313.2 1.9 -73.5	315.1 1.9 -73.4	317.0 1.9 -73.4	318.9 2.0 -73.4	320.9 1.9 -73.4	322.8 2.0 -73.4	324.8 1.9 -73.4	326.7 2.0 -73.3

TABLE 2 --10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 33.00--Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14	328.7 1.9 -73.3	330.6 2.0 -73.3	332.6 2.0 -73.3	334.6 2.0 -73.3	336.6 2.0 -73.2	338.6 2.0 -73.2	340.6 2.1 -73.2	342.7 2.0 -73.2	344.7 2.1 -73.2	346.8 2.0 -73.2
15	348.8 2.1 -73.2	350.9 2.0 -73.2	352.9 2.1 -73.1	355.0 2.1 -73.1	357.1 2.1 -73.1	359.2 2.1 -73.1	361.3 2.2 -73.1	363.5 2.1 -73.1	365.6 2.1 -73.1	367.7 2.1 -73.0
16	369.8 2.2 -73.0	372.0 2.1 -73.0	374.1 2.2 -73.0	376.3 2.2 -73.0	378.5 2.2 -73.0	380.7 2.2 -73.0	382.9 2.2 -73.0	385.1 2.2 -73.0	387.3 2.2 -72.9	389.5 2.2 -72.9
17	391.7 2.3 -72.9	394.0 2.2 -72.9	396.2 2.3 -72.9	398.5 2.2 -72.9	400.7 2.3 -72.8	403.0 2.3 -72.8	405.3 2.3 -72.8	407.6 2.3 -72.8	409.9 2.3 -72.8	412.2 2.3 -72.8
18	414.5 2.4 -72.8	416.9 2.3 -72.8	419.2 2.3 -72.8	421.5 2.3 -72.7	423.8 2.4 -72.7	426.2 2.4 -72.7	428.6 2.4 -72.7	431.0 2.3 -72.7	433.3 2.4 -72.6	435.7 2.4 -72.6
19	438.1 2.4 -72.6	440.5 2.4 -72.6	442.9 2.5 -72.6	445.4 2.4 -72.6	447.8 2.5 -72.6	450.3 2.4 -72.6	452.7 2.5 -72.6	455.2 2.4 -72.6	457.6 2.5 -72.6	460.1 2.5 -72.6
20	462.6 2.5 -72.6	465.1 2.5 -72.6	467.6 2.5 -72.6	470.1 2.5 -72.5	472.6 2.5 -72.5	475.1 2.5 -72.5	477.6 2.6 -72.5	480.2 2.5 -72.5	482.7 2.6 -72.5	485.3 2.5 -72.5
21	487.8 2.6 -72.4	490.4 2.6 -72.4	493.0 2.6 -72.4	495.6 2.6 -72.4	498.2 2.6 -72.4	500.8 2.6 -72.4	503.4 2.6 -72.4	506.0 2.7 -72.4	508.7 2.6 -72.4	511.3 2.6 -72.4

TABLE 2 —10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 33.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22	513.9 2.7 -72.3	516.6 2.7 -72.3	519.2 2.7 -72.3	521.9 2.7 -72.3	524.6 2.7 -72.3	527.3 2.7 -72.3	530.0 2.7 -72.3	532.7 2.7 -72.3	535.4 2.7 -72.3	538.1 2.7 -72.3
23	540.8 2.8 -72.3	543.6 2.7 -72.3	546.3 2.7 -72.3	549.0 2.8 -72.2	551.8 2.7 -72.2	554.5 2.8 -72.2	557.3 2.8 -72.2	560.1 2.8 -72.2	562.9 2.8 -72.2	565.7 2.8 -72.2
24	568.5 2.8 -72.2	571.3 2.8 -72.2	574.1 2.9 -72.2	577.0 2.8 -72.2	579.8 2.8 -72.2	582.6 2.9 -72.1	585.5 2.8 -72.1	588.3 2.9 -72.1	591.2 2.9 -72.1	594.1 2.9 -72.1
25	597.0 2.9 -72.1	599.9 2.9 -72.1	602.8 2.9 -72.1	605.7 2.9 -72.1	608.6 2.9 -72.1	611.5 2.9 -72.1	614.4 2.9 -72.0	617.3 3.0 -72.0	620.3 2.9 -72.0	623.2 3.0 -72.0
26	626.2 3.0 -72.0	629.2 3.0 -72.0	632.2 3.0 -72.0	635.2 3.0 -72.0	638.2 3.0 -72.0	641.2 3.0 -72.0	644.2 3.0 -72.0	647.2 3.0 -72.0	650.2 3.0 -72.0	653.2 3.0 -72.0
27	656.2 3.1 -72.0	659.3 3.1 -72.0	662.4 3.0 -72.0	665.4 3.1 -72.0	668.5 3.1 -72.0	671.6 3.1 -72.0	674.7 3.0 -72.0	677.7 3.1 -71.9	680.8 3.1 -71.9	683.9 3.2 -71.9
28	687.1 3.1 -71.9	690.2 3.1 -71.9	693.3 3.1 -71.9	696.4 3.2 -71.9	699.6 3.2 -71.9	702.8 3.1 -71.9	705.9 3.2 -71.9	709.1 3.2 -71.9	712.3 3.2 -71.9	715.5 3.2 -71.9
29	718.7 3.2 -71.9	721.9 3.2 -71.9	725.1 3.2 -71.9	728.3 3.2 -71.9	731.5 3.2 -71.9	734.7 3.3 -71.9	738.0 3.2 -71.9	741.2 3.2 -71.9	744.4 3.3 -71.8	747.7 3.3 -71.8

TABLE 2 - 10<sup>3</sup> Δ st FOR SALINITY 33.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30---	750.98 3.28 -71.81	757.44 3.29 -71.84	764.13 3.31 -71.83	767.43 3.31 -71.83	770.75 3.32 -71.83	774.07 3.33 -71.81	777.40 3.34 -71.82	780.74 3.34 -71.81		
31---	784.08 3.35 -71.81	787.42 3.36 -71.81	791.74 3.38 -71.80	794.16 3.37 -71.81	797.54 3.38 -71.80	800.92 3.39 -71.80	804.31 3.40 -71.80	807.71 3.41 -71.80	811.11 3.41 -71.79	814.54 3.42 -71.79
32---	817.94 3.43 -71.79	821.37 3.44 -71.79	824.81 3.44 -71.79	828.25 3.45 -71.78	831.70 3.46 -71.78	835.16 3.47 -71.78	838.63 3.47 -71.78	842.10 3.48 -71.78	845.58 3.49 -71.77	849.07 3.50 -71.77
33---	852.57 3.50 -71.77	856.07 3.51 -71.77	859.58 3.52 -71.77	863.10 3.53 -71.77	866.63 3.53 -71.77	870.16 3.54 -71.77	873.70 3.55 -71.76	877.25 3.56 -71.76	880.81 3.56 -71.76	884.37 3.57 -71.76
34---	887.94 3.58 -71.76	891.52 3.59 -71.76	895.11 3.59 -71.76	891.70 3.60 -71.76	902.31 3.61 -71.76	905.92 3.62 -71.76	909.53 3.62 -71.76	913.16 3.63 -71.76	916.79 3.64 -71.76	920.43 3.65 -71.76
35---	924.08 3.66 -71.76	927.73 3.66 -71.76	931.40 3.67 -71.76	935.07 3.68 -71.76	938.74 3.69 -71.76	942.43 3.69 -71.76	946.12 3.70 -71.76	949.82 3.71 -71.76	953.53 3.72 -71.76	957.24 3.72 -71.76

TABLE 2  $-10^4 \Delta_s$  FOR SALINITY 34.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	72.2 -0.3 -76.6	71.9 -0.3 -76.6	71.6 -0.3 -76.7	71.3 -0.3 -76.7	71.0 -0.3 -76.7	70.7 -0.2 -76.7	70.5 -0.3 -76.8	70.2 -0.2 -76.8	70.0 -0.2 -76.8	69.8 -0.2 -76.9
--0---	76.3 -0.5 -76.3	75.8 -0.4 -76.3	75.4 -0.5 -76.4	74.9 -0.4 -76.4	74.5 -0.4 -76.4	74.1 -0.4 -76.4	73.7 -0.4 -76.5	73.3 -0.4 -76.5	72.9 -0.3 -76.5	72.6 -0.4 -76.6
+0---	76.3 0.5 -76.3	76.8 0.5 -76.3	77.3 0.5 -76.3	77.8 0.5 -76.3	78.3 0.5 -76.2	78.8 0.6 -76.1	79.4 0.5 -76.1	79.9 0.6 -76.1	80.5 0.6 -76.1	81.1 0.6 -76.0
1----	81.7 0.6 -76.0	82.3 0.6 -76.0	82.9 0.6 -76.0	83.5 0.7 -75.9	84.2 0.6 -75.9	84.8 0.7 -75.8	85.5 0.7 -75.8	86.2 0.7 -75.6	86.9 0.7 -75.5	87.6 0.7 -75.7
2----	88.3 0.8 -75.7	89.1 0.7 -75.7	89.8 0.8 -75.7	90.6 0.8 -75.7	91.4 0.8 -75.7	92.2 0.8 -75.7	93.0 0.8 -75.6	93.8 0.8 -75.6	94.6 0.8 -75.5	95.4 0.9 -75.5
3----	96.3 0.9 -75.5	97.2 0.8 -75.5	98.0 0.9 -75.4	98.9 0.9 -75.4	99.8 0.9 -75.4	100.7 0.9 -75.4	101.6 0.9 -75.3	102.5 1.0 -75.3	103.5 0.9 -75.3	104.4 1.0 -75.2
4----	105.4 1.0 -75.2	106.4 1.0 -75.2	107.4 1.0 -75.2	108.4 1.0 -75.2	109.4 1.0 -75.2	110.4 1.0 -75.1	111.4 1.1 -75.1	112.5 1.0 -75.1	113.5 1.1 -75.0	114.6 1.1 -75.0
5----	115.7 1.1 -75.0	116.8 1.1 -75.0	117.9 1.1 -75.0	119.0 1.1 -74.9	120.1 1.1 -74.9	121.2 1.2 -74.9	122.4 1.2 -74.9	123.6 1.1 -74.9	124.7 1.2 -74.8	125.9 1.2 -74.8

TABLE 2 —  $10^5 \Delta_{\sigma_t}$  FOR SALINITY 34.00 — Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6	127.1 1.2 -74.8	128.3 1.2 -74.8	129.5 1.2 -74.7	130.7 1.3 -74.7	132.0 1.2 -74.7	133.2 1.3 -74.7	134.5 1.2 -74.7	135.7 1.3 -74.6	137.0 1.3 -74.6	138.3 1.3 -74.6
7	139.6 1.3 -74.6	140.9 1.3 -74.5	142.2 1.3 -74.5	143.5 1.4 -74.5	144.9 1.3 -74.5	146.2 1.4 -74.4	147.6 1.4 -74.4	149.0 1.4 -74.4	150.4 1.4 -74.4	151.8 1.4 -74.4
8	153.2 1.4 -74.4	154.6 1.4 -74.3	156.0 1.4 -74.3	157.4 1.4 -74.3	158.8 1.5 -74.2	160.3 1.5 -74.2	161.8 1.5 -74.2	163.3 1.5 -74.2	164.8 1.5 -74.2	166.3 1.5 -74.2
9	167.8 1.5 -74.2	169.3 1.5 -74.1	170.8 1.5 -74.1	172.3 1.6 -74.1	173.9 1.5 -74.1	175.4 1.6 -74.0	177.0 1.6 -74.0	178.6 1.6 -74.0	180.2 1.6 -74.0	181.8 1.6 -74.0
10	183.4 1.6 74.0	185.0 1.6 74.0	186.6 1.6 -73.9	188.2 1.7 -73.9	189.9 1.6 -73.9	191.5 1.7 -73.8	193.2 1.6 -73.8	194.8 1.7 -73.8	196.5 1.7 -73.8	198.2 1.7 -73.8
11	199.9 1.7 -73.7	201.6 1.8 -73.7	203.4 1.7 -73.7	205.1 1.7 -73.7	206.8 1.8 -73.7	208.6 1.8 -73.7	210.4 1.7 -73.7	212.1 1.8 -73.6	213.9 1.8 -73.6	215.7 1.8 -73.6
12	217.5 1.8 -73.6	219.3 1.8 -73.6	221.1 1.8 -73.6	222.9 1.8 -73.5	224.7 1.9 -73.5	226.6 1.9 -73.5	228.5 1.8 -73.5	230.3 1.9 -73.5	232.2 1.9 -73.5	234.1 1.8 -73.5
13	235.9 1.9 -73.4	237.8 1.9 -73.4	239.7 2.0 -73.4	241.7 1.9 -73.4	243.6 1.9 -73.4	245.5 2.0 -73.3	247.5 1.9 -73.3	249.4 2.0 -73.3	251.4 2.0 -73.3	253.4 2.0 -73.3

TABLE 2 —10<sup>5</sup>Δ<sub>s,t</sub> FOR SALINITY 34.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14	255.4 1.9 -73.3	257.3 2.0 -73.2	259.3 2.0 -73.2	261.3 2.1 -73.2	263.4 2.0 -73.2	265.4 2.0 -73.2	267.4 2.1 -73.2	269.5 2.0 -73.2	271.5 2.1 -73.2	273.6 2.0 -73.2
15	275.6 2.1 -73.1	277.7 2.1 -73.1	279.8 2.1 -73.1	281.9 2.1 -73.1	284.0 2.1 -73.1	286.1 2.1 -73.0	288.2 2.2 -73.0	290.4 2.1 -73.0	292.5 2.2 -73.0	294.7 2.1 -73.0
16	296.8 2.2 -73.0	299.0 2.1 -73.0	301.1 2.2 -72.9	303.3 2.2 -72.9	305.5 2.2 -72.9	307.7 2.2 -72.9	309.9 2.2 -72.9	312.1 2.3 -72.9	314.4 2.2 -72.9	316.6 2.2 -72.9
17	318.8 2.3 -72.8	321.1 2.2 -72.8	323.3 2.3 -72.8	325.6 2.3 -72.8	327.9 2.3 -72.8	330.2 2.3 -72.8	332.5 2.3 -72.8	334.8 2.3 -72.8	337.1 2.3 -72.7	339.4 2.3 -72.7
18	341.7 2.4 -72.7	344.1 2.3 -72.7	346.4 2.4 -72.7	348.8 2.3 -72.7	351.1 2.4 -72.7	353.5 2.4 -72.7	355.9 2.4 -72.7	358.3 2.4 -72.7	360.7 2.4 -72.7	363.1 2.4 -72.7
19	365.5 2.4 -72.6	367.9 2.4 -72.6	370.3 2.5 -72.6	372.8 2.4 -72.6	375.2 2.5 -72.6	377.7 2.4 -72.6	380.1 2.5 -72.6	382.6 2.4 -72.6	385.0 2.5 -72.6	387.5 2.5 -72.6
20	390.0 2.5 -72.5	392.5 2.5 -72.5	395.0 2.6 -72.5	397.6 2.5 -72.5	400.1 2.5 -72.5	402.6 2.5 -72.4	405.1 2.6 -72.4	407.7 2.5 -72.4	410.2 2.6 -72.4	412.8 2.6 -72.4
21	415.4 2.6 -72.4	418.0 2.6 -72.4	420.6 2.6 -72.4	423.2 2.6 -72.4	425.8 2.6 -72.4	428.4 2.6 -72.4	431.0 2.6 -72.3	433.6 2.7 -72.3	436.3 2.6 -72.3	438.9 2.7 -72.3



TABLE 2 —  $10^5 \Delta_{s,t}$  FOR SALINITY 34.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22	441.6 2.7 -72.3	444.3 2.6 -72.3	446.9 2.7 -72.3	440.6 2.7 -72.3	452.3 2.7 -72.3	455.0 2.7 -72.3	457.7 2.7 -72.3	460.4 2.7 -72.2	463.1 2.7 -72.2	465.8 2.7 -72.2
23	468.5 2.8 -72.2	471.3 2.7 -72.2	474.0 2.8 -72.2	476.8 2.8 -72.2	479.6 2.7 -72.2	482.3 2.8 -72.2	485.1 2.8 -72.2	487.9 2.8 -72.2	490.7 2.8 -72.2	493.5 2.8 -72.1
24	496.3 2.8 -72.1	499.1 2.8 -72.1	501.9 2.9 -72.1	504.8 2.8 -72.1	507.6 2.9 -72.1	510.5 2.9 -72.1	513.4 2.8 -72.1	516.2 2.9 -72.1	519.1 2.9 -72.1	522.0 2.9 -72.1
25	524.9 2.9 -72.1	527.8 2.9 -72.1	530.7 2.9 -72.1	533.6 2.9 -72.1	536.5 2.9 -72.0	539.4 3.0 -72.0	542.4 2.9 -72.0	545.3 3.0 -72.0	548.3 2.9 -72.0	551.2 3.0 -72.0
26	554.2 3.0 -72.0	557.2 3.0 -72.0	560.2 3.0 -72.0	563.2 3.0 -72.0	566.2 3.0 -72.0	569.2 3.0 -72.0	572.2 3.0 -72.0	575.2 3.0 -72.0	578.2 3.0 -71.9	581.2 3.0 -71.9
27	584.2 3.1 -71.9	587.3 3.1 -71.9	590.4 3.0 -71.9	593.4 3.1 -71.9	596.5 3.1 -71.9	599.6 3.1 -71.9	602.7 3.1 -71.9	605.8 3.1 -71.9	608.9 3.1 -71.9	612.0 3.2 -71.9
28	615.2 3.1 -71.9	618.3 3.1 -71.9	621.4 3.1 -71.9	624.5 3.2 -71.9	627.7 3.2 -71.9	630.9 3.1 -71.9	634.0 3.2 -71.9	637.2 3.2 -71.9	640.4 3.2 -71.9	643.6 3.2 -71.9
29	646.8 3.2 -71.9	650.0 3.2 -71.9	653.2 3.2 -71.9	656.4 3.2 -71.8	659.6 3.2 -71.8	662.8 3.3 -71.8	666.1 3.2 -71.8	669.3 3.3 -71.8	672.6 3.3 -71.8	675.9 3.2 -71.8

TABLE 2 -  $10^5 \Delta s_t$  FOR SALINITY 34.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30----	679.13 3.28 -71.81	682.41 3.29 -71.81	685.70 3.29 -71.80	688.99 3.30 -71.80	692.30 3.31 -71.80	695.61 3.32 -71.79	698.92 3.32 -71.79	702.25 3.33 -71.79	705.58 3.34 -71.78	708.91 3.34 -71.78
31----	712.27 3.35 -71.78	715.62 3.36 -71.78	718.98 3.37 -71.77	722.35 3.38 -71.77	725.73 3.39 -71.77	729.12 3.39 -71.77	732.51 3.40 -71.77	735.91 3.41 -71.76	739.32 3.42 -71.76	742.73 3.42 -71.76
32----	746.15 3.43 -71.76	749.58 3.44 -71.76	753.02 3.45 -71.75	756.47 3.45 -71.75	759.92 3.46 -71.75	763.38 3.47 -71.75	766.85 3.48 -71.75	770.32 3.48 -71.75	773.81 3.49 -71.74	777.30 3.50 -71.74
33----	780.79 3.51 -71.74	784.30 3.51 -71.74	787.81 3.52 -71.74	791.33 3.53 -71.74	794.86 3.54 -71.74	798.39 3.54 -71.74	801.94 3.55 -71.74	805.49 3.56 -71.74	809.04 3.57 -71.73	812.61 3.57 -71.73
34----	816.18 3.58 -71.73	819.76 3.59 -71.73	823.35 3.60 -71.73	826.95 3.60 -71.73	830.55 3.61 -71.73	834.16 3.62 -71.73	837.78 3.63 -71.73	841.40 3.63 -71.73	845.03 3.64 -71.73	848.67 3.65 -71.73
35----	852.32 3.66 -71.73	855.98 3.66 -71.73	859.64 3.67 -71.73	863.31 3.68 -71.73	866.99 3.69 -71.73	870.67 3.69 -71.73	874.36 3.70 -71.73	878.06 3.71 -71.73	881.77 3.72 -71.73	885.49 3.72 -71.74



TABLE 2 —  $10^4 \Delta_{\sigma_t}$  FOR SALINITY 35.00 — Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6-----	52.3 1.2 -74.7	53.5 1.3 -74.7	54.8 1.2 -74.7	56.0 1.3 -74.6	57.3 1.2 -74.6	58.5 1.3 -74.6	59.8 1.3 -74.6	61.1 1.3 -74.6	62.4 1.3 -74.5	63.7 1.3 -74.5
7-----	65.0 1.4 -74.5	66.4 1.3 -74.5	67.7 1.3 -74.4	69.0 1.4 -74.4	70.4 1.4 -74.4	71.8 1.4 -74.4	73.2 1.4 -74.4	74.6 1.4 -74.4	76.0 1.4 -74.3	77.4 1.4 -74.3
8-----	78.8 1.5 -74.3	80.3 1.4 -74.3	81.7 1.4 -74.3	83.1 1.5 -74.2	84.6 1.5 -74.2	86.1 1.5 -74.2	87.6 1.5 -74.2	89.1 1.5 -74.2	90.6 1.5 -74.1	92.1 1.5 -74.1
9-----	93.6 1.5 -74.1	95.2 1.5 -74.1	96.7 1.5 -74.1	98.2 1.6 -74.0	99.8 1.6 -74.0	101.4 1.6 -74.0	103.0 1.6 -74.0	104.6 1.6 -74.0	106.2 1.6 -74.0	107.8 1.6 -73.9
10-----	109.4 1.6 -73.9	111.0 1.7 -73.9	112.7 1.6 -73.9	114.3 1.7 -73.8	116.0 1.7 -73.8	117.7 1.7 -73.8	119.4 1.6 -73.8	121.0 1.7 -73.7	122.7 1.7 -73.7	124.4 1.8 -73.7
11-----	126.2 1.7 -73.7	127.9 1.8 -73.7	129.7 1.7 -73.7	131.4 1.7 -73.7	133.1 1.8 -73.6	134.9 1.8 -73.6	136.7 1.8 -73.6	138.5 1.8 -73.6	140.3 1.8 -73.6	142.1 1.8 -73.6
12-----	143.9 1.8 -73.6	145.7 1.8 -73.5	147.5 1.9 -73.5	149.4 1.8 -73.5	151.2 1.9 -73.5	153.1 1.9 -73.5	155.0 1.8 -73.5	156.8 1.9 -73.4	158.7 1.9 -73.4	160.6 1.9 -73.4
13-----	162.5 1.9 -73.4	164.4 1.9 -73.3	166.3 2.0 -73.3	168.3 1.9 -73.3	170.2 2.0 -73.3	172.2 2.0 -73.3	174.2 1.9 -73.3	176.1 2.0 -73.2	178.1 2.0 -73.2	180.1 2.0 -73.2

TABLE 2 — 10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 35.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14	182.1 2.0 -73.2	184.1 2.0 -73.2	186.1 2.0 -73.2	188.1 2.1 -73.2	190.2 2.0 -73.2	192.2 2.0 -73.1	194.2 2.1 -73.1	196.3 2.0 -73.1	198.3 2.1 -73.1	200.4 2.1 -73.1
15	202.5 2.1 -73.1	204.6 2.1 -73.1	206.7 2.1 -73.0	208.8 2.1 -73.0	210.9 2.2 -73.0	213.1 2.1 -73.0	215.2 2.2 -73.0	217.4 2.1 -73.0	219.5 2.2 -73.0	221.7 2.1 -73.0
16	223.8 2.2 -72.9	226.0 2.2 -72.9	228.2 2.2 -72.9	230.4 2.2 -72.9	232.6 2.2 -72.9	234.8 2.2 -72.9	237.0 2.2 -72.8	239.2 2.3 -72.8	241.5 2.2 -72.8	243.7 2.3 -72.8
17	246.0 2.3 -72.8	248.3 2.3 -72.8	250.5 2.3 -72.7	252.8 2.3 -72.7	255.1 2.3 -72.7	257.4 2.3 -72.7	259.7 2.3 -72.7	262.0 2.4 -72.7	264.4 2.3 -72.7	266.7 2.3 -72.7
18	269.0 2.4 -72.7	271.4 2.3 -72.7	273.7 2.4 -72.6	276.1 2.3 -72.6	278.4 2.4 -72.6	280.8 2.4 -72.6	283.2 2.4 -72.6	285.6 2.4 -72.6	288.0 2.4 -72.6	290.4 2.5 -72.6
19	292.9 2.4 -72.6	295.3 2.4 -72.6	297.7 2.5 -72.5	300.2 2.4 -72.5	302.6 2.5 -72.5	305.1 2.4 -72.5	307.5 2.5 -72.4	310.0 2.5 -72.4	312.5 2.5 -72.4	315.0 2.5 -72.4
20	317.5 2.5 -72.4	320.0 2.5 -72.4	322.5 2.6 -72.4	325.1 2.6 -72.4	327.6 2.6 -72.4	330.2 2.5 -72.4	332.7 2.6 -72.4	335.3 2.5 -72.4	337.8 2.6 -72.3	340.4 2.6 -72.3
21	343.0 2.6 -72.3	345.6 2.6 -72.3	348.2 2.6 -72.3	350.8 2.6 -72.3	353.4 2.6 -72.3	356.0 2.7 -72.3	358.7 2.6 -72.3	361.3 2.7 -72.3	364.0 2.6 -72.3	366.6 2.7 -72.3

TABLE 2 —  $10^4 \Delta_{\sigma_t}$  FOR SALINITY 35.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22	369.3 2.7 -72.3	372.0 2.6 -72.3	374.6 2.7 -72.2	377.3 2.7 -72.2	380.0 2.7 -72.2	382.7 2.7 -72.2	385.4 2.8 -72.2	388.2 2.7 -72.2	390.9 2.7 -72.2	393.6 2.7 -72.2
23	396.3 2.8 -72.2	399.1 2.7 -72.2	401.8 2.8 -72.1	404.6 2.8 -72.1	407.4 2.7 -72.1	410.1 2.8 -72.1	412.9 2.8 -72.1	415.7 2.8 -72.1	418.5 2.9 -72.1	421.4 2.8 -72.1
24	424.2 2.8 -72.1	427.0 2.8 -72.1	429.8 2.9 -72.1	432.7 2.8 -72.1	435.5 2.9 -72.1	438.4 2.9 -72.1	441.3 2.8 -72.1	444.1 2.9 -72.0	447.0 2.9 -72.0	449.9 2.9 -72.0
25	452.8 2.9 -72.0	455.7 2.9 -72.0	458.6 2.9 -72.0	461.5 3.0 -72.0	464.5 2.9 -72.0	467.4 3.0 -72.0	470.4 2.9 -72.0	473.3 3.0 -72.0	476.3 2.9 -72.0	479.2 3.0 -72.0
26	482.2 3.0 -72.0	485.2 3.0 -72.0	488.2 3.0 -72.0	491.2 3.0 -72.0	494.2 3.0 -72.0	497.2 3.0 -71.9	500.2 3.0 -71.9	503.2 3.1 -71.9	506.3 3.0 -71.9	509.3 3.0 -71.9
27	512.3 3.1 -71.9	515.4 3.1 -71.9	518.5 3.0 -71.9	521.5 3.1 -71.9	524.6 3.1 -71.9	527.7 3.1 -71.9	530.8 3.1 -71.9	533.9 3.1 -71.9	537.0 3.1 -71.9	540.1 3.2 -71.9
28	543.3 3.1 -71.9	546.4 3.1 -71.9	549.5 3.1 -71.8	552.6 3.2 -71.8	555.8 3.2 -71.8	559.0 3.1 -71.8	562.1 3.2 -71.8	565.3 3.2 -71.8	568.5 3.2 -71.8	571.7 3.2 -71.8
29	574.9 3.2 -71.8	578.1 3.2 -71.8	581.3 3.2 -71.8	584.6 3.2 -71.8	587.8 3.2 -71.8	591.0 3.2 -71.8	594.3 3.2 -71.8	597.5 3.2 -71.8	600.8 3.2 -71.8	604.1 3.2 -71.8

TABLE 2 -  $10^4 \Delta$  st FOR SALINITY 35.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30----	607.32 3.38 -71.78	610.61 3.39 -71.77	613.90 3.39 -71.77	617.20 3.31 -71.77	620.50 3.31 -71.76	623.81 3.32 -71.76	627.13 3.33 -71.76	630.46 3.34 -71.76	633.80 3.34 -71.75	637.14 3.35 -71.75
31----	640.49 3.36 -71.75	643.81 3.36 -71.75	647.11 3.37 -71.74	650.48 3.38 -71.74	653.96 3.39 -71.74	657.35 3.39 -71.74	660.74 3.40 -71.74	664.15 3.41 -71.73	667.56 3.42 -71.73	670.97 3.42 -71.73
32----	674.40 3.43 -71.73	677.83 3.44 -71.73	681.27 3.45 -71.73	684.72 3.45 -71.72	688.17 3.46 -71.72	691.63 3.47 -71.72	695.10 3.48 -71.72	698.58 3.48 -71.72	702.06 3.49 -71.72	705.55 3.50 -71.72
33----	709.05 3.51 -71.72	712.56 3.51 -71.71	716.07 3.52 -71.71	719.59 3.53 -71.71	723.12 3.54 -71.71	726.66 3.54 -71.71	730.20 3.55 -71.71	733.75 3.56 -71.71	737.31 3.57 -71.71	740.88 3.57 -71.71
34----	744.45 3.58 -71.71	748.03 3.59 -71.71	751.62 3.60 -71.71	755.21 3.60 -71.71	758.82 3.61 -71.71	762.43 3.62 -71.71	766.04 3.63 -71.71	769.67 3.63 -71.71	773.30 3.64 -71.71	776.94 3.64 -71.71
35----	780.59 3.66 -71.71	784.25 3.66 -71.71	787.91 3.67 -71.71	791.58 3.68 -71.71	795.25 3.68 -71.71	798.94 3.69 -71.71	802.63 3.70 -71.71	806.33 3.71 -71.71	810.04 3.71 -71.72	813.75 3.72 -71.72

TABLE 2 — 10<sup>3</sup>Δ<sub>s,t</sub> FOR SALINITY 36.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	-80.8 -0.4 -76.4	-81.2 -0.4 -76.5	-81.6 -0.4 -76.5	-82.0 -0.3 -76.5	-82.3 -0.4 -76.5	-82.7 -0.3 -76.5	-83.0 -0.3 -76.6	-83.3 -0.2 -76.6	-83.5 -0.3 -76.7	83.8 -0.3 -76.7
-0---	-76.2 -0.5 -76.2	-76.7 -0.6 -76.2	-77.3 -0.5 -76.2	-77.8 -0.4 -76.2	-78.2 -0.5 -76.3	-78.7 -0.5 -76.3	-79.2 -0.4 -76.3	-79.6 -0.4 -76.4	-80.0 -0.4 -76.4	80.4 -0.4 -76.4
+0---	-76.2 0.5 -76.1	-75.7 0.6 -76.1	-75.1 0.5 -76.1	-74.6 0.6 -76.0	-74.0 0.6 -76.0	-73.4 0.6 -76.0	-72.8 0.6 -76.0	-72.2 0.6 -75.9	-71.6 0.7 -75.9	-70.9 0.6 -75.9
1----	-70.3 0.7 -75.8	-69.6 0.7 -75.8	-68.9 0.7 -75.8	-68.2 0.7 -75.8	-67.5 0.7 -75.8	-66.8 0.7 -75.8	-66.1 0.7 -75.7	-65.4 0.8 -75.7	-64.6 0.8 -75.7	-63.8 0.7 -75.7
2----	-63.1 0.9 -75.6	-62.3 0.8 -75.6	-61.5 0.8 -75.5	-60.7 0.9 -75.5	-59.8 0.8 -75.5	-59.0 0.9 -75.5	-58.1 0.8 -75.5	-57.3 0.9 -75.4	-56.4 0.9 -75.4	-55.5 0.9 -75.4
3----	-54.6 0.9 -75.4	-53.7 0.9 -75.3	-52.8 0.9 -75.3	-51.9 1.0 -75.3	-50.9 0.9 -75.3	-50.0 1.0 -75.2	-49.0 1.0 -75.2	-48.0 1.0 -75.2	-47.0 1.0 -75.2	-46.0 1.0 -75.2
4----	-45.0 1.0 -75.2	-44.0 1.0 -75.1	-43.0 1.1 -75.0	-41.9 1.0 -75.0	-40.9 1.1 -75.0	-39.8 1.1 -75.0	-38.7 1.1 -75.0	-37.6 1.1 -74.9	-36.5 1.1 -74.9	-35.4 1.1 -74.9
5----	-34.3 1.2 -74.9	-33.1 1.1 -74.9	-32.0 1.2 -74.8	-30.8 1.2 -74.8	-29.6 1.1 -74.8	-28.5 1.2 -74.7	-27.3 1.2 -74.7	-26.1 1.2 -74.7	-24.9 1.3 -74.7	-23.6 1.2 -74.7



TABLE 2 —10‰, FOR SALINITY 36.00—(Continued)

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6-----	22.4 1.2 -74.6	21.2 1.3 -74.6	19.9 1.3 -74.6	18.6 1.3 -74.6	17.3 1.2 -74.6	16.1 1.3 -74.5	14.8 1.3 -74.5	13.5 1.4 -74.5	12.1 1.3 -74.5	10.8 1.3 -74.5
7-----	9.5 1.4 -74.4	8.1 1.4 -74.4	6.7 1.3 -74.4	5.4 1.4 -74.4	4.0 1.4 -74.4	2.6 1.4 -74.3	1.2 1.4 -74.3	0.2 1.5 -74.3	1.7 1.4 -74.2	3.1 1.4 -74.3
8-----	4.5 1.5 -74.3	6.0 1.4 -74.2	7.4 1.5 -74.2	8.9 1.5 -74.2	10.4 1.5 -74.2	11.9 1.5 -74.1	13.4 1.5 -74.1	14.9 1.6 -74.1	16.5 1.5 -74.1	18.0 1.5 -74.1
9-----	19.5 1.6 -74.0	21.1 1.5 -74.0	22.6 1.6 -74.0	24.2 1.6 -74.0	25.8 1.6 -74.0	27.4 1.6 -73.9	29.0 1.6 -73.9	30.6 1.6 -73.9	32.2 1.7 -73.9	33.9 1.6 -73.9
10-----	35.5 1.6 -73.8	37.1 1.7 -73.8	38.8 1.7 -73.8	40.5 1.7 -73.8	42.2 1.7 -73.8	43.9 1.7 -73.8	45.6 1.7 -73.8	47.3 1.7 -73.8	49.0 1.7 -73.7	50.7 1.8 -73.7
11-----	52.5 1.7 -73.7	54.2 1.8 -73.7	56.0 1.7 -73.7	57.7 1.8 -73.6	59.5 1.8 -73.6	61.3 1.8 -73.6	63.1 1.8 -73.6	64.9 1.8 -73.6	66.7 1.8 -73.6	68.5 1.8 -73.5
12-----	70.3 1.9 -73.5	72.2 1.8 -73.5	74.0 1.9 -73.4	75.9 1.8 -73.4	77.7 1.9 -73.4	79.6 1.9 -73.4	81.5 1.9 -73.4	83.4 1.9 -73.4	85.3 1.9 -73.3	87.2 1.9 -73.3
13-----	89.1 2.0 -73.3	91.1 1.9 -73.3	93.0 2.0 -73.3	95.0 1.9 -73.3	96.9 2.0 -73.2	98.9 2.0 -73.2	100.9 2.0 -73.2	102.9 2.0 -73.2	104.9 2.0 -73.2	106.9 2.0 -73.2

TABLE 2 —  $10^4 \Delta_{\sigma_t}$  FOR SALINITY 36.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14	108.9 2.0 -73.2	110.9 2.0 -73.2	112.9 2.0 -73.1	114.9 2.1 -73.1	117.0 2.1 -73.1	119.1 2.0 -73.1	121.1 2.1 -73.1	123.2 2.0 -73.1	125.2 2.1 -73.0	127.3 2.1 -73.0
15	129.4 2.1 -73.0	131.5 2.2 -73.0	133.7 2.1 -73.0	135.8 2.1 -73.0	137.9 2.2 -73.0	140.1 2.1 -73.0	142.2 2.2 -72.9	144.4 2.1 -72.9	146.5 2.2 -72.9	148.7 2.2 -72.9
16	150.9 2.2 -72.9	153.1 2.2 -72.9	155.3 2.2 -72.9	157.5 2.2 -72.8	159.7 2.2 -72.8	161.9 2.3 -72.8	164.2 2.2 -72.8	166.4 2.3 -72.8	168.7 2.2 -72.8	170.9 2.3 -72.8
17	173.2 2.3 -72.8	175.5 2.3 -72.8	177.8 2.3 -72.7	180.1 2.3 -72.7	182.4 2.3 -72.7	184.7 2.3 -72.7	187.0 2.3 -72.7	189.3 2.4 -72.7	191.7 2.3 -72.7	194.0 2.3 -72.7
18	196.3 2.4 -72.6	198.7 2.4 -72.6	201.1 2.4 -72.6	203.5 2.3 -72.6	205.8 2.4 -72.6	208.2 2.4 -72.6	210.6 2.4 -72.5	213.0 2.4 -72.5	215.4 2.4 -72.5	217.8 2.5 -72.5
19	220.3 2.4 -72.5	222.7 2.5 -72.5	225.2 2.5 -72.5	227.7 2.4 -72.5	230.1 2.5 -72.5	232.6 2.5 -72.5	235.1 2.5 -72.5	237.6 2.5 -72.5	240.1 2.5 -72.5	242.6 2.5 -72.4
20	245.1 2.5 -72.4	247.6 2.5 -72.4	250.1 2.6 -72.4	252.7 2.5 -72.4	255.2 2.6 -72.4	257.8 2.5 -72.4	260.3 2.6 -72.3	262.9 2.6 -72.3	265.5 2.6 -72.3	268.1 2.6 -72.3
21	270.7 2.6 -72.3	273.3 2.6 -72.3	275.9 2.6 -72.3	278.5 2.6 -72.3	281.1 2.6 -72.3	283.7 2.7 -72.3	286.4 2.7 -72.3	289.0 2.7 -72.2	291.7 2.6 -72.2	294.3 2.7 -72.2

TABLE 2 —10<sup>4</sup>Δ<sub>s,t</sub> FOR SALINITY 36.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22	297.0 2.7 -72.2	299.7 2.7 -72.2	302.4 2.7 -72.2	305.1 2.7 -72.2	307.8 2.7 -72.2	310.5 2.7 -72.2	313.2 2.8 -72.2	316.0 2.7 -72.2	318.7 2.7 -72.2	321.4 2.7 -72.1
23	324.1 2.8 -72.1	326.9 2.8 -72.1	329.7 2.8 -72.1	332.5 2.8 -72.1	335.3 2.7 -72.1	338.0 2.8 -72.1	340.8 2.8 -72.1	343.6 2.8 -72.1	346.4 2.9 -72.1	349.3 2.8 -72.1
24	352.1 2.8 -72.1	354.9 2.8 -72.0	357.7 2.9 -72.0	360.6 2.8 -72.0	363.4 2.9 -72.0	366.3 2.9 -72.0	369.2 2.9 -72.0	372.1 2.9 -72.0	375.0 2.9 -72.0	377.9 2.9 -72.0
25	380.8 2.9 -72.0	383.7 2.9 -72.0	386.6 2.9 -72.0	389.5 3.0 -72.0	392.5 2.9 -72.0	395.4 3.0 -72.0	398.4 2.9 -72.0	401.3 3.0 -71.9	404.3 2.9 -71.9	407.2 3.0 -71.9
26	410.2 3.0 -71.9	413.2 3.0 -71.9	416.2 3.0 -71.9	419.2 3.0 -71.9	422.2 3.1 -71.9	425.3 3.0 -71.9	428.3 3.0 -71.9	431.3 3.1 -71.9	434.4 3.0 -71.9	437.4 3.0 -71.9
27	440.4 3.1 -71.9	443.5 3.0 -71.9	446.6 3.1 -71.9	449.6 3.1 -71.8	452.7 3.1 -71.8	455.8 3.1 -71.8	458.9 3.1 -71.8	462.0 3.1 -71.8	465.1 3.1 -71.8	468.2 3.2 -71.8
28	471.4 3.1 -71.8	474.5 3.2 -71.8	477.7 3.1 -71.8	480.8 3.2 -71.8	484.0 3.2 -71.8	487.2 3.1 -71.8	490.3 3.2 -71.8	493.5 3.2 -71.8	496.7 3.2 -71.8	499.9 3.2 -71.8
29	503.1 3.2 -71.8	506.3 3.2 -71.8	509.5 3.3 -71.8	512.8 3.2 -71.8	516.0 3.2 -71.8	519.2 3.3 -71.8	522.5 3.3 -71.8	525.7 3.2 -71.8	529.0 3.3 -71.8	532.3 3.3 -71.8

TABLE 2 -  $10^5 \Delta$  st FOR SALINITY 36.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30----	532.25 3.29 -71.73	538.83 3.29 -71.74	542.13 3.30 -71.74	545.43 3.31 -71.74	548.74 3.32 -71.74	552.05 3.32 -71.73	555.27 3.33 -71.73	558.70 3.34 -71.73	562.04 3.34 -71.73	565.39 3.34 -71.73
31----	568.74 3.36 -71.72	572.10 3.37 -71.72	575.47 3.37 -71.72	578.84 3.38 -71.72	582.22 3.39 -71.71	585.61 3.40 -71.71	589.01 3.40 -71.71	592.41 3.41 -71.71	595.82 3.42 -71.71	599.24 3.43 -71.70
32----	602.67 3.43 -71.70	606.10 3.44 -71.70	609.54 3.45 -71.70	612.99 3.46 -71.70	616.45 3.46 -71.70	619.91 3.47 -71.70	623.38 3.48 -71.70	626.86 3.48 -71.70	630.34 3.49 -71.69	633.84 3.49 -71.69
33----	637.34 3.51 -71.69	640.84 3.51 -71.69	644.36 3.52 -71.69	647.86 3.53 -71.69	651.41 3.54 -71.69	654.92 3.54 -71.69	658.49 3.55 -71.69	662.04 3.56 -71.69	665.60 3.57 -71.69	669.17 3.57 -71.69
34----	672.74 3.58 -71.69	676.32 3.59 -71.69	679.91 3.60 -71.69	683.51 3.60 -71.69	687.11 3.61 -71.69	690.72 3.62 -71.69	694.34 3.63 -71.69	697.96 3.63 -71.69	701.59 3.64 -71.69	705.23 3.64 -71.69
35----	708.88 3.67 -71.69	712.53 3.66 -71.69	716.20 3.67 -71.69	719.87 3.68 -71.69	723.54 3.68 -71.70	727.23 3.69 -71.70	730.92 3.70 -71.70	734.62 3.71 -71.70	738.32 3.71 -71.70	742.04 3.71 -71.70

TABLE 2 — 10<sup>4</sup>Δ<sub>s</sub> FOR SALINITY 37.00

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-1---	-157.2 -0.4 -76.3	-157.7 -0.4 -76.4	-158.1 -0.4 -76.4	-158.5 -0.3 -76.4	-158.8 -0.4 -76.5	-159.2 -0.4 -76.5	-159.6 -0.3 -76.5	-159.9 -0.3 -76.5	-160.2 -0.3 -76.6	-160.5 -0.3 -76.6
-0---	-152.3 -0.6 -76.1	-152.9 -0.6 -76.1	-153.5 -0.5 -76.1	-154.0 -0.5 -76.1	-154.5 -0.5 -76.2	-155.0 -0.5 -76.2	-155.5 -0.5 -76.2	-156.0 -0.4 -76.2	-156.4 -0.4 -76.3	-156.8 -0.5 -76.3
+0---	-152.3 0.5 -76.1	-151.8 0.6 -76.0	-151.2 0.6 -76.0	-150.6 0.6 -76.0	-150.0 0.6 -76.0	-149.4 0.6 -75.9	-148.8 0.7 -75.9	-148.1 0.6 -75.9	-147.5 0.7 -75.8	-146.8 0.7 -75.8
1----	-146.1 0.7 -76.9	-145.4 0.7 -76.8	-144.7 0.7 -76.8	-144.0 0.7 -76.7	-143.3 0.7 -76.7	-142.6 0.8 -76.6	-141.8 0.7 -76.6	-141.1 0.8 -76.6	-140.3 0.8 -76.6	-139.5 0.8 -76.5
2----	-138.7 0.8 -76.6	-137.9 0.9 -76.6	-137.0 0.8 -76.6	-136.2 0.9 -76.6	-135.3 0.8 -76.6	-134.5 0.9 -76.4	-133.6 0.9 -76.4	-132.7 0.9 -76.4	-131.8 0.9 -76.4	-130.9 0.9 -76.5
3----	-130.0 1.0 -76.3	-129.0 0.9 -76.3	-128.1 0.9 -76.3	-127.2 1.0 -76.2	-126.2 1.0 -76.2	-125.2 1.0 -76.2	-124.2 1.0 -76.2	-123.2 1.0 -76.1	-122.2 1.0 -76.1	-121.2 1.0 -76.0
4----	-120.2 1.1 -76.0	-119.1 1.1 -76.0	-118.0 1.1 -76.0	-116.9 1.0 -76.0	-115.9 1.1 -74.9	-114.8 1.1 -74.9	-113.7 1.2 -74.9	-112.5 1.1 -74.9	-111.4 1.1 -74.9	-110.3 1.1 -74.8
5----	-109.2 1.2 -74.8	-108.0 1.2 -74.8	-106.8 1.2 -74.8	-105.6 1.2 -74.8	-104.4 1.2 -74.8	-103.2 1.2 -74.7	-102.0 1.2 -74.7	-100.8 1.2 -74.7	-99.6 1.3 -74.6	-98.3 1.3 -74.6

TABLE 2 —10<sup>3</sup>Δ<sub>s</sub>, FOR SALINITY 37.00— Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
6-----	-97.0 1.2 -74.6	-95.8 1.3 -74.6	-94.5 1.3 -74.6	-93.2 1.3 -74.6	-91.9 1.3 -74.5	-90.6 1.3 -74.5	-89.3 1.3 -74.5	-88.0 1.4 -74.4	-86.6 1.3 -74.4	-85.3 1.4 -74.4
7-----	-83.9 1.4 -74.4	-82.5 1.4 -74.4	-81.1 1.3 -74.4	-79.8 1.4 -74.3	-78.4 1.4 -74.3	-76.9 1.4 -74.3	-75.5 1.4 -74.3	-74.1 1.5 -74.2	-72.6 1.4 -74.2	-71.2 1.5 -74.2
8-----	-69.7 1.5 -74.2	-68.2 1.4 -74.2	-66.8 1.5 -74.1	-65.3 1.5 -74.1	-63.8 1.6 -74.1	-62.2 1.5 -74.1	-60.7 1.5 -74.1	-59.2 1.6 -74.0	-57.6 1.5 -74.0	-56.1 1.6 -74.0
9-----	-54.5 1.6 -74.0	-52.9 1.5 -74.0	-51.4 1.6 -73.9	-49.8 1.6 -73.9	-48.2 1.7 -73.9	-46.5 1.6 -73.9	-44.9 1.6 -73.9	-43.3 1.6 -73.8	-41.7 1.7 -73.8	-40.0 1.7 -73.8
10-----	-38.3 1.6 -73.8	-36.7 1.7 -73.7	-35.0 1.7 -73.7	-33.3 1.7 -73.7	-31.6 1.7 -73.7	-29.9 1.7 -73.7	-28.2 1.7 -73.6	-26.5 1.8 -73.6	-24.7 1.7 -73.6	-23.0 1.8 -73.6
11-----	-21.2 1.7 -73.6	-19.5 1.8 -73.5	-17.7 1.8 -73.5	-15.9 1.8 -73.5	-14.1 1.8 -73.5	-12.3 1.8 -73.5	-10.5 1.8 -73.5	-8.7 1.9 -73.5	-6.8 1.8 -73.5	-5.0 1.8 -73.5
12-----	-3.2 1.9 -73.4	-1.3 1.9 -73.4	0.6 1.9 -73.4	2.5 1.8 -73.4	4.3 1.9 -73.3	6.2 1.9 -73.3	8.1 1.9 -73.3	10.0 2.0 -73.3	12.0 1.9 -73.3	13.9 1.9 -73.3
13-----	15.8 2.0 -73.3	17.8 1.9 -73.3	19.7 2.0 -73.3	21.7 2.0 -73.3	23.7 2.0 -73.2	25.7 2.0 -73.2	27.7 2.0 -73.2	29.7 2.0 -73.2	31.7 2.0 -73.2	33.7 2.0 -73.2

TABLE 2 --10<sup>4</sup>Δ<sub>s</sub>, FOR SALINITY 37.00--Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
14----	35.7 2.0 -73.1	37.7 2.1 -73.1	39.8 2.0 -73.1	41.8 2.1 -73.1	43.9 2.1 -73.1	46.0 2.0 -73.1	48.0 2.1 -73.0	50.1 2.1 -73.0	52.2 2.1 -73.0	54.3 2.1 -73.0
15----	56.4 2.1 -73.0	58.5 2.2 -72.9	60.7 2.1 -72.9	62.8 2.1 -72.9	64.9 2.2 -72.9	67.1 2.2 -72.9	69.3 2.2 -72.9	71.5 2.1 -72.9	73.6 2.2 -72.8	75.9 2.2 -72.8
16----	78.0 2.2 -72.8	80.2 2.2 -72.8	82.4 2.3 -72.8	84.7 2.2 -72.8	86.9 2.2 -72.8	89.1 2.3 -72.8	91.4 2.2 -72.8	93.6 2.3 -72.7	95.9 2.2 -72.7	98.1 2.3 -72.7
17----	100.4 2.3 -72.7	102.7 2.4 -72.7	105.1 2.3 -72.7	107.4 2.3 -72.7	109.7 2.3 -72.7	112.0 2.3 -72.7	114.3 2.3 -72.6	116.6 2.4 -72.6	119.0 2.3 -72.6	121.3 2.4 -72.6
18----	123.7 2.4 -72.6	126.1 2.4 -72.6	128.5 2.4 -72.6	130.9 2.3 -72.6	133.2 2.4 -72.5	135.6 2.5 -72.5	138.1 2.4 -72.5	140.5 2.4 -72.5	142.9 2.4 -72.5	145.3 2.5 -72.5
19----	147.8 2.4 -72.5	150.2 2.5 -72.4	152.7 2.5 -72.4	155.2 2.4 -72.4	157.6 2.5 -72.4	160.1 2.5 -72.4	162.6 2.5 -72.4	165.1 2.5 -72.4	167.6 2.4 -72.4	170.2 2.5 -72.4
20----	172.7 2.5 -72.4	175.2 2.5 -72.4	177.7 2.6 -72.3	180.3 2.5 -72.3	182.8 2.6 -72.3	185.4 2.6 -72.3	188.0 2.6 -72.3	190.6 2.6 -72.3	193.2 2.6 -72.3	195.8 2.6 -72.3
21----	198.4 2.6 -72.3	201.0 2.6 -72.3	203.6 2.6 -72.3	206.2 2.6 -72.3	208.8 2.6 -72.2	211.4 2.7 -72.2	214.1 2.7 -72.2	216.8 2.7 -72.2	219.5 2.6 -72.2	222.1 2.7 -72.2

TABLE 2  $-10^{\Delta_s}$ , FOR SALINITY 37.00—Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
22-----	224.8 2.7 -72.2	227.5 2.7 -72.2	230.2 2.7 -72.2	232.9 2.7 -72.2	235.6 2.7 -72.1	238.3 2.7 -72.1	241.0 2.8 -72.1	243.8 2.7 -72.1	246.5 2.8 -72.1	249.3 2.7 -72.1
23-----	252.0 2.8 -72.1	254.8 2.8 -72.1	257.6 2.8 -72.1	260.4 2.8 -72.1	263.2 2.7 -72.1	265.9 2.8 -72.0	268.7 2.8 -72.0	271.5 2.8 -72.0	274.3 2.9 -72.0	277.2 2.8 -72.0
24-----	280.0 2.9 -72.0	282.9 2.8 -72.0	285.7 2.9 -72.0	288.6 2.8 -72.0	291.4 2.9 -72.0	294.3 2.9 -72.0	297.2 2.9 -72.0	300.1 2.9 -72.0	303.0 2.9 -72.0	305.9 2.9 -72.0
25-----	308.8 2.9 -72.0	311.7 2.9 -71.9	314.6 2.9 -71.9	317.5 3.0 -71.9	320.5 2.9 -71.9	323.4 3.0 -71.9	326.4 3.0 -71.9	329.4 3.0 -71.9	332.4 3.0 -71.9	335.3 3.0 -71.9
26-----	338.3 3.0 -71.9	341.3 3.0 -71.9	344.3 3.0 -71.9	347.3 3.0 -71.9	350.3 3.1 -71.9	353.4 3.0 -71.9	356.4 3.0 -71.9	359.4 3.1 -71.9	362.5 3.0 -71.9	365.5 3.0 -71.8
27-----	368.5 3.1 -71.8	371.6 3.1 -71.8	374.7 3.1 -71.8	377.8 3.1 -71.8	380.9 3.1 -71.8	384.0 3.1 -71.8	387.1 3.1 -71.8	390.2 3.1 -71.8	393.3 3.1 -71.8	396.4 3.2 -71.8
28-----	399.6 3.1 -71.8	402.7 3.2 -71.8	405.9 3.1 -71.8	409.0 3.2 -71.8	412.2 3.2 -71.8	415.4 3.1 -71.8	418.5 3.2 -71.7	421.7 3.2 -71.7	424.9 3.2 -71.7	428.1 3.2 -71.7
29-----	431.3 3.2 -71.7	434.5 3.2 -71.7	437.7 3.2 -71.7	441.0 3.2 -71.7	444.2 3.2 -71.7	447.4 3.2 -71.7	450.7 3.2 -71.7	453.9 3.2 -71.7	457.2 3.2 -71.7	460.5 3.2 -71.7



TABLE 2 - 10<sup>5</sup>  $\Delta$  st FOR SALINITY 37.00-Continued

T	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30----	463.80 3.30 -71.70	467.05 3.30 -71.70	470.39 3.30 -71.70	473.69 3.31 -71.71	477.00 3.32 -71.71	480.32 3.33 -71.71	483.64 3.33 -71.71	486.98 3.34 -71.70	490.31 3.3 -71.70	493.64 3.3 -71.70
31----	497.01 3.36 -71.70	500.33 3.37 -71.70	503.70 3.38 -71.69	507.13 3.38 -71.69	510.51 3.39 -71.69	513.90 3.40 -71.69	517.30 3.41 -71.69	520.70 3.41 -71.69	524.12 3.42 -71.68	527.54 3.43 -71.68
32----	530.97 3.43 -71.68	534.40 3.44 -71.68	537.84 3.44 -71.68	541.29 3.46 -71.68	544.75 3.46 -71.68	548.21 3.47 -71.68	551.69 3.48 -71.68	555.16 3.49 -71.68	558.62 3.49 -71.67	562.14 3.50 -71.67
33----	565.64 3.51 -71.67	569.15 3.52 -71.67	572.67 3.52 -71.67	576.19 3.53 -71.67	579.72 3.54 -71.67	583.26 3.54 -71.67	586.80 3.54 -71.67	590.32 3.56 -71.67	593.91 3.57 -71.67	597.48 3.57 -71.67
34----	601.01 3.58 -71.67	604.63 3.59 -71.67	608.22 3.59 -71.67	611.82 3.60 -71.67	615.42 3.61 -71.67	619.03 3.62 -71.67	622.65 3.62 -71.68	626.27 3.63 -71.68	629.90 3.64 -71.68	633.54 3.64 -71.68
35----	637.17 3.61 -71.69	640.84 3.56 -71.68	644.50 3.67 -71.68	648.17 3.68 -71.68	651.84 3.68 -71.68	655.53 3.69 -71.68	659.22 3.70 -71.69	662.92 3.70 -71.69	666.62 3.71 -71.69	670.33 3.72 -71.69

TABLE 3. Temperature Interpolation for Table 2

T Difference	T								
	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.1.....	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
0.2.....	.0	.0	.1	.1	.1	.1	.1	.2	.2
0.3.....	.0	.1	.1	.1	.2	.2	.2	.2	.3
0.4.....	.0	.1	.1	.2	.2	.2	.3	.3	.4
0.5.....	.0	.1	.2	.2	.2	.3	.4	.4	.4
0.6.....	.1	.1	.2	.2	.3	.4	.4	.5	.5
0.7.....	.1	.1	.2	.3	.4	.4	.5	.6	.6
0.8.....	.1	.2	.2	.3	.4	.5	.6	.6	.7
0.9.....	.1	.2	.3	.4	.4	.5	.6	.7	.8
1.0.....	.1	.2	.3	.4	.5	.6	.7	.8	.9
1.1.....	.1	.2	.3	.4	.6	.7	.8	.9	1.0
1.2.....	.1	.2	.4	.5	.6	.7	.8	1.0	1.1
1.3.....	.1	.3	.4	.5	.6	.8	.9	1.0	1.2
1.4.....	.1	.3	.4	.6	.7	.8	1.0	1.1	1.3
1.5.....	.2	.3	.4	.6	.8	.9	1.0	1.2	1.4
1.6.....	.2	.3	.5	.6	.8	1.0	1.1	1.3	1.4
1.7.....	.2	.3	.5	.7	.8	1.0	1.2	1.4	1.5
1.8.....	.2	.4	.5	.7	.9	1.1	1.3	1.4	1.6
1.9.....	.2	.4	.6	.8	1.0	1.1	1.3	1.5	1.7
2.0.....	.2	.4	.6	.8	1.0	1.2	1.4	1.6	1.8
2.1.....	.2	.4	.6	.8	1.0	1.3	1.5	1.7	1.9
2.2.....	.2	.4	.7	.9	1.1	1.3	1.5	1.8	2.0
2.3.....	.2	.5	.7	.9	1.2	1.4	1.6	1.8	2.1
2.4.....	.2	.5	.7	1.0	1.2	1.4	1.7	1.9	2.2
2.5.....	.2	.5	.8	1.0	1.2	1.5	1.8	2.0	2.2
2.6.....	.3	.5	.8	1.0	1.3	1.6	1.8	2.1	2.3
2.7.....	.3	.5	.8	1.1	1.4	1.6	1.9	2.2	2.4
2.8.....	.3	.6	.8	1.1	1.4	1.7	2.0	2.2	2.5
2.9.....	.3	.6	.9	1.2	1.4	1.7	2.0	2.3	2.6
3.0.....	.3	.6	.9	1.2	1.5	1.8	2.1	2.4	2.7
3.1.....	.3	.6	.9	1.2	1.6	1.9	2.2	2.5	2.8
3.2.....	.3	.6	1.0	1.3	1.6	1.9	2.2	2.6	2.9
3.3.....	.3	.7	1.0	1.3	1.7	2.0	2.3	2.6	3.0

(Sverdrup, 1933)

TABLE 4. Salinity Interpolation for Table 2

S	S Difference														
	-71.5	-72.0	-72.5	-73.0	-73.5	-74.0	-74.5	-75.0	-75.5	-76.0	-76.5	-77.0	-77.5	-78.0	-78.5
0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.01	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.02	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4
0.03	-2.1	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
0.04	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9
0.05	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6
0.06	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3
0.07	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0
0.08	-5.7	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8	-5.8
0.09	-6.4	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5
0.10	-7.2	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3
0.11	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9
0.12	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6
0.13	-9.3	-9.4	-9.4	-9.4	-9.4	-9.4	-9.4	-9.4	-9.4	-9.4	-9.4	-9.4	-9.4	-9.4	-9.4
0.14	-10.0	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1
0.15	-10.7	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8
0.16	-11.4	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5	-11.5
0.17	-12.1	-12.2	-12.2	-12.2	-12.2	-12.2	-12.2	-12.2	-12.2	-12.2	-12.2	-12.2	-12.2	-12.2	-12.2
0.18	-12.8	-12.9	-12.9	-12.9	-12.9	-12.9	-12.9	-12.9	-12.9	-12.9	-12.9	-12.9	-12.9	-12.9	-12.9
0.19	-13.6	-13.7	-13.7	-13.7	-13.7	-13.7	-13.7	-13.7	-13.7	-13.7	-13.7	-13.7	-13.7	-13.7	-13.7
0.20	-14.3	-14.4	-14.4	-14.4	-14.4	-14.4	-14.4	-14.4	-14.4	-14.4	-14.4	-14.4	-14.4	-14.4	-14.4
0.21	-15.0	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1
0.22	-15.7	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8	-15.8
0.23	-16.4	-16.6	-16.6	-16.6	-16.6	-16.6	-16.6	-16.6	-16.6	-16.6	-16.6	-16.6	-16.6	-16.6	-16.6
0.24	-17.2	-17.3	-17.3	-17.3	-17.3	-17.3	-17.3	-17.3	-17.3	-17.3	-17.3	-17.3	-17.3	-17.3	-17.3
0.25	-17.9	-18.0	-18.0	-18.0	-18.0	-18.0	-18.0	-18.0	-18.0	-18.0	-18.0	-18.0	-18.0	-18.0	-18.0
0.26	-18.6	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7
0.27	-19.3	-19.4	-19.4	-19.4	-19.4	-19.4	-19.4	-19.4	-19.4	-19.4	-19.4	-19.4	-19.4	-19.4	-19.4
0.28	-20.0	-20.2	-20.2	-20.2	-20.2	-20.2	-20.2	-20.2	-20.2	-20.2	-20.2	-20.2	-20.2	-20.2	-20.2
0.29	-20.7	-20.9	-20.9	-20.9	-20.9	-20.9	-20.9	-20.9	-20.9	-20.9	-20.9	-20.9	-20.9	-20.9	-20.9
0.30	-21.5	-21.6	-21.6	-21.6	-21.6	-21.6	-21.6	-21.6	-21.6	-21.6	-21.6	-21.6	-21.6	-21.6	-21.6
0.31	-22.2	-22.3	-22.3	-22.3	-22.3	-22.3	-22.3	-22.3	-22.3	-22.3	-22.3	-22.3	-22.3	-22.3	-22.3
0.32	-22.9	-23.0	-23.0	-23.0	-23.0	-23.0	-23.0	-23.0	-23.0	-23.0	-23.0	-23.0	-23.0	-23.0	-23.0
0.33	-23.6	-23.8	-23.8	-23.8	-23.8	-23.8	-23.8	-23.8	-23.8	-23.8	-23.8	-23.8	-23.8	-23.8	-23.8
0.34	-24.3	-24.5	-24.5	-24.5	-24.5	-24.5	-24.5	-24.5	-24.5	-24.5	-24.5	-24.5	-24.5	-24.5	-24.5
0.35	-25.0	-25.2	-25.2	-25.2	-25.2	-25.2	-25.2	-25.2	-25.2	-25.2	-25.2	-25.2	-25.2	-25.2	-25.2
0.36	-25.7	-25.9	-25.9	-25.9	-25.9	-25.9	-25.9	-25.9	-25.9	-25.9	-25.9	-25.9	-25.9	-25.9	-25.9
0.37	-26.4	-26.6	-26.6	-26.6	-26.6	-26.6	-26.6	-26.6	-26.6	-26.6	-26.6	-26.6	-26.6	-26.6	-26.6
0.38	-27.1	-27.3	-27.3	-27.3	-27.3	-27.3	-27.3	-27.3	-27.3	-27.3	-27.3	-27.3	-27.3	-27.3	-27.3
0.39	-27.8	-28.0	-28.0	-28.0	-28.0	-28.0	-28.0	-28.0	-28.0	-28.0	-28.0	-28.0	-28.0	-28.0	-28.0
0.40	-28.5	-28.7	-28.7	-28.7	-28.7	-28.7	-28.7	-28.7	-28.7	-28.7	-28.7	-28.7	-28.7	-28.7	-28.7

(Sverdrup, †‰)

TABLE 4. Salinity Interpolation for Table 2. Continued

S	S Difference														
	-71.5	-72.0	-72.5	-73.0	-73.5	-74.0	-74.5	-75.0	-75.5	-76.0	-76.5	-77.0	-77.5	-78.0	-78.5
0.40	-28.6	-28.8	-29.0	-29.2	-29.4	-29.6	-29.8	-30.0	-30.2	-30.4	-30.6	-30.8	-31.0	-31.2	-31.4
0.41	-29.3	-29.5	-29.7	-29.9	-30.1	-30.3	-30.5	-30.7	-30.9	-31.1	-31.3	-31.5	-31.7	-31.9	-32.1
0.42	-30.0	-30.2	-30.4	-30.7	-30.9	-31.1	-31.3	-31.5	-31.7	-31.9	-32.1	-32.3	-32.5	-32.7	-32.9
0.43	-30.8	-31.0	-31.2	-31.4	-31.6	-31.8	-32.0	-32.2	-32.4	-32.6	-32.8	-33.0	-33.2	-33.4	-33.6
0.44	-31.5	-31.7	-31.9	-32.1	-32.3	-32.6	-32.8	-33.0	-33.2	-33.4	-33.7	-33.9	-34.1	-34.3	-34.5
0.45	-32.2	-32.4	-32.6	-32.8	-33.1	-33.3	-33.5	-33.7	-34.0	-34.2	-34.4	-34.7	-34.9	-35.1	-35.3
0.46	-32.9	-33.1	-33.3	-33.6	-33.8	-34.0	-34.3	-34.5	-34.7	-35.0	-35.2	-35.4	-35.7	-35.9	-36.1
0.47	-33.6	-33.8	-34.1	-34.3	-34.5	-34.8	-35.0	-35.2	-35.5	-35.7	-35.9	-36.2	-36.4	-36.7	-36.9
0.48	-34.3	-34.6	-34.8	-35.0	-35.3	-35.5	-35.8	-36.0	-36.2	-36.5	-36.7	-37.0	-37.2	-37.4	-37.7
0.49	-35.0	-35.3	-35.5	-35.8	-36.0	-36.3	-36.5	-36.7	-37.0	-37.2	-37.5	-37.7	-38.0	-38.2	-38.5
0.50	-35.8	-36.0	-36.2	-36.5	-36.7	-37.0	-37.2	-37.5	-37.7	-38.0	-38.2	-38.5	-38.8	-39.0	-39.2
0.51	-36.5	-36.7	-37.0	-37.2	-37.5	-37.7	-38.0	-38.2	-38.5	-38.8	-39.0	-39.3	-39.5	-39.8	-40.0
0.52	-37.2	-37.4	-37.7	-38.0	-38.2	-38.5	-38.7	-39.0	-39.3	-39.5	-39.8	-40.0	-40.3	-40.6	-40.8
0.53	-37.9	-38.2	-38.4	-38.7	-38.9	-39.2	-39.5	-39.7	-40.0	-40.3	-40.5	-40.8	-41.1	-41.3	-41.6
0.54	-38.6	-38.9	-39.1	-39.4	-39.7	-40.0	-40.2	-40.5	-40.8	-41.0	-41.3	-41.6	-41.9	-42.1	-42.4
0.55	-39.3	-39.6	-39.9	-40.1	-40.4	-40.7	-41.0	-41.2	-41.5	-41.8	-42.1	-42.4	-42.6	-42.9	-43.2
0.56	-40.0	-40.3	-40.6	-40.9	-41.2	-41.4	-41.7	-42.0	-42.3	-42.6	-42.8	-43.1	-43.4	-43.7	-44.0
0.57	-40.8	-41.0	-41.3	-41.6	-41.9	-42.2	-42.5	-42.7	-43.0	-43.3	-43.6	-43.9	-44.2	-44.5	-44.7
0.58	-41.5	-41.8	-42.0	-42.3	-42.6	-42.9	-43.2	-43.5	-43.8	-44.1	-44.4	-44.7	-45.0	-45.2	-45.5
0.59	-42.2	-42.5	-42.8	-43.1	-43.4	-43.7	-43.9	-44.2	-44.5	-44.8	-45.1	-45.4	-45.7	-46.0	-46.3
0.60	-42.9	-43.2	-43.5	-43.8	-44.1	-44.4	-44.7	-45.0	-45.3	-45.6	-45.9	-46.2	-46.5	-46.8	-47.1
0.61	-43.6	-43.9	-44.2	-44.5	-44.8	-45.1	-45.4	-45.7	-46.0	-46.3	-46.6	-46.9	-47.2	-47.5	-47.9
0.62	-44.3	-44.6	-44.9	-45.3	-45.6	-45.9	-46.2	-46.5	-46.8	-47.1	-47.4	-47.7	-48.1	-48.4	-48.7
0.63	-45.0	-45.4	-45.7	-46.0	-46.3	-46.6	-46.9	-47.2	-47.6	-47.9	-48.2	-48.5	-48.8	-49.1	-49.5
0.64	-45.8	-46.1	-46.4	-46.7	-47.0	-47.4	-47.7	-48.0	-48.3	-48.6	-49.0	-49.3	-49.6	-49.9	-50.2
0.65	-46.5	-46.8	-47.1	-47.4	-47.8	-48.1	-48.4	-48.7	-49.1	-49.4	-49.7	-50.1	-50.4	-50.7	-51.0
0.66	-47.2	-47.5	-47.8	-48.2	-48.5	-48.8	-49.2	-49.5	-49.8	-50.2	-50.5	-50.8	-51.2	-51.5	-51.8
0.67	-47.9	-48.2	-48.6	-48.9	-49.2	-49.6	-50.0	-50.3	-50.6	-50.9	-51.2	-51.6	-51.9	-52.3	-52.6
0.68	-48.6	-49.0	-49.3	-49.6	-50.0	-50.3	-50.7	-51.0	-51.3	-51.7	-52.0	-52.4	-52.7	-53.0	-53.4
0.69	-49.3	-49.7	-50.0	-50.4	-50.7	-51.1	-51.4	-51.7	-52.1	-52.4	-52.8	-53.1	-53.5	-53.8	-54.2

TABLE 3.—Salinity Interpolation for Table 2—Continued

S	S Difference														
	-71.5	-72.0	-72.5	-73.0	-73.5	-74.0	-74.5	-75.0	-75.5	-76.0	-76.5	-77.0	-77.5	-78.0	-78.5
0.70	50.1	50.4	50.7	51.1	51.4	51.8	52.1	52.5	52.8	53.2	53.6	53.9	54.3	54.6	55.0
0.71	50.8	51.1	51.5	51.8	52.2	52.6	53.0	53.4	53.6	54.0	54.4	54.7	55.0	55.4	55.7
0.72	51.5	51.8	52.2	52.6	52.9	53.3	53.6	54.0	54.4	54.7	55.1	55.4	55.8	56.2	56.5
0.73	52.2	52.6	53.0	53.3	53.6	54.0	54.4	54.8	55.1	55.5	55.9	56.2	56.6	57.0	57.3
0.74	52.9	53.3	53.6	54.0	54.4	54.8	55.1	55.5	55.9	56.2	56.6	57.0	57.4	57.7	58.1
0.75	53.6	54.0	54.4	54.7	55.1	55.5	55.8	56.2	56.6	57.0	57.4	57.8	58.1	58.5	58.9
0.76	54.3	54.7	55.1	55.5	55.9	56.2	56.6	57.0	57.4	57.8	58.1	58.5	58.9	59.3	59.7
0.77	55.1	55.4	55.8	56.2	56.6	57.0	57.4	57.7	58.1	58.5	58.9	59.3	59.7	60.1	60.4
0.78	55.8	56.2	56.5	56.9	57.3	57.7	58.1	58.5	58.9	59.3	59.7	60.1	60.5	60.8	61.2
0.79	56.5	56.9	57.2	57.7	58.1	58.5	58.8	59.2	59.6	60.0	60.4	60.8	61.2	61.6	62.0
0.80	57.2	57.6	58.0	58.4	58.8	59.2	59.6	60.0	60.4	60.8	61.2	61.6	62.0	62.4	62.8
0.81	57.9	58.3	58.7	59.1	59.5	59.9	60.3	60.7	61.1	61.5	61.9	62.3	62.7	63.1	63.5
0.82	58.6	59.0	59.4	59.8	60.2	60.6	61.0	61.4	61.8	62.2	62.6	63.0	63.4	63.8	64.2
0.83	59.3	59.7	60.1	60.5	60.9	61.3	61.7	62.1	62.5	62.9	63.3	63.7	64.1	64.5	64.9
0.84	60.1	60.5	60.9	61.3	61.7	62.1	62.5	62.9	63.3	63.7	64.1	64.5	64.9	65.3	65.7
0.85	60.8	61.2	61.6	62.0	62.4	62.8	63.2	63.6	64.0	64.4	64.8	65.2	65.6	66.0	66.4
0.86	61.5	61.9	62.3	62.7	63.1	63.5	63.9	64.3	64.7	65.1	65.5	65.9	66.3	66.7	67.1
0.87	62.2	62.6	63.0	63.4	63.8	64.2	64.6	65.0	65.4	65.8	66.2	66.6	67.0	67.4	67.8
0.88	62.9	63.3	63.7	64.1	64.5	64.9	65.3	65.7	66.1	66.5	66.9	67.3	67.7	68.1	68.5
0.89	63.6	64.0	64.4	64.8	65.2	65.6	66.0	66.4	66.8	67.2	67.6	68.0	68.4	68.8	69.2
0.90	64.4	64.8	65.2	65.6	66.0	66.4	66.8	67.2	67.6	68.0	68.4	68.8	69.2	69.6	70.0
0.91	65.1	65.5	65.9	66.3	66.7	67.1	67.5	67.9	68.3	68.7	69.1	69.5	69.9	70.3	70.7
0.92	65.8	66.2	66.6	67.0	67.4	67.8	68.2	68.6	69.0	69.4	69.8	70.2	70.6	71.0	71.4
0.93	66.5	66.9	67.3	67.7	68.1	68.5	68.9	69.3	69.7	70.1	70.5	70.9	71.3	71.7	72.1
0.94	67.2	67.6	68.0	68.4	68.8	69.2	69.6	70.0	70.4	70.8	71.2	71.6	72.0	72.4	72.8
0.95	67.9	68.3	68.7	69.1	69.5	69.9	70.3	70.7	71.1	71.5	71.9	72.3	72.7	73.1	73.5
0.96	68.6	69.0	69.4	69.8	70.2	70.6	71.0	71.4	71.8	72.2	72.6	73.0	73.4	73.8	74.2
0.97	69.4	69.8	70.2	70.6	71.0	71.4	71.8	72.2	72.6	73.0	73.4	73.8	74.2	74.6	75.0
0.98	70.1	70.5	70.9	71.3	71.7	72.1	72.5	72.9	73.3	73.7	74.1	74.5	74.9	75.3	75.7
0.99	70.8	71.2	71.6	72.0	72.4	72.8	73.2	73.6	74.0	74.4	74.8	75.2	75.6	76.0	76.4

TABLE 5.—Temperature-Depth Term,  $10^8 t_p$ , of Anomaly of Specific Volume for Values of Temperature and Depth

Example:  
Given depth 800 m. and temperature 4.55° C.  
From table  $10^8 t_p = 8.8$

Depth (Meters)	Temperature										
	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	-0.1	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	-0.1	-0.1	-0.1	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	-0.1	-0.1	-0.1	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	-0.2	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	-0.3	-0.2	-0.1	-0.1	0.0	0.1	0.1	0.2	0.3	0.3	0.3
75	-0.4	-0.3	-0.2	-0.1	-0.0	0.1	0.1	0.3	0.4	0.4	0.4
100	-0.5	-0.4	-0.3	-0.1	-0.0	0.1	0.3	0.4	0.5	0.5	0.6
150	-0.8	-0.6	-0.4	-0.2	-0.0	0.2	0.4	0.6	0.8	0.8	1.0
200	-1.1	-0.8	-0.6	-0.3	-0.0	0.3	0.5	0.8	1.0	1.0	1.3
250	-1.4	-1.0	-0.7	-0.3	0.0	0.3	0.7	1.0	1.3	1.3	1.6
300	-1.7	-1.3	-0.8	-0.4	0.0	0.4	0.8	1.2	1.6	1.6	1.9
400	-2.2	-1.7	-1.1	-0.5	0.0	0.5	1.1	1.6	2.1	2.1	2.6
500	-2.8	-2.1	-1.4	-0.7	-0.0	0.7	1.3	2.0	2.6	2.6	3.2
600	-3.3	-2.5	-1.6	-0.8	0.0	0.8	1.6	2.3	3.1	3.1	3.8
700	-3.9	-2.9	-1.9	-0.9	-0.0	0.9	1.8	2.7	3.6	3.6	4.4
800	-4.4	-3.3	-2.2	-1.1	-0.0	1.1	2.1	3.1	4.1	4.1	5.0
1000	-5.5	-4.1	-2.7	-1.3	-0.0	1.3	2.6	3.8	5.1	5.1	6.3
1200	-6.6	-4.9	-3.2	-1.6	-0.0	1.6	3.1	4.6	6.0	6.0	7.5
1500	-8.1	-6.0	-4.0	-2.0	-0.0	1.9	3.8	5.7	7.5	7.5	9.2
2000	-10.6	-7.9	-5.2	-2.6	-0.0	2.5	5.0	7.4	9.8	9.8	12.1

(Sverdrup, 1933)

TABLE 5.—Temperature-Depth Term,  $10^6 \delta_{t,z}$ , of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature									
	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
20	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
25	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
30	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5
50	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9
75	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.2	1.3
100	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7
150	1.1	1.3	1.5	1.7	1.8	2.0	2.2	2.3	2.5	2.6
200	1.5	1.8	2.0	2.2	2.4	2.7	2.9	3.1	3.3	3.5
250	1.9	2.2	2.5	2.8	3.0	3.3	3.6	3.8	4.1	4.3
300	2.3	2.6	3.0	3.3	3.6	4.0	4.3	4.6	4.9	5.2
400	3.0	3.5	4.0	4.4	4.8	5.3	5.7	6.1	6.5	6.9
500	3.8	4.4	4.9	5.5	6.0	6.6	7.1	7.6	8.1	8.6
600	4.5	5.2	5.9	6.6	7.2	7.9	8.5	9.1	9.7	10.3
700	5.3	6.1	6.9	7.6	8.4	9.1	9.9	10.6	11.3	11.9
800	6.0	6.9	7.8	8.7	9.6	10.4	11.2	12.0	12.8	13.6
1000	7.4	8.6	9.7	10.8	11.9	12.9	13.9	14.9	15.9	16.9
1200	8.9	10.2	11.6	12.9	14.2	15.4	16.6	17.8	19.0	20.1
1500	11.0	12.7	14.3	15.9	17.5	19.1	20.6	22.0	23.5	24.9
2000	14.4	16.6	18.8	20.9	23.0	25.0	27.0	28.9	30.8	32.6

TABLE 5.—Temperature-Depth Term, 10<sup>5</sup>, of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature									
	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
20	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
25	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7
30	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8
50	0.9	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.3	1.3
75	1.4	1.4	1.5	1.6	1.7	1.7	1.8	1.8	1.9	2.0
100	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.4	2.5	2.6
150	2.8	2.9	3.0	3.2	3.3	3.4	3.5	3.7	3.8	3.9
200	3.7	3.8	4.0	4.2	4.4	4.6	4.7	4.9	5.0	5.2
250	4.6	4.8	5.0	5.3	5.5	5.7	5.9	6.1	6.3	6.5
300	5.5	5.8	6.0	6.3	6.6	6.8	7.1	7.3	7.5	7.8
400	7.3	7.6	8.0	8.4	8.7	9.0	9.4	9.7	10.0	10.3
500	9.1	9.5	10.0	10.4	10.8	11.3	11.7	12.1	12.5	12.8
600	10.8	11.4	11.9	12.5	13.0	13.5	14.0	14.4	14.9	15.4
700	12.6	13.2	13.9	14.5	15.1	15.7	16.2	16.8	17.3	17.9
800	14.4	15.1	15.8	16.5	17.2	17.8	18.5	19.1	19.7	20.3
1000	17.8	18.7	19.6	20.5	21.3	22.1	23.0	23.7	24.5	25.2
1200	21.2	22.3	23.4	24.4	25.4	26.4	27.4	28.3	29.2	30.1
1500	26.3	27.6	28.9	30.2	31.4	32.7	33.8	35.0	36.1	37.2
2000	34.4	36.2	37.9	39.6	41.2	42.8	44.4	45.9	47.3	48.8



TABLE 5.—Temperature-Depth Term,  $10^5$ , of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature									
	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
20	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
25	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8
30	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	1.0
50	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.6
75	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.4
100	2.7	2.8	2.8	2.9	3.0	3.0	3.1	3.1	3.2	3.3
150	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9
200	5.3	5.5	5.6	5.8	5.9	6.0	6.1	6.3	6.4	6.5
250	6.7	7.0	7.0	7.2	7.4	7.5	7.7	7.8	8.0	8.1
300	8.0	8.2	8.4	8.6	8.8	9.0	9.2	9.4	9.5	9.7
400	10.6	10.9	11.2	11.4	11.7	12.0	12.2	12.5	12.7	12.9
500	13.2	13.6	13.9	14.3	14.6	14.9	15.2	15.5	15.8	16.1
600	15.8	16.2	16.6	17.0	17.4	17.8	18.2	18.6	18.9	19.2
700	18.4	18.9	19.3	19.8	20.3	20.7	21.2	21.6	22.0	22.4
800	20.9	21.5	22.0	22.6	23.1	23.6	24.1	24.6	25.0	25.5
1000	26.0	26.7	27.4	28.0	28.7	29.3	29.9	30.5	31.1	31.6
1200	30.9	31.8	32.6	33.4	34.2	34.9	35.6	36.4	37.0	37.7
1500	38.3	39.3	40.3	41.3	42.3	43.2	44.1	45.0	45.8	46.7
2000	50.2	51.5	52.9	54.2	55.4	56.6	57.8	59.0	60.1	61.2

Table 5.—Temperature-Depth Term, 10<sup>3</sup> δ, of Anomaly of Specific Volume for Values of Temperature and Depth.—Continued

Depth (Meters)	Temperature										
	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	
20	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	
30	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	
40	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	0.9	
50	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.1	
75	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.8	2.8	1.9	
100	3.3	3.4	3.5	3.5	3.5	3.6	3.6	3.7	3.7	1.8	
150	5.0	5.1	5.1	5.1	5.3	5.4	5.4	5.5	5.6	1.8	
200	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	3.7	
300	8.3	8.4	8.5	8.6	8.8	8.9	9.0	9.1	9.1	3.6	
400	9.9	10.0	10.2	10.4	10.5	10.6	10.8	10.9	11.0	7.3	
500	13.1	13.4	13.6	13.8	14.0	14.1	14.3	14.5	14.7	9.3	
600	16.4	16.6	16.9	17.1	17.4	17.6	17.9	18.1	18.3	11.2	
700	19.6	19.9	20.2	20.5	20.8	21.1	21.4	21.6	21.9	14.9	
800	24.8	25.1	25.5	25.8	26.2	26.5	26.8	27.1	27.4	18.5	
1000	32.2	32.3	33.2	33.7	34.2	34.7	35.1	35.5	36.0	22.1	
1200	38.4	39.0	39.6	40.2	40.8	41.3	41.9	42.4	42.9	25.7	
1500	47.5	48.1	49.0	49.7	50.4	51.1	51.8	52.4	53.1	29.3	
2000	62.2	63.3	64.2	65.2	66.1	67.1	67.9	68.8	69.6	36.5	

TABLE 5.—Temperature-Depth Term, 10<sup>5</sup>., of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature									
	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
20	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
25	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
30	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
50	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0
75	2.8	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.1	3.1
100	3.8	3.8	3.9	3.9	3.9	4.0	4.0	4.0	4.1	4.1
150	5.7	5.7	5.8	5.8	5.9	5.9	6.0	6.0	6.1	6.1
200	7.6	7.6	7.7	7.8	7.8	7.9	8.0	8.0	8.1	8.2
250	9.4	9.5	9.6	9.7	9.8	9.9	10.0	10.0	10.1	10.2
300	11.3	11.4	11.5	11.6	11.7	11.8	11.9	12.0	12.1	12.2
400	15.0	15.2	15.3	15.5	15.6	15.7	15.9	16.0	16.1	16.2
500	18.7	18.9	19.1	19.3	19.4	19.6	19.8	19.9	20.1	20.2
600	22.4	22.6	22.8	23.0	23.2	23.4	23.1	23.3	24.0	24.2
700	26.0	26.3	26.5	26.8	27.0	27.3	27.5	27.7	27.9	28.1
800	29.6	29.9	30.2	30.5	30.8	31.0	31.3	31.5	31.8	32.0
1000	36.8	37.2	37.5	37.9	38.2	38.6	38.9	39.2	39.5	39.8
1200	43.8	44.3	44.7	45.2	45.6	46.0	46.3	46.7	47.1	47.4
1500	54.3	54.8	55.4	55.9	56.4	56.9	57.4	57.8	58.3	58.7
2000	71.2	71.9	72.6	73.3	74.0	74.7	75.3	75.9	76.5	77.1

TABLE 5. Temperature-Depth Term,  $10^6 \rho$ , of Anomaly of Specific Volume for Value of Temperature and Depth—(continued)

Depth (Meters)	Temperature									
	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
20	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9
25	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1
30	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
50	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2
75	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.2
100	4.1	4.1	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.3
150	6.2	6.2	6.2	6.3	6.3	6.4	6.4	6.4	6.4	6.5
200	8.2	8.3	8.3	8.4	8.4	8.5	8.5	8.5	8.6	8.6
250	10.3	10.3	10.4	10.4	10.5	10.6	10.6	10.7	10.7	10.8
300	12.3	12.4	12.4	12.5	12.6	12.6	12.7	12.8	12.8	12.9
400	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.1
500	20.3	20.5	20.6	20.7	20.8	20.9	21.1	21.2	21.3	21.3
600	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.3	25.4	25.5
700	28.3	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7
800	32.2	32.4	32.6	32.8	33.0	33.2	33.4	33.5	33.7	33.9
1000	40.0	40.3	40.5	40.8	41.0	41.3	41.5	41.7	41.9	42.1
1200	47.7	48.1	48.4	48.7	48.9	49.2	49.5	49.7	50.0	50.2
1500	59.1	59.5	59.9	60.3	60.6	61.0	61.3	61.6	61.9	62.2
2000	77.6	78.1	78.7	79.1	79.6	80.1	80.5	80.9	81.4	81.8

TABLE 2. Temperature-Depth Term,  $10^4 \Delta$ , of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature				
	33.0	33.5	34.0	34.5	35.0
0	0.0	0.0	0.0	0.0	0.0
10	0.4	0.4	0.4	0.4	0.4
20	0.9	0.9	0.9	0.9	0.9
25	1.1	1.1	1.1	1.1	1.1
30	1.3	1.3	1.3	1.3	1.3
35	2.2	2.2	2.2	2.2	2.2
40	3.3	3.3	3.3	3.3	3.3
50	4.3	4.4	4.4	4.4	4.4
60	6.5	6.5	6.5	6.6	6.6
70	8.7	8.7	8.7	8.8	8.8
80	10.8	10.8	10.9	10.9	11.0
90	12.9	13.0	13.0	13.1	13.1
100	17.2	17.3	17.3	17.4	17.5
150	21.4	21.5	21.6	21.7	21.8
200	25.7	25.8	25.9	25.9	26.0
300	29.8	30.0	30.1	30.2	30.3
400	34.0	34.1	34.3	34.4	34.5
500	42.3	42.4	42.6	42.8	42.9
600	50.4	50.6	50.8	51.0	51.2
700	60.1	60.7	63.0	63.3	63.7
800	82.1	82.5	82.9	83.2	83.5

TABLE 5.—Temperature-Depth Term,  $10^6$ , of Aomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature									
	-2.0	-1.8	-1.6	-1.4	-1.2	-1.0	-0.8	-0.6	-0.4	-0.2
2000	-13.1	-11.7	-10.4	-9.0	-7.7	-6.4	-5.1	-3.8	-2.5	-1.3
3000	-15.4	-13.8	-12.2	-10.7	-9.1	-7.6	-6.0	-4.5	-3.0	-1.5
4000	-19.9	-17.6	-15.8	-13.6	-11.7	-9.7	-7.8	-5.8	-3.8	-1.9
5000	-24.0	-21.6	-19.1	-16.6	-14.2	-11.8	-9.4	-7.0	-4.7	-2.3
6000	-27.9	-25.0	-22.1	-19.3	-16.5	-13.7	-10.9	-8.1	-5.4	-2.7
7000	-31.6	-28.2	-25.0	-21.8	-18.6	-15.3	-12.2	-9.2	-6.1	-3.0
8000	-34.8	-31.2	-27.6	-24.1	-20.5	-17.0	-13.6	-10.1	-6.7	-3.4
9000	-37.7	-34.0	-30.1	-26.2	-22.4	-18.6	-14.8	-11.0	-7.3	-3.7
10000	-40.8	-36.5	-32.3	-28.2	-24.1	-20.0	-15.9	-11.9	-7.9	-3.9
11000	-43.4	-38.9	-34.5	-30.0	-25.6	-21.3	-16.9	-12.7	-8.4	-4.2
12000	-45.9	-41.1	-36.4	-31.7	-27.1	-22.5	-17.9	-13.4	-8.9	-4.4

TABLE 5.—Temperature-Depth Term, 10<sup>6</sup>s., of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature										
	0.0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	
200-----	-0.0	1.5	2.9	3.7	4.9	6.1	7.3	8.5	9.7	10.9	
300-----	0.0	1.5	2.9	4.4	5.8	7.2	8.7	10.1	11.4	12.8	
400-----	-0.0	1.9	3.8	5.7	7.5	9.3	11.2	13.0	14.8	16.5	
500-----	0.0	2.3	4.6	6.8	9.1	11.3	13.5	15.7	17.8	20.0	
6000-----	-0.0	2.7	5.3	7.9	10.5	13.1	15.7	18.2	20.7	23.2	
8000-----	-0.0	3.3	6.6	9.9	13.1	16.3	19.5	22.7	25.8	28.9	
9000-----	0.0	3.6	7.2	10.8	14.3	17.8	21.3	24.7	28.1	31.5	
10000-----	-0.0	3.9	7.8	11.6	15.4	19.1	22.9	26.6	30.3	33.9	
11000-----	-0.0	4.1	8.3	12.3	16.4	20.4	24.4	28.3	32.2	36.1	
12000-----	-0.0	4.4	8.7	13.1	17.3	21.6	25.8	30.0	34.1	38.2	

TABLE 5.—Temperature-Depth Term,  $10^8$ , of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature									
	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8
2500	12.0	13.2	14.3	15.4	16.6	17.7	18.8	19.8	20.9	22.0
3000	14.2	15.5	16.9	18.2	19.5	20.8	22.1	23.4	24.7	25.9
4000	18.3	20.0	21.8	23.5	25.2	26.9	28.5	30.2	31.8	33.4
5000	22.1	24.2	26.3	28.4	30.4	32.5	34.5	36.5	38.5	40.4
6000	25.6	28.1	30.5	32.9	35.3	37.7	40.0	42.3	44.6	46.9
7000	28.9	31.7	34.4	37.2	39.8	42.5	45.2	47.8	50.4	52.9
8000	32.0	35.1	38.1	41.1	44.1	47.0	49.9	52.8	55.7	58.6
9000	34.9	38.2	41.5	44.7	48.0	51.2	54.4	57.5	60.7	63.8
10000	37.5	41.1	44.6	48.2	51.6	55.1	58.5	61.9	65.3	68.6
11000	40.0	43.8	47.6	51.3	55.1	58.7	62.4	66.0	69.6	73.2
12000	42.3	46.3	50.3	54.3	58.2	62.1	66.0	69.9	73.7	77.4



TABLE 5.—Temperature-Depth Term,  $10^3$ , of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature									
	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8
2500-----	23.0	24.1	25.1	26.2	27.2	28.2	29.2	30.2	31.2	32.2
3000-----	27.2	28.4	29.7	30.9	32.1	33.3	34.5	35.6	36.8	37.9
4000-----	32.1	36.6	38.2	39.8	41.3	42.9	44.4	45.9	47.4	48.9
5000-----	42.4	44.3	46.2	48.1	50.0	51.8	53.7	55.5	57.3	59.1
6000-----	49.2	51.4	53.6	55.8	58.0	60.2	62.3	64.4	66.5	68.6
7000-----	55.5	58.0	60.5	63.0	65.5	67.9	70.3	72.7	75.1	77.4
8000-----	61.4	64.2	66.9	69.7	72.4	75.1	77.8	80.4	83.1	85.7
9000-----	66.9	69.9	72.9	75.9	78.9	81.7	84.6	87.6	90.5	93.4
10000-----	72.0	75.2	78.5	81.8	84.9	88.1	91.3	94.4	97.5	100.5
11000-----	76.7	80.2	83.7	87.2	90.6	94.0	97.3	100.7	104.0	107.2
12000-----	81.2	84.9	88.6	92.3	95.9	99.5	103.0	106.6	110.1	113.5

TABLE 5.—Temperature-Depth Term,  $10^3$ , of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature									
	6.0	6.2	6.4	6.6	6.8	7.0	7.2	7.4	7.6	7.8
2500-----	33.1	34.1	35.0	36.0	36.9	37.8	38.7	39.6	40.5	41.4
3000-----	39.1	40.2	41.3	42.4	43.5	44.6	45.7	46.8	47.8	48.9
4000-----	50.4	51.8	53.3	54.7	56.1	57.5	58.9	60.3	61.7	63.0
5000-----	60.9	62.6	64.4	66.1	67.8	69.5	71.2	72.9	74.5	76.2
6000-----	70.7	72.7	74.7	76.7	78.7	80.7	82.7	84.6	86.5	88.4
7000-----	79.8	82.1	84.4	86.6	88.9	91.1	93.3	95.5	97.7	99.8
8000-----	88.3	90.8	93.4	95.9	98.4	100.8	103.3	105.7	108.1	110.5
9000-----	96.2	99.0	101.7	104.5	107.2	109.9	112.6	115.2	117.8	120.4
10000-----	103.6	106.6	109.6	112.5	115.5	118.4	121.2	124.1	126.9	129.7
11000-----	110.5	113.7	116.9	120.1	123.2	126.3	129.4	132.5	135.5	138.5
12000-----	117.0	120.4	123.8	127.2	130.5	133.8	137.1	140.3	143.5	146.7

TABLE 5.—Temperature-Depth Term,  $10^4 t_p$ , of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature									
	8.0	8.2	8.4	8.6	8.8	9.0	9.2	9.4	9.6	9.8
2500-----	42.3	43.2	44.0	44.9	45.7	46.6	47.4	48.2	49.0	49.8
3000-----	49.9	50.9	52.0	53.0	54.0	55.0	55.9	56.9	57.9	58.8
4000-----	64.3	65.7	67.0	68.3	69.6	70.8	72.1	73.4	74.6	75.8
5000-----	77.8	79.4	81.0	82.5	84.1	85.6	87.2	88.7	90.2	91.7
6000-----	90.3	92.2	94.0	95.8	97.6	99.4	101.2	103.0	104.7	106.4
7000-----	102.0	104.1	106.1	108.2	110.3	112.3	114.3	116.3	118.3	120.2
8000-----	112.8	115.2	117.5	119.8	122.0	124.3	126.5	128.7	130.9	133.1
9000-----	123.0	125.5	128.1	130.6	133.1	135.5	138.0	140.4	142.8	145.1
10000-----	132.5	135.3	138.0	140.7	143.4	146.1	148.7	151.3	153.9	156.5
11000-----	141.5	144.4	147.3	150.3	153.1	156.0	158.8	161.6	164.4	167.2
12000-----	149.9	153.1	156.2	159.3	162.3	165.4	168.4	171.4	174.3	177.3

TABLE 5.—Temperature-Depth Term,  $10^6 \delta_{\theta}$ , of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature									
	10.0	10.2	10.4	10.6	10.8	11.0	11.2	11.4	11.6	11.8
200	50.6	51.4	52.2	53.0	53.8	54.5	55.3	56.0	56.7	57.5
300	59.8	60.7	61.6	62.5	63.4	64.3	65.2	66.1	66.9	67.8
400	77.0	78.2	79.4	80.6	81.8	82.9	84.1	85.2	86.3	87.4
500	93.1	94.6	96.0	97.4	98.9	100.3	101.6	103.0	104.4	105.7
600	108.1	109.8	111.5	113.2	114.8	116.4	118.0	119.6	121.2	122.8
700	122.1	124.1	126.0	127.8	129.7	131.5	133.4	135.2	137.0	138.7
800	135.2	137.4	139.5	141.6	143.6	145.7	147.7	149.7	151.7	153.7
900	147.5	149.8	152.1	154.4	156.7	158.9	161.2	163.4	165.6	167.7
1000	159.0	161.5	164.0	166.5	169.0	171.4	173.8	176.2	178.6	180.9
1100	169.9	172.6	175.3	178.0	180.6	183.2	185.8	188.4	190.9	193.5
1200	180.2	183.1	185.9	188.8	191.6	194.4	197.2	199.9	202.7	205.4

TABLE 5.—Temperature-Depth Term, 10<sup>5</sup> ft., of Anomaly of Specific Volume for Values of Temperature and Depth—Continued

Depth (Meters)	Temperature									
	12.0	12.2	12.4	12.6	12.8	13.0	13.2	13.4	13.6	13.8
2500	58.2	58.9	59.6	60.3	61.0	61.7	62.3	63.0	63.7	64.3
3000	68.6	69.5	70.3	71.1	72.0	72.8	73.6	74.4	75.1	75.9
4000	88.5	89.6	90.7	91.7	92.8	93.8	94.7	95.9	96.9	97.9
5000	107.0	108.4	109.7	110.9	112.2	113.5	114.7	116.0	117.2	118.4
6000	124.3	125.9	127.4	128.9	130.4	131.8	133.3	134.8	136.2	137.6
7000	140.5	142.2	144.0	145.7	147.4	149.0	150.7	152.3	154.0	155.6
8000	155.6	157.6	159.5	161.4	163.3	165.1	167.0	168.8	170.6	172.4
9000	169.9	172.0	174.1	176.2	178.3	180.3	182.3	184.3	186.3	188.3
10000	183.3	185.6	187.9	190.1	192.4	194.6	196.8	199.0	201.2	203.3
11000	196.0	198.5	200.9	203.4	205.8	208.2	210.6	212.9	215.3	217.6
12000	208.1	210.7	213.4	216.0	218.6	221.2	223.7	226.3	228.8	231.3

Table 5.—Temperature-Depth Term,  $10^8$ , of Anomaly of Specific Volume for Values of Temperature and Depth.—Continued

Depth (Meters)	Temperature						
	14.0	14.2	14.4	14.6	14.8	15.0	
2000	65.0	65.6	66.2	66.7	67.2	68.1	
3000	76.7	77.4	78.2	78.7	79.6	80.4	
4000	88.2	89.2	90.2	91.0	92.7	93.7	
5000	99.6	100.5	102.0	103.1	104.3	105.6	
6000	111.0	110.4	111.8	113.1	114.5	115.8	
7000	127.2	128.7	130.3	131.8	133.4	134.9	
8000	144.2	146.0	147.7	149.4	151.1	152.3	
9000	160.3	162.2	164.1	166.0	167.9	169.8	
10000	175.5	177.6	179.7	181.7	183.8	185.8	
11000	199.9	202.2	204.5	206.7	209.0	211.2	
12000	233.8	236.2	238.7	241.1	243.5	245.9	

TABLE 6.—Salinity-Depth Term,  $10^6$ , of Anomaly of Specific Volume for Values of Salinity and Depth

Depth (Meters)	Salinity										
	10	11	12	13	14	15	16	17	18	19	20
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	-0.4	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
20	-0.8	-0.7	-0.7	-0.7	-0.7	-0.6	-0.6	-0.5	-0.5	-0.5	-0.5
25	-1.0	-0.9	-0.9	-0.9	-0.8	-0.7	-0.7	-0.7	-0.7	-0.6	-0.5
30	-1.2	-1.1	-1.1	-1.1	-1.0	-0.9	-0.9	-0.8	-0.8	-0.7	-0.7
50	-2.0	-1.9	-1.8	-1.7	-1.7	-1.5	-1.5	-1.4	-1.3	-1.3	-1.1
75	-3.0	-2.9	-2.7	-2.6	-2.5	-2.3	-2.2	-2.1	-2.0	-1.9	-1.7
100	-4.0	-3.8	-3.7	-3.5	-3.3	-3.1	-3.0	-2.8	-2.7	-2.5	-2.3
150	-6.0	-5.7	-5.5	-5.3	-5.0	-4.7	-4.5	-4.3	-4.0	-3.7	-3.5
200	-8.0	-7.7	-7.3	-6.9	-6.6	-6.3	-5.9	-5.7	-5.3	-5.0	-4.7
250	-10.0	-9.5	-9.1	-8.7	-8.3	-7.9	-7.5	-7.1	-6.7	-6.3	-5.8
300	-11.9	-11.5	-10.9	-10.5	-9.9	-9.5	-8.9	-8.5	-7.9	-7.5	-7.0
400	-15.9	-15.3	-14.5	-13.9	-13.2	-12.5	-11.9	-11.3	-10.6	-9.9	-9.3
500	-18.9	-19.0	-18.2	-17.3	-16.5	-15.7	-14.8	-14.1	-13.3	-12.4	-11.6
600	-23.8	-22.8	-21.7	-20.7	-19.7	-18.8	-17.8	-16.8	-15.9	-14.9	-13.9
700	-27.7	-26.5	-25.3	-24.2	-23.0	-21.9	-20.7	-19.5	-18.5	-17.3	-16.2
800	-31.6	-30.3	-28.9	-27.6	-26.3	-24.9	-23.6	-22.3	-21.1	-19.7	-18.5

(Sverdrup, 1933)







TABLE 7. Sigma-T,  $\sigma_t$ , for Values of Temperature-Salinity Term of the Anomaly of Specific Volume ( $10^3 \Delta \sigma_t$ )

Example  
 Given,  $10^3 \Delta \sigma_t = 80.0$   
 From table  $\sigma_t = 27.272$

Sigma-T for values of  $10^3 \Delta \sigma_t$

$10^3 \Delta \sigma_t$	0	1	2	3	4	5	6	7	8	9
-190	30.139	30.149	30.160	30.171	30.181	30.192	30.202	30.213	30.224	30.234
-180	.033	.043	.054	.064	.075	.086	.096	.107	.117	.128
-170	29.926	29.937	29.948	29.958	29.969	29.980	29.990	.001	.011	.022
-160	.830	.831	.842	.852	.863	.873	.884	29.995	29.995	29.916
-150	.714	.725	.736	.746	.757	.767	.778	.789	.799	.810
-140	.608	.619	.630	.640	.651	.661	.672	.683	.693	.704
-130	.502	.513	.524	.534	.545	.555	.566	.577	.587	.598
-120	.396	.407	.418	.428	.439	.449	.460	.471	.481	.492
-110	.290	.301	.312	.322	.333	.343	.354	.365	.375	.386
-100	.184	.195	.206	.216	.227	.237	.248	.259	.269	.280
-90	.079	.089	.100	.110	.121	.132	.142	.153	.163	.174
-80	28.973	28.983	28.994	.004	.015	.026	.036	.047	.057	.068
-70	.867	.877	.888	28.999	28.999	28.920	28.930	28.941	28.952	28.963
-60	.761	.772	.782	.793	.803	.814	.824	.835	.845	.856
-50	.655	.666	.676	.687	.697	.708	.719	.729	.740	.750
-40	.549	.560	.570	.581	.592	.602	.613	.623	.634	.645
-30	.444	.454	.465	.475	.486	.496	.507	.518	.528	.539
-20	.338	.348	.359	.370	.380	.391	.401	.412	.422	.433
-10	.232	.243	.253	.264	.274	.285	.296	.306	.317	.327
-0	.126	.137	.148	.158	.169	.179	.190	.200	.211	.222
0	.126	.116	.105	.095	.084	.074	.063	.053	.042	.031
10	.021	.010	.000	27.989	27.978	27.968	27.957	27.947	27.936	27.926
20	27.915	27.904	27.894	.883	.873	.863	.852	.841	.831	.820
30	.809	.799	.788	.778	.767	.757	.746	.735	.725	.714
40	.704	.693	.683	.672	.661	.651	.640	.630	.619	.609
50	.598	.588	.577	.566	.556	.545	.535	.524	.514	.503
60	.493	.482	.471	.461	.450	.440	.429	.419	.408	.398
70	.387	.376	.366	.355	.345	.334	.324	.313	.303	.292
80	.281	.271	.260	.250	.239	.229	.218	.208	.197	.186
90	.176	.165	.155	.144	.134	.123	.113	.102	.091	.081
100	.070	.060	.049	.039	.028	.018	.007	28.997	28.986	28.976
110	28.965	28.954	28.944	28.933	28.923	28.912	28.902	.891	.881	.870
120	.860	.849	.838	.828	.817	.807	.796	.786	.775	.765
130	.754	.744	.733	.722	.712	.701	.691	.680	.670	.659
140	.649	.638	.628	.617	.606	.596	.585	.575	.564	.554
150	.543	.533	.522	.512	.501	.491	.480	.470	.459	.449
160	.438	.427	.417	.406	.396	.385	.375	.364	.354	.343
170	.333	.322	.312	.301	.290	.280	.269	.259	.248	.238
180	.227	.217	.206	.196	.185	.175	.164	.154	.143	.133
190	.122	.111	.101	.090	.080	.069	.059	.048	.038	.027
200	.017	.006	28.996	28.985	28.973	28.964	28.953	28.943	28.933	28.922
210	28.911	28.901	.890	.880	.869	.859	.848	.838	.827	.817
220	.806	.796	.785	.775	.764	.754	.743	.733	.722	.711
230	.701	.690	.680	.669	.659	.648	.638	.627	.617	.606
240	.596	.585	.575	.564	.554	.543	.533	.523	.512	.501
250	.491	.480	.469	.459	.448	.438	.427	.417	.406	.396
260	.385	.375	.364	.354	.343	.333	.322	.312	.301	.291
270	.280	.270	.259	.249	.238	.228	.217	.207	.196	.186
280	.175	.165	.154	.144	.133	.123	.112	.102	.091	.081
290	.070	.060	.049	.039	.028	.018	.007	28.997	28.986	28.975

TABLE 7. Sigma-T for values of  $10^{\Delta}$ . (Continued)

$10^{\Delta}$	0	1	2	3	4	5	6	7	8	9
300	24.965	24.954	24.944	24.933	24.923	24.913	24.903	24.891	24.881	24.870
310	.890	.849	.809	.828	.818	.807	.797	.786	.776	.765
320	.755	.744	.734	.723	.713	.702	.692	.681	.671	.660
330	.650	.639	.629	.618	.608	.597	.587	.576	.566	.555
340	.545	.534	.524	.513	.503	.492	.482	.471	.461	.450
350	.440	.429	.419	.408	.398	.388	.377	.367	.356	.346
360	.335	.325	.314	.304	.293	.283	.272	.263	.251	.241
370	.230	.220	.209	.199	.188	.178	.167	.157	.146	.136
380	.125	.115	.104	.094	.083	.073	.062	.052	.041	.031
390	.020	.010	23.999	23.989	23.978	23.968	23.957	23.947	23.936	23.926
400	23.915	23.905	.895	.884	.874	.863	.853	.842	.832	.821
410	.811	.800	.790	.779	.769	.758	.748	.737	.727	.716
420	.706	.695	.685	.674	.664	.654	.643	.633	.623	.613
430	.602	.591	.580	.570	.560	.549	.539	.528	.517	.507
440	.496	.486	.475	.465	.454	.444	.433	.423	.413	.402
450	.392	.381	.371	.360	.350	.339	.329	.318	.308	.297
460	.287	.276	.266	.255	.245	.235	.224	.214	.203	.193
470	.182	.172	.161	.151	.140	.130	.119	.109	.098	.088
480	.078	.067	.057	.046	.036	.025	.015	.004	22.994	22.983
490	22.973	22.962	22.952	22.941	22.931	22.921	22.910	22.900	.899	.879
500	.898	.858	.847	.837	.826	.816	.805	.795	.785	.774
510	.764	.753	.743	.732	.722	.711	.701	.690	.680	.669
520	.659	.649	.638	.628	.617	.607	.596	.586	.575	.565
530	.554	.544	.534	.523	.513	.502	.492	.481	.471	.460
540	.450	.439	.429	.419	.408	.398	.387	.377	.366	.356
550	.345	.335	.324	.314	.304	.293	.283	.272	.262	.251
560	.241	.230	.220	.209	.199	.189	.178	.168	.157	.147
570	.136	.126	.115	.105	.095	.084	.074	.063	.053	.043
580	.032	.021	.011	.001	21.990	21.980	21.969	21.959	21.948	21.938
590	21.927	21.917	21.907	21.896	.896	.875	.865	.854	.844	.833
600	.833	.813	.802	.792	.781	.771	.760	.750	.739	.729
610	.719	.708	.698	.687	.677	.666	.656	.645	.635	.625
620	.614	.604	.593	.583	.572	.562	.552	.541	.531	.520
630	.510	.499	.489	.479	.468	.458	.447	.437	.426	.416
640	.408	.395	.385	.374	.364	.353	.343	.332	.322	.312
650	.301	.291	.280	.270	.259	.249	.238	.228	.218	.207
660	.197	.187	.176	.166	.155	.145	.134	.124	.114	.103
670	.089	.082	.072	.061	.051	.041	.030	.020	.009	20.999
680	20.988	20.978	20.968	20.957	20.947	20.936	20.926	20.915	20.905	.895
690	.884	.847	.863	.853	.843	.832	.822	.811	.801	.790
700	.780	.770	.759	.749	.738	.728	.717	.707	.697	.686
710	.676	.665	.655	.645	.634	.624	.613	.603	.592	.582
720	.572	.561	.551	.540	.530	.520	.509	.499	.488	.478
730	.467	.457	.447	.436	.426	.415	.405	.395	.384	.374
740	.363	.353	.342	.332	.322	.311	.301	.290	.280	.270
750	.259	.249	.238	.228	.218	.207	.197	.186	.176	.166
760	.155	.145	.134	.124	.114	.103	.093	.082	.072	.062
770	.051	.041	.030	.020	.009	19.999	19.989	19.978	19.968	19.957
780	19.947	19.937	19.926	19.916	19.905	.895	.885	.874	.864	.853
790	.842	.832	.822	.812	.801	.791	.781	.770	.760	.750
800	.739	.729	.718	.708	.697	.687	.677	.666	.656	.645
810	.635	.625	.614	.604	.593	.583	.573	.562	.552	.542
820	.531	.521	.510	.500	.490	.479	.469	.458	.448	.438
830	.427	.417	.406	.396	.385	.375	.364	.354	.344	.334
840	.323	.313	.302	.292	.282	.271	.261	.251	.240	.230
850	.219	.208	.198	.188	.178	.167	.157	.147	.136	.126
860	.115	.105	.095	.084	.074	.064	.053	.043	.032	.022
870	.012	.001	18.991	18.981	18.970	18.960	18.949	18.939	18.928	18.918
880	18.908	18.897	.887	.877	.866	.856	.846	.835	.825	.814
890	.804	.794	.783	.773	.762	.752	.742	.731	.721	.711
900	.700	.690	.679	.669	.659	.648	.638	.628	.617	.607

TABLE 8. Temperature-Salinity Term,  $10^3 \Delta v$ , of Anomaly of Specific Volume for Values of Sigma-T,  $\sigma_t$ .

Example:

Given  $\sigma_t = 26.32$ .From table  $10^3 \Delta v = 171.2$ .

$\sigma_t$	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
16.0	1160.9	1159.9	1158.9	1158.0	1157.0	1156.0	1155.1	1154.1	1153.1	1152.2
16.1	1151.2	1150.2	1149.3	1148.3	1147.3	1146.4	1145.4	1144.4	1143.5	1142.5
16.2	1141.5	1140.5	1139.6	1138.6	1137.6	1136.7	1135.7	1134.7	1133.8	1132.8
16.3	1131.8	1130.9	1129.9	1128.9	1128.0	1127.0	1126.0	1125.1	1124.1	1123.1
16.4	1122.1	1121.2	1120.2	1119.2	1118.3	1117.3	1116.3	1115.4	1114.4	1113.4
16.5	1112.5	1111.5	1110.5	1109.6	1108.6	1107.6	1106.7	1105.7	1104.7	1103.8
16.6	1102.8	1101.8	1100.9	1099.9	1098.9	1098.0	1097.0	1096.0	1095.1	1094.1
16.7	1093.1	1092.1	1091.2	1090.2	1089.2	1088.3	1087.3	1086.3	1085.4	1084.4
16.8	1083.4	1082.5	1081.5	1080.5	1079.6	1078.6	1077.6	1076.7	1075.7	1074.7
16.9	1073.8	1072.8	1071.8	1070.9	1069.9	1068.9	1068.0	1067.0	1066.0	1065.1
17.0	1064.1	1063.1	1062.2	1061.2	1060.2	1059.3	1058.3	1057.3	1056.4	1055.4
17.1	1054.4	1053.5	1052.5	1051.5	1050.6	1049.6	1048.6	1047.7	1046.7	1045.7
17.2	1044.8	1043.8	1042.8	1041.9	1040.9	1039.9	1039.0	1038.0	1037.0	1036.1
17.3	1035.1	1034.1	1033.2	1032.2	1031.2	1030.3	1029.3	1028.3	1027.4	1026.4
17.4	1025.4	1024.5	1023.5	1022.5	1021.6	1020.6	1019.6	1018.7	1017.7	1016.7
17.5	1015.8	1014.8	1013.9	1012.9	1011.9	1011.0	1010.0	1009.0	1008.1	1007.1
17.6	1006.1	1005.2	1004.2	1003.2	1002.3	1001.3	1000.3	999.4	998.4	997.4
17.7	996.5	995.5	994.5	993.6	992.6	991.6	990.7	989.7	988.7	987.8
17.8	986.8	985.8	984.9	983.9	983.0	982.0	981.0	980.1	979.1	978.1
17.9	977.2	976.2	975.2	974.3	973.3	972.3	971.4	970.4	969.4	968.5
18.0	967.5	966.6	965.6	964.6	963.7	962.7	961.7	960.8	959.8	958.8
18.1	957.9	956.9	955.9	955.0	954.0	953.1	952.1	951.1	950.2	949.2
18.2	948.2	947.3	946.3	945.3	944.4	943.4	942.4	941.5	940.5	939.5
18.3	938.6	937.6	936.7	935.7	934.7	933.8	932.8	931.8	930.9	929.9
18.4	928.9	928.0	927.0	926.0	925.1	924.1	923.2	922.2	921.2	920.3
18.5	919.3	918.3	917.4	916.4	915.4	914.5	913.5	912.6	911.6	910.6
18.6	909.7	908.7	907.7	906.8	905.8	904.8	903.9	902.9	902.0	901.0
18.7	900.0	899.1	898.1	897.1	896.2	895.2	894.2	893.3	892.3	891.4
18.8	890.4	889.4	888.5	887.5	886.5	885.6	884.6	883.6	882.7	881.7
18.9	880.8	879.8	878.8	877.9	876.9	875.9	875.0	874.0	873.0	872.1
19.0	871.1	870.2	869.2	868.2	867.3	866.3	865.3	864.4	863.4	862.5
19.1	861.5	860.5	859.6	858.6	857.6	856.7	855.7	854.8	853.8	852.8
19.2	851.9	850.9	849.9	849.0	848.0	847.0	846.1	845.1	844.2	843.2
19.3	842.2	841.3	840.3	839.4	838.4	837.4	836.5	835.5	834.5	833.6
19.4	832.6	831.7	830.7	829.7	828.8	827.8	826.8	825.9	824.9	824.0
19.5	823.0	822.0	821.1	820.1	819.1	818.2	817.2	816.3	815.3	814.3
19.6	813.4	812.4	811.5	810.5	809.5	808.6	807.6	806.6	805.7	804.7
19.7	803.8	802.8	801.8	800.9	799.9	798.9	798.0	797.0	796.1	795.1
19.8	794.1	793.2	792.2	791.3	790.3	789.3	788.4	787.4	786.4	785.5
19.9	784.5	783.6	782.6	781.6	780.7	779.7	778.8	777.8	776.8	775.9
20.0	774.9	773.9	773.0	772.0	771.1	770.1	769.1	768.2	767.2	766.3
20.1	765.3	764.3	763.4	762.4	761.5	760.5	759.5	758.6	757.6	756.7
20.2	755.7	754.7	753.8	752.8	751.8	750.9	749.9	749.0	748.0	747.0
20.3	746.1	745.1	744.2	743.2	742.2	741.3	740.3	739.4	738.4	737.4
20.4	736.5	735.5	734.6	733.6	732.6	731.7	730.7	729.8	728.8	727.8

(Sverdrup, 1933)

TABLE 8.—Temperature-Salinity Term,  $10^3 \Delta_s$ , of Anomaly of Specific Volume for Values of Sigma-T,  $\sigma_t$ .—Con.

$\sigma_t$	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
20.5	726.9	725.9	725.0	724.0	723.0	722.1	721.1	720.2	719.2	718.2
20.6	717.3	716.3	715.4	714.4	713.4	712.5	711.5	710.6	709.6	708.6
20.7	707.7	706.7	705.8	704.8	703.8	702.9	701.9	701.0	700.0	699.0
20.8	698.1	697.1	696.2	695.2	694.2	693.3	692.3	691.4	690.4	689.4
20.9	688.5	687.5	686.6	685.6	684.6	683.7	682.7	681.8	680.8	679.8
21.0	678.9	677.9	677.0	676.0	675.1	674.1	673.1	672.2	671.2	670.3
21.1	669.3	668.3	667.4	666.4	665.4	664.5	663.5	662.6	661.6	660.7
21.2	659.7	658.7	657.8	656.8	655.9	654.9	654.0	653.0	652.0	651.1
21.3	650.1	649.2	648.2	647.2	646.3	645.3	644.4	643.4	642.5	641.5
21.4	640.5	639.6	638.6	637.7	636.7	635.7	634.8	633.8	632.9	631.9
21.5	630.9	630.0	629.0	628.1	627.1	626.2	625.2	624.2	623.3	622.3
21.6	621.4	620.4	619.5	618.5	617.5	616.6	615.6	614.7	613.7	612.7
21.7	611.8	610.8	609.9	608.9	608.0	607.0	606.0	605.1	604.1	603.2
21.8	602.2	601.2	600.3	599.3	598.4	597.4	596.5	595.5	594.5	593.6
21.9	592.6	591.7	590.7	589.8	588.8	587.8	586.9	585.9	585.0	584.0
22.0	583.1	582.1	581.1	580.2	579.2	578.3	577.3	576.4	575.4	574.4
22.1	573.5	572.5	571.6	570.6	569.7	568.7	567.7	566.8	565.8	564.9
22.2	563.9	563.0	562.0	561.0	560.1	559.1	558.2	557.2	556.3	555.3
22.3	554.3	553.4	552.4	551.5	550.5	549.6	548.6	547.6	546.7	545.7
22.4	544.8	543.8	542.9	541.9	540.9	540.0	539.0	538.1	537.1	536.2
22.5	535.2	534.3	533.3	532.3	531.4	530.4	529.5	528.5	527.6	526.6
22.6	525.6	524.7	523.7	522.8	521.8	520.9	519.9	519.0	518.0	517.0
22.7	516.1	515.1	514.2	513.3	512.3	511.3	510.3	509.4	508.4	507.5
22.8	506.5	505.6	504.6	503.7	502.7	501.7	500.8	499.8	498.9	497.9
22.9	497.0	496.0	495.1	494.1	493.1	492.2	491.2	490.3	489.3	488.4
23.0	487.4	486.5	485.5	484.5	483.6	482.6	481.7	480.7	479.8	478.8
23.1	477.9	476.9	475.9	475.0	474.0	473.1	472.1	471.2	470.2	469.3
23.2	468.3	467.3	466.4	465.4	464.5	463.5	462.6	461.6	460.7	459.7
23.3	458.7	457.8	456.8	455.9	454.9	454.0	453.0	452.1	451.1	450.2
23.4	449.2	448.2	447.3	446.3	445.4	444.4	443.5	442.5	441.6	440.6
23.5	439.7	438.7	437.7	436.8	435.8	434.9	433.9	433.0	432.0	431.1
23.6	430.1	429.2	428.2	427.2	426.3	425.3	424.4	423.4	422.5	421.5
23.7	420.6	419.6	418.7	417.7	416.7	415.8	414.8	413.9	412.9	412.0
23.8	411.0	410.1	409.1	408.2	407.2	406.3	405.3	404.3	403.4	402.4
23.9	401.5	400.5	399.6	398.6	397.7	396.7	395.8	394.8	393.9	392.9
24.0	391.9	391.0	390.0	389.1	388.1	387.2	386.2	385.3	384.3	383.4
24.1	382.4	381.5	380.5	379.6	378.6	377.6	376.7	375.7	374.8	373.8
24.2	372.9	371.9	371.0	370.0	369.1	368.1	367.2	366.2	365.3	364.3
24.3	363.3	362.4	361.4	360.5	359.5	358.6	357.6	356.7	355.7	354.8
24.4	353.8	352.9	351.9	351.0	350.0	349.0	348.1	347.1	346.2	345.2
24.5	344.3	343.3	342.4	341.4	340.5	339.5	338.6	337.6	336.7	335.7
24.6	334.8	333.8	332.9	331.9	330.9	330.0	329.0	328.1	327.1	326.2
24.7	325.2	324.3	323.3	322.4	321.4	320.5	320.5	319.5	318.6	317.6
24.8	315.7	314.8	313.8	312.9	311.9	311.0	310.0	309.0	308.1	307.1
24.9	306.2	305.2	304.3	303.3	302.4	301.4	300.5	299.5	298.6	297.6
25.0	296.7	295.7	294.8	293.8	292.9	291.9	291.0	290.0	289.1	288.1
25.1	287.2	286.2	285.3	284.3	283.3	282.4	281.4	280.5	279.5	278.6
25.2	277.6	276.7	275.7	274.8	273.8	272.9	271.9	271.0	270.0	269.1
25.3	268.1	267.2	266.2	265.3	264.3	263.4	262.4	261.5	260.5	259.6
25.4	258.6	257.7	256.7	255.8	254.8	253.9	252.9	252.0	251.0	250.1
25.5	249.1	248.2	247.2	246.3	245.3	244.3	243.4	242.4	241.5	240.5
25.6	239.6	238.6	237.7	236.7	235.8	234.8	233.9	232.9	232.0	231.0
25.7	230.1	229.1	228.2	227.2	226.3	225.3	224.4	223.4	222.5	221.5
25.8	220.6	219.6	218.7	217.7	216.8	215.8	214.9	213.9	213.0	212.0
25.9	211.1	210.1	209.2	208.2	207.3	206.3	205.4	204.4	203.5	202.5

TABLE 8. Temperature-Salinity Term,  $10^3 \Delta_s$ , of Anomaly of Specific Volume for Values of Sigma-T,  $\sigma_t$ —Con.

$\sigma_t$	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
26.0	201.6	200.6	199.7	198.7	197.8	196.8	195.9	194.9	194.0	193.0
26.1	192.1	191.1	190.2	189.2	188.3	187.3	186.4	185.4	184.5	183.5
26.2	182.6	181.6	180.7	179.7	178.8	177.8	176.9	175.9	175.0	174.0
26.3	173.1	172.1	171.2	170.2	169.3	168.3	167.4	166.4	165.5	164.5
26.4	163.6	162.7	161.7	160.8	159.8	158.9	157.9	157.0	156.0	155.1
26.5	154.1	153.2	152.2	151.3	150.3	149.4	148.4	147.5	146.5	145.6
26.6	144.6	143.7	142.7	141.8	140.8	139.9	138.9	138.0	137.0	136.1
26.7	135.1	134.2	133.2	132.3	131.3	130.4	129.4	128.5	127.5	126.6
26.8	125.6	124.7	123.7	122.8	121.9	120.9	120.0	119.0	118.1	117.1
26.9	116.2	115.2	114.3	113.3	112.4	111.4	110.5	109.5	108.6	107.6
27.0	106.7	105.7	104.8	103.8	102.9	101.9	101.0	100.0	99.1	98.1
27.1	97.2	96.3	95.3	94.4	93.4	92.5	91.5	90.6	89.6	88.7
27.2	87.7	86.8	85.8	84.9	83.9	83.0	82.0	81.1	80.1	79.2
27.3	78.2	77.3	76.3	75.4	74.5	73.5	72.6	71.6	70.7	69.7
27.4	68.8	67.8	66.9	65.9	65.0	64.0	63.1	62.1	61.2	60.2
27.5	59.3	58.3	57.4	56.5	55.5	54.6	53.6	52.7	51.7	50.8
27.6	49.8	48.9	47.9	47.0	46.0	45.1	44.1	43.2	42.3	41.3
27.7	40.4	39.4	38.5	37.5	36.6	35.6	34.7	33.7	32.8	31.8
27.8	30.9	29.9	29.0	28.1	27.1	26.2	25.2	24.3	23.3	22.4
27.9	21.4	20.5	19.5	18.6	17.6	16.7	15.7	14.8	13.9	12.9
28.0	12.0	11.0	10.1	9.1	8.2	7.2	6.3	5.3	4.4	3.4
28.1	2.5	1.6	0.6	-0.3	-1.3	-2.2	-3.2	-4.1	-5.1	-6.0
28.2	-7.0	-7.9	-8.9	-9.8	-10.8	-11.7	-12.6	-13.6	-14.5	-15.5
28.3	-16.4	-17.4	-18.3	-19.3	-20.2	-21.2	-22.1	-23.0	-24.0	-24.9
28.4	-25.9	-26.8	-27.8	-28.7	-29.7	-30.6	-31.6	-32.5	-33.4	-34.4
28.5	-35.3	-36.3	-37.2	-38.2	-39.1	-40.1	-41.0	-42.0	-42.9	-43.8
28.6	-44.8	-45.7	-46.7	-47.6	-48.6	-49.5	-50.5	-51.4	-52.4	-53.3
28.7	-54.2	-55.2	-56.1	-57.1	-58.0	-59.0	-59.9	-60.9	-61.8	-62.7
28.8	-63.7	-64.6	-65.6	-66.5	-67.5	-68.4	-69.4	-70.3	-71.2	-72.2
28.9	-73.1	-74.1	-75.0	-76.0	-76.9	-77.9	-78.8	-79.8	-80.7	-81.6
29.0	-82.6	-83.5	-84.5	-85.4	-86.4	-87.3	-88.3	-89.2	-90.1	-91.1
29.1	-92.0	-93.0	-93.9	-94.9	-95.8	-96.7	-97.7	-98.6	-99.6	-100.5
29.2	-101.5	-102.4	-103.4	-104.3	-105.2	-106.2	-107.1	-108.1	-109.0	-110.0
29.3	-110.9	-111.9	-112.8	-113.7	-114.7	-115.6	-116.6	-117.5	-118.5	-119.4
29.4	-120.3	-121.3	-122.2	-123.2	-124.1	-125.1	-126.0	-127.0	127.9	-128.8
29.5	-129.8	-130.7	-131.7	-132.6	-133.6	-134.5	-135.4	-136.4	-137.3	-138.3
29.6	-139.2	-140.2	-141.1	-142.0	-143.0	-143.9	-144.9	-145.8	-146.8	-147.7
29.7	-148.6	-149.6	-150.5	-151.5	-152.4	-153.4	-154.3	-155.3	-156.2	-157.1
29.8	-158.1	-159.0	-160.0	-160.9	-161.9	-162.8	-163.7	-164.7	-165.6	-166.6
29.9	-167.5	-168.5	-169.4	-170.3	-171.3	-172.2	-173.2	-174.1	-175.1	-176.0
30.0	-176.9	-177.9	-178.8	-179.8	-180.7	-181.6	-182.6	-183.5	-184.5	-185.4
30.1	-186.4	-187.3	-188.2	-189.2	-190.1	-191.1	-192.0	-193.0	-193.9	-194.8
30.2	-195.8	-196.7	-197.7	-198.6	-199.6	-200.5	-201.4	-202.4	-203.3	-204.3
30.3	-205.2	-206.1	-207.1	-208.0	-209.0	-209.9	-210.9	-211.8	-212.7	-213.7
30.4	-214.6	-215.6	-216.5	-217.4	-218.4	-219.3	-220.3	-221.2	-222.2	-223.1
30.5	-224.0	-225.0	-225.9	-226.9	-227.8	-228.7	-229.7	-230.6	-231.6	-232.5

TABLE 9.—Rapid Computation of Potential Temperature

TABLE 9A Adiabatic cooling in 0.01° C. when sea water ( $S^{\circ}/\infty=34.85^{\circ}/\infty$ ,  $\sigma_0=28.0$ ) which has a temperature of  $t_m$  at the depth of  $m$  meters, is raised from that depth to the surface.

$m$ fm	-2°	-1°	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
1000	2.6	3.5	4.4	5.3	6.2	7.0	7.8	8.6	9.5	10.2	11.0	11.7	12.4
2000	7.2	8.9	10.7	12.4	14.1	15.7	17.2	18.8	20.4	21.9	23.3	24.8	26.2
3000	13.6	16.1	18.7	21.2	23.6	25.9	28.2	30.5	32.7	34.9	37.1	39.2	41.2
4000	21.7	25.0	28.4	31.6	34.7	37.7	40.6	43.5	46.3	49.1	51.9	54.6	57.2
5000	31.5	35.5	39.6	43.4	47.2	50.9	54.4						
6000	42.8	47.5	52.2	56.7	61.1	65.3	69.4						
7000			66.2	71.3	76.2	80.9	85.5						
8000			81.5	87.1	92.5	97.7	102.7						
9000			98.1	104.1	109.9	115.6	121.0						
10000			115.7	122.1	128.3	134.4	140.2						

TABLE 9B Adiabatic heating in 0.01° C. when sea water ( $S^{\circ}/\infty=34.85^{\circ}/\infty$ ,  $\sigma_0=28.0$ ) which has a temperature of  $t_0$  at the surface, sinks from the surface to a depth of  $m$  meters.

$m$ fm	-2°	-1°	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
1000	2.6	3.6	4.5	5.4	6.2	7.1	7.9	8.7	9.5	10.3	11.1	11.8	12.5
2000	7.3	9.1	10.9	12.7	14.3	16.0	17.5	19.1	20.7	22.2	23.7	25.1	26.5
3000	13.9	16.6	19.2	21.8	24.2	26.7	28.9	31.2	33.4	35.6	37.8	39.9	41.9
4000	22.4	25.9	29.3	32.6	35.8	39.0	41.9	44.8	47.7	50.5	53.4	56.1	58.7
5000	32.8	37.0	41.2	45.1	49.0	52.8	56.4						
6000	44.9	49.8	54.7	59.3	63.8	68.1	72.3						
7000		64.3	69.8	75.0	80.0	84.8	89.5						
8000		80.4	86.4	92.1	97.6	102.9							
9000		97.9	104.4	110.5	116.5	122.2							
10000		116.7	123.7	130.2	136.6	142.7							

TABLE 9. Rapid Computation of Potential Temperature. Continued  
 TABLE 10. Adiabatic variations of temperature in 0.01° C. for the upper 1000 meters of sea water at different salinities.

S <sub>0</sub> /‰	0° C.	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°
30.0	3.5	5.3	7.0	8.7	10.3	11.8	13.2	14.7	16.1	17.6	18.9	20.3
32.0	3.9	5.7	7.3	9.0	10.6	12.1	13.5	15.0	16.4	17.8	19.1	20.5
34.0	4.3	6.0	7.7	9.4	10.9	12.4	13.8	15.3	16.6	18.0	19.3	20.7
36.0	4.7	6.4	8.1	9.7	11.2	12.7	14.1	15.5	16.9	18.3	19.6	20.9
38.0	5.1	6.8	8.4	10.0	11.6	13.0	14.4	15.8	17.2	18.5	19.8	21.1

TABLE 11. Adiabatic variations of temperature in 0.01° C. in Mediterranean sea water of (S<sub>0</sub>/‰=38.57°/‰, σ<sub>t</sub>=σ<sub>1.0</sub>).

S	t <sub>in</sub> (raising)		t <sub>o</sub> (sinking)	
	12°	14°	12°	14°
1000	14.4	15.1	14.5	15.3
2000	30.0	31.4	30.4	31.8
3000	45.6	48.6	47.4	49.4
4000	64.2	66.7	65.7	68.3



TABLE D. Rapid Computation of Potential Temperature—Continued

(interpolated from Table DA)

TABLE DE.—Adiabatic cooling (in 0.01C) when sea water ( $\beta=34.85\%$ ,  $\sigma_s=28.0$ ) which has a temperature of  $t_m$  at the depth of  $m$  meters, is raised from that depth to the surface  
a) 1000-2000 m depth

$m/t_m$	-1.0	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
1000	3.5	4.0	4.4	4.9	5.3	5.8	6.2	6.6	7.0	7.4	7.8	8.2
1100	4.0	4.5	4.9	5.4	5.9	6.4	6.9	7.4	7.8	8.2	8.7	9.1
1200	4.4	5.0	5.5	6.1	6.6	7.2	7.7	8.1	8.6	9.1	9.5	10.0
1300	4.9	5.5	6.1	6.7	7.3	7.9	8.4	8.9	9.4	9.9	10.4	10.9
1400	5.4	6.1	6.7	7.4	8.0	8.6	9.2	9.7	10.3	10.8	11.4	11.9
1500	6.0	6.7	7.3	8.0	8.6	9.3	10.0	10.6	11.2	11.8	12.4	13.0
1600	6.6	7.3	8.0	8.8	9.5	10.2	10.9	11.5	12.1	12.8	13.4	14.0
1700	7.1	7.9	8.7	9.5	10.2	11.0	11.7	12.3	13.0	13.7	14.4	15.0
1800	7.8	8.6	9.4	10.2	11.0	11.8	12.5	13.3	14.0	14.7	15.4	16.1
1900	8.4	9.3	10.1	11.0	11.8	12.6	13.4	14.2	14.9	15.7	16.4	17.1
2000	8.9	9.8	10.7	11.6	12.4	13.3	14.1	14.9	15.7	16.5	17.2	18.0

$m/t_m$	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
1000	8.6	9.0	9.4	9.8	10.2	10.6	11.0	11.4	11.7	12.1	12.4
1100	9.5	9.9	10.3	10.8	11.2	11.7	12.1	12.5	12.9	13.3	13.6
1200	10.4	10.9	11.3	11.8	12.3	12.8	13.2	13.7	14.1	14.5	14.9
1300	11.4	11.9	12.4	12.9	13.4	13.9	14.4	14.9	15.3	15.8	16.2
1400	12.4	13.0	13.5	14.0	14.5	15.1	15.6	16.1	16.6	17.1	17.5
1500	13.5	14.1	14.6	15.2	15.7	16.3	16.8	17.4	17.9	18.4	18.9
1600	14.6	15.2	15.7	16.3	16.9	17.5	18.1	18.7	19.3	19.8	20.3
1700	15.7	16.3	16.9	17.5	18.1	18.8	19.4	20.0	20.5	21.2	21.8
1800	16.8	17.5	18.1	18.8	19.4	20.1	20.7	21.4	22.0	22.7	23.3
1900	17.8	18.5	19.3	20.0	20.7	21.4	22.0	22.7	23.4	24.1	24.8
2000	18.8	19.6	20.4	21.2	21.9	22.6	23.3	24.1	24.8	25.5	26.2

TABLE 9. Rapid Computation of Potential Temperature—Continued

		TABLE 9E—Continued												
		b) for 2000–6500 m depth												
$\sigma_t$	$t$	-1.0	-0.8	-0.6	-0.4	-0.2	0.0	0.2	0.4	0.6	0.8	1.0	1.2	1.4
2000	8.9	9.3	9.6	10.0	10.3	10.7	11.0	11.4	11.7	12.1	12.4	12.7	13.1	
2100	9.6	10.0	10.3	10.7	11.0	11.4	11.8	12.2	12.5	12.9	13.2	13.5	13.9	
2200	10.2	10.6	11.0	11.4	11.7	12.1	12.5	12.9	13.3	13.7	14.0	14.4	14.8	
2300	10.9	11.3	11.7	12.1	12.5	12.9	13.3	13.7	14.1	14.5	14.9	15.2	15.6	
2400	11.6	12.0	12.4	12.8	13.2	13.7	14.1	14.5	14.9	15.3	15.7	16.1	16.5	
2500	12.3	12.8	13.2	13.6	14.0	14.5	14.9	15.3	15.7	16.2	16.6	17.0	17.4	
2600	13.0	13.5	13.9	14.4	14.8	15.3	15.7	16.2	16.6	17.1	17.5	17.9	18.4	
2700	13.7	14.2	14.7	15.2	15.6	16.1	16.5	17.0	17.4	17.9	18.4	18.8	19.3	
2800	14.5	15.0	15.5	16.0	16.5	17.0	17.4	17.9	18.3	18.8	19.3	19.7	20.2	
2900	15.3	15.8	16.3	16.8	17.3	17.8	18.3	18.8	19.3	19.8	20.2	20.7	21.2	
3000	16.1	16.6	17.1	17.7	18.2	18.7	19.2	19.7	20.2	20.7	21.2	21.7	22.2	
3100	16.9	17.4	17.9	18.5	19.1	19.6	20.1	20.6	21.2	21.7	22.2	22.7	23.2	
3200	17.7	18.3	18.8	19.4	20.0	20.5	21.0	21.6	22.1	22.6	23.2	23.7	24.2	
3300	18.6	19.1	19.7	20.3	20.9	21.4	22.0	22.5	23.1	23.6	24.2	24.7	25.3	
3400	19.5	20.0	20.6	21.2	21.8	22.4	22.9	23.5	24.1	24.6	25.2	25.7	26.3	
3500	20.4	20.9	21.5	22.2	22.8	23.3	23.9	24.5	25.1	25.7	26.2	26.8	27.4	
3600	21.2	21.8	22.4	23.1	23.7	24.3	24.9	25.5	26.1	26.7	27.3	27.8	28.4	
3700	22.1	22.8	23.4	24.1	24.7	25.3	25.9	26.5	27.1	27.7	28.3	28.9	29.5	
3800	23.1	23.7	24.3	25.0	25.7	26.3	26.9	27.6	28.2	28.8	29.4	30.0	30.6	
3900	24.1	24.7	25.3	26.0	26.7	27.4	28.0	28.6	29.2	29.9	30.5	31.2	31.8	
4000	25.0	25.7	26.4	27.0	27.7	28.4	29.0	29.7	30.3	31.0	31.6	32.2	32.8	
4100	26.0	26.7	27.4	28.0	28.7	29.4	30.1	30.8	31.4	32.1	32.7	33.3	33.9	
4200	27.0	27.7	28.4	29.1	29.8	30.5	31.2	31.9	32.5	33.2	33.9	34.5	35.1	
4300	28.0	28.7	29.4	30.1	30.9	31.6	32.2	32.9	33.6	34.3	35.0	35.7	36.3	
4400	29.0	29.8	30.5	31.2	31.9	32.7	33.4	34.1	34.8	35.5	36.2	36.8	37.5	
4500	30.1	30.8	31.6	32.3	33.1	33.8	34.5	35.2	35.9	36.7	37.4	38.0	38.7	
4600	31.1	31.9	32.7	33.4	34.2	34.9	35.6	36.4	37.1	37.8	38.5	39.2	39.9	
4700	32.2	33.0	33.8	34.5	35.3	36.1	36.7	37.5	38.3	39.0	39.7	40.4	41.1	
4800	33.3	34.1	34.9	35.6	36.4	37.2	38.0	38.8	39.5	40.3	41.0	41.7	42.4	
4900	34.4	35.2	36.0	36.8	37.6	38.4	39.1	39.7	40.7	41.5	42.2	42.9	43.7	
5000	35.5	36.3	37.1	38.0	38.8	39.6	40.4	41.1	41.9	42.6	43.4	44.2	44.9	
5100	36.6	37.4	38.3	39.2	40.0	40.8	41.6	42.3	43.1	43.9	44.7	45.5	46.2	
5200	37.8	38.6	39.4	40.3	41.2	42.0	42.8	43.6	44.4	45.1	45.9	46.8	47.5	
5300	38.9	39.8	40.6	41.6	42.4	43.2	44.1	44.8	45.6	46.4	47.3	48.1	48.8	
5400	40.1	40.9	41.8	42.8	43.6	44.5	45.3	46.1	46.9	47.7	48.6	49.4	50.2	
5500	41.3	42.1	43.0	44.0	44.9	45.8	46.6	47.4	48.2	49.0	49.9	50.7	51.5	
5600	42.5	43.4	44.2	45.3	46.1	47.0	47.9	48.7	49.5	50.3	51.2	52.1	52.9	
5700	43.7	44.6	45.4	46.5	47.4	48.3	49.2	50.0	50.8	51.6	52.6	53.4	54.2	
5800	45.0	45.9	46.8	47.8	48.7	49.6	50.5	51.3	52.2	53.0	53.9	54.8	55.6	
5900	46.2	47.1	48.0	49.0	50.0	50.9	51.8	52.7	53.6	54.5	55.4	56.2	57.0	
6000	47.5	48.4	49.4	50.3	51.3	52.2	53.1	54.0	54.9	55.8	56.7	57.6	58.5	
6100						53.6	54.5	55.4	56.3	57.2	58.1	59.0	59.9	
6200						54.9	55.8	56.7	57.7	58.6	59.5	60.4	61.3	
6300						56.3	57.2	58.1	59.1	60.0	60.9	61.9	62.8	
6400						57.6	58.6	59.5	60.5	61.4	62.4	63.3	64.3	
6500						59.0	60.0	60.9	61.9	62.9	63.8	64.8	65.8	

TABLE 9.—Rapid Computation of Potential Temperatures—Continued

TABLE 9E—Continued

$\frac{t_p}{t_m}$	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0
2000	13,4	13,8	14,1	14,4	14,7	15,1	15,4	15,7	16,0	16,3	16,6	16,9	17,2
2100	14,3	14,7	15,0	15,3	15,6	16,0	16,4	16,7	17,0	17,3	17,6	17,9	18,2
2200	15,1	15,5	15,9	16,2	16,5	17,0	17,3	17,6	18,0	18,3	18,6	19,0	19,3
2300	16,0	16,4	16,8	17,1	17,5	17,9	18,2	18,6	19,0	19,3	19,6	20,0	20,3
2400	16,9	17,3	17,7	18,1	18,5	18,9	19,3	19,6	20,0	20,3	20,7	21,1	21,4
2500	17,8	18,3	18,7	19,0	19,4	19,8	20,2	20,6	21,0	21,4	21,8	22,1	22,5
2600	18,8	19,2	19,6	20,0	20,4	20,9	21,3	21,7	22,1	22,5	22,9	23,3	23,6
2700	19,7	20,2	20,6	21,0	21,4	21,9	22,3	22,7	23,1	23,5	23,9	24,3	24,7
2800	20,7	21,2	21,6	22,0	22,4	22,9	23,4	23,8	24,2	24,6	25,0	25,4	25,9
2900	21,6	22,1	22,6	23,0	23,5	24,0	24,4	24,9	25,3	25,7	26,2	26,6	27,0
3000	22,6	23,1	23,6	24,1	24,5	25,0	25,4	25,9	26,4	26,8	27,3	27,7	28,2
3100	23,6	24,1	24,7	25,2	25,6	26,1	26,5	27,0	27,5	28,0	28,5	28,9	29,4
3200	24,7	25,2	25,7	26,2	26,7	27,2	27,6	28,1	28,6	29,1	29,6	30,1	30,6
3300	25,8	26,3	26,8	27,3	27,8	28,3	28,8	29,3	29,8	30,3	30,8	31,3	31,8
3400	26,8	27,3	27,9	28,4	28,9	29,4	29,9	30,4	30,9	31,4	31,9	32,4	33,0
3500	27,9	28,4	29,0	29,5	30,0	30,5	31,0	31,5	32,1	32,6	33,2	33,7	34,2
3600	28,9	29,5	30,1	30,7	31,2	31,7	32,2	32,8	33,4	33,9	34,4	34,9	35,5
3700	30,0	30,6	31,2	31,8	32,3	32,9	33,4	34,0	34,6	35,1	35,7	36,2	36,7
3800	31,2	31,8	32,4	33,0	33,5	34,1	34,6	35,2	35,8	36,3	36,9	37,4	38,0
3900	32,3	32,9	33,5	34,1	34,7	35,3	35,8	36,4	37,0	37,6	38,2	38,7	39,3
4000	33,5	34,1	34,7	35,3	35,9	36,5	37,1	37,7	38,3	38,9	39,4	40,0	40,6
4100	34,6	35,3	35,9	36,5	37,1	37,7	38,3	38,9	39,5	40,2	40,7	41,3	41,9
4200	35,8	36,5	37,1	37,7	38,4	39,0	39,6	40,2	40,8	41,4	42,0	42,6	43,3
4300	37,0	37,7	38,3	38,9	39,6	40,2	40,9	41,5	42,2	42,8	43,4	44,0	44,6
4400	38,2	38,9	39,5	40,2	40,9	41,5	42,2	42,8	43,5	44,1	44,7	45,3	46,0
4500	39,4	40,1	40,8	41,5	42,1	42,8	43,5	44,1	44,8	45,4	46,0	46,7	47,3
4600	40,7	41,4	42,0	42,7	43,4	44,1	44,8	45,4	46,1	46,8	47,4	48,1	48,7
4700	42,0	42,6	43,3	44,0	44,7	45,4	46,1	46,8	47,5	48,2	48,8	49,5	50,1
4800	43,2	43,9	44,6	45,3	46,0	46,7	47,4	48,1	48,8	49,5	50,1	50,8	51,5
4900	44,5	45,2	45,9	46,6	47,3	48,0	48,8	49,5	50,2	50,9	51,6	52,3	53,0
5000	45,7	46,4	47,2	47,9	48,7	49,4	50,2	50,9	51,6	52,3	53,0	53,7	54,4
5100	47,0	47,7	48,5	49,2	50,0	50,8	51,6	52,3	53,0	53,7	54,4	55,1	55,8
5200	48,3	49,0	49,8	50,6	51,4	52,2	53,0	53,7	54,4	55,1	55,9	56,6	57,3
5300	49,6	50,4	51,2	52,0	52,8	53,5	54,3	55,1	55,8	56,6	57,3	58,0	58,8
5400	51,0	51,8	52,6	53,4	54,2	54,9	55,8	56,5	57,3	58,0	58,8	59,5	60,2
5500	52,3	53,1	53,9	54,7	55,5	56,3	57,2	58,0	58,7	59,5	60,2	61,0	61,7
5600	53,7	54,5	55,3	56,1	57,0	57,8	58,7	59,4	60,2	61,0	61,7	62,5	63,3
5700	55,1	55,9	56,8	57,5	58,4	59,2	60,1	60,9	61,6	62,4	63,2	64,0	64,8
5800	56,5	57,3	58,2	59,0	59,9	60,7	61,6	62,4	63,1	63,9	64,7	65,5	66,3
5900	57,9	58,7	59,6	60,4	61,3	62,1	63,0	63,9	64,7	65,4	66,2	67,0	67,8
6000	59,3	60,2	61,1	61,9	62,8	63,6	64,5	65,3	66,1	66,9	67,8	68,6	69,4
6100	60,7	61,6	62,6	63,4	64,3	65,1	66,0	66,8					
6200	62,2	63,1	64,0	64,9	65,8	66,6	67,5	68,3					
6300	63,6	64,6	65,5	66,2	67,3	68,1	69,0	69,9					
6400	65,2	66,1	67,0	67,8	68,7	69,6	70,5	71,4					
6500	66,6	67,5	68,5	69,4	70,3	71,2	72,1	72,0					

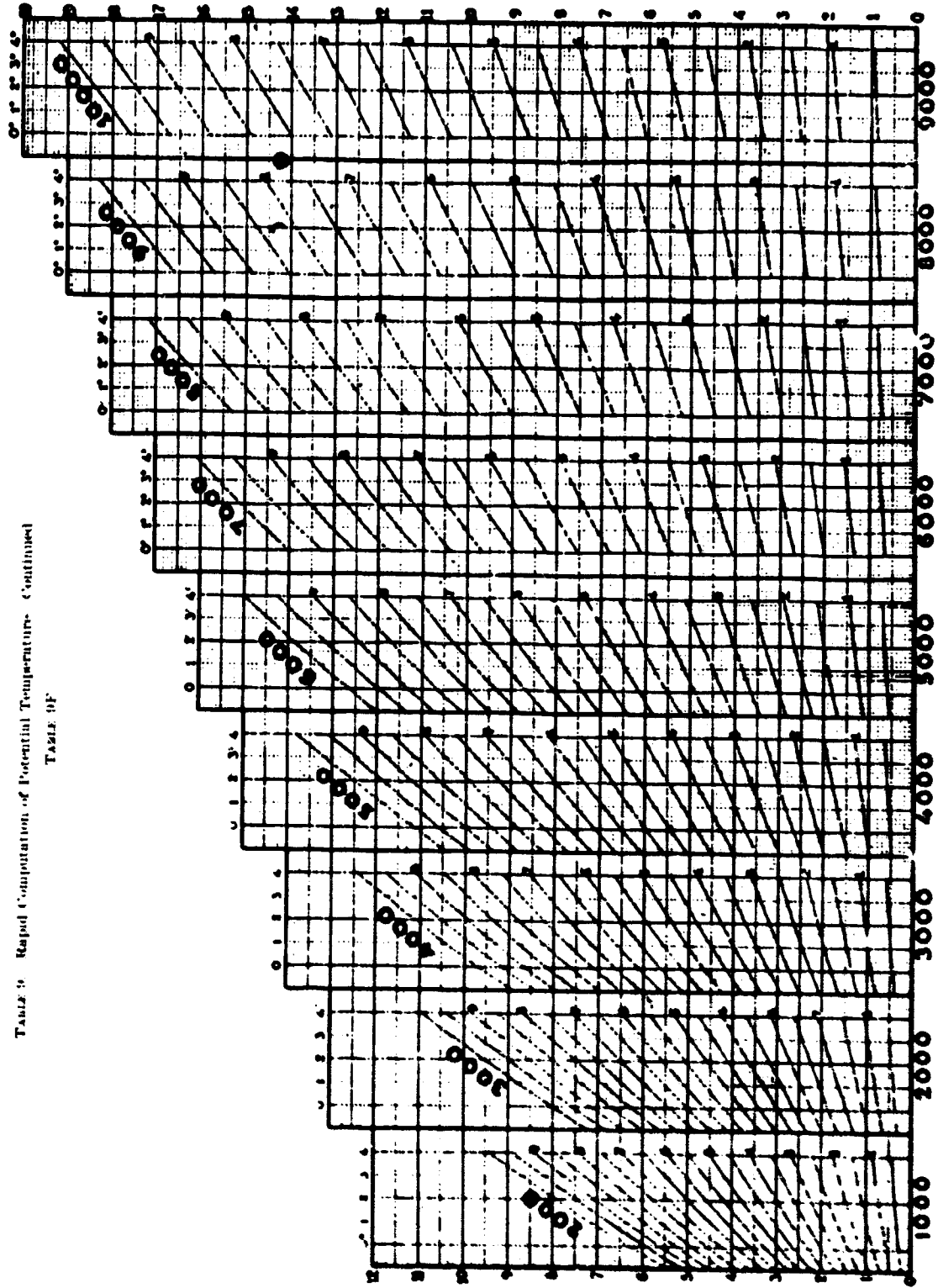


TABLE 9. Rapid Computation of Potential Temperature—Continued  
TABLE 9F

Adiabatic variations (corrections to be applied in Table 9A for depths between those found in this table.)

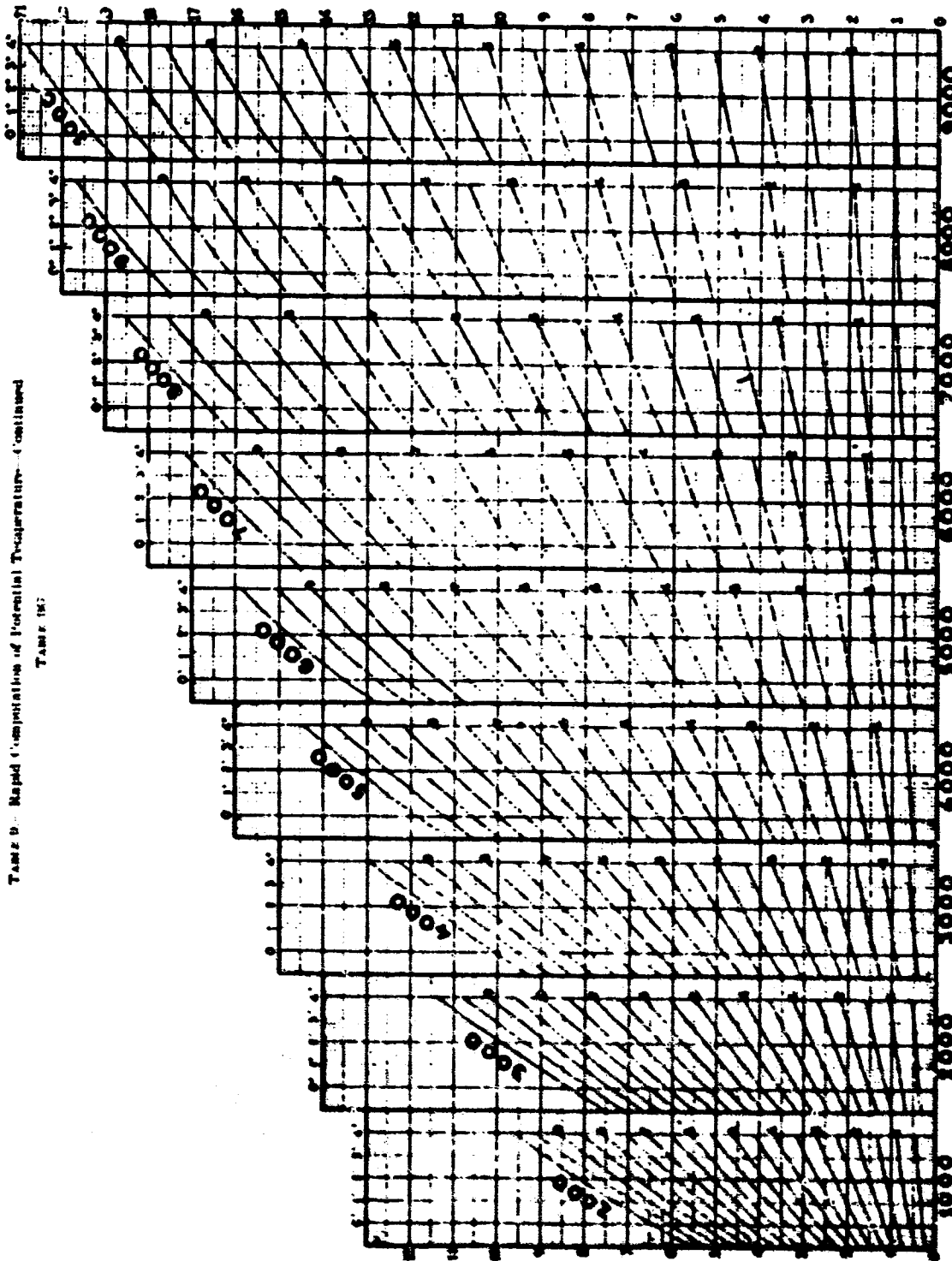


TABLE 9. Rapid Computation of Potential Temperature—Continued  
TABLE 10.

Adiabatic exponent. Corrections to be applied to Table 10 for depths between those found in this table.

TABLE 10. Determining Density of Sea Water

**EXAMPLE OF COMPUTATION:**

Given a temperature of 15.70° C. and a salinity of 36.47‰, compute the  $\sigma_t$  value.

1. Select the salinity interval of 36.00 to 36.99‰.
2. In column one, find the temperature interval in which 15.70 falls (always use the lower limit of the interval). The lower limit is 15.00° C.
3. Entering column one at 15.00° C., read the corresponding value of 22.00 in column two. This is the correct  $\sigma_t$  value for the base of the salinity interval, that is, for a salinity of 36.00‰ and temperature of 15.00° C.
4. To find the correct  $\sigma_t$  value for the given salinity of 36.47‰, multiply the designated  $f$  factor in column three (7680) by the last three digits of the given salinity (647), observing decimal places, and add the value obtained to the base value 22.00.
5. Round the value obtained (23.96806) to two decimal places. ANSWER 23.97.

Thus: Given 15.70° C. and 36.47‰ S.

From table for Salinity 36.00 to 36.99‰, enter column one at lower limit of temperature interval (15.00):

Obtain base value in column two	}	(factor of column three	×	(last three digits of given S.
22.00		7680		647

23.96806 (round to two decimal places)      ANSWER 23.97

(U.S. Naval Oceanographic Office, 1962)

TABLE 10.—Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )  
Salinity 10.00‰ to 19.99‰

T. °C.	$\sigma_t$	$\rho$	T. °C.	$\sigma_t$	$\rho$	T. °C.	$\sigma_t$	$\rho$
-2.00	7.92	.8120	6.13	7.90	.7860	10.33	7.52	.7755
-1.91	.93		.29	.89		.41	.51	
-1.75	.94		.44	.88		10.50	7.50	
-1.59	7.95	.8110	6.59	7.87	.7840	.58	.49	
-1.40	7.96	.8100	.73	.86		.66	.48	
-1.21	.97		.87	.85		.75	.47	.7745
-1.01	7.98	.8080	7.01	7.84	.7830	.83	.46	
-0.79	.99		.14	.83		.91	.45	
-0.55	8.00	.8060	.27	.82		.99	.44	
-0.28	8.01	.8045	.39	.81		11.07	7.43	
0.03	8.02	.8030	7.52	7.80	.7820	.15	.42	
0.40	8.03	.8015	.64	.79		.23	.41	.7730
0.92	8.04	.8000	.76	.78		.30	.40	
1.40	8.04	.7980	.88	.77		.38	.39	
1.99	8.04	.7960	.99	.76		.46	.38	
2.40	8.04	.7940	8.10	7.75	.7805	11.53	7.37	
2.82	8.03	.7920	.22	.74		.61	.36	
3.35	8.02	.7900	.33	.73		.68	.35	.7720
3.74	8.01	.7880	.43	.72		.76	.34	
4.06	8.00	.7860	8.54	7.71	.7790	.83	.33	
.35	7.99		.64	.70		.91	.32	
4.60	7.98	.7840	.75	.69		.98	.31	
.83	.97		.85	.68		12.05	7.30	
5.05	7.96	.7820	.95	.67		.12	.29	
.25	.95		9.05	7.66	.7780	.20	.28	
.44	.94		.15	.65		.27	.27	.7710
5.63	7.93	.7800	.24	.64		.34	.26	
.80	.92		.43	.63		.41	.25	
.97	.91		9.53	7.61	.7770	.48	.24	
			.62	.60		12.55	7.23	
			.71	.59		.62	.22	
			.80	.58		.69	.21	.7700
			.89	.57		.76	.20	
			.98	.56		.82	.19	
			10.07	7.55	.7755	.89	.18	
			.16	.54		.96	.17	
			.24	.53		13.03	7.16	
						.09	.15	.7690
						.16	.14	
						.23	.13	

TABLE 10.—Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )

Salinity 10.00‰ to 19.99‰

T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f
13.29	7.12	.7690	15.70	6.72	.7635	17.85	6.31	.7600
.36	.11		.76	.71		.90	.30	
.42	.10		.82	.70		.95	.29	
.49	.09		.87	.69		18.00	6.28	.7595
13.55	7.08	.7675	.93	.68	.05	.27		
.62	.07		.98	.67	.10	.26		
.68	.06		16.04	6.66	.15	.25		
.74	.05		.09	.65	.20	.24		
.81	.04		.14	.64	.25	.23		
.87	.03	.20	.63	.30	.22			
.93	.02	.25	.62	.34	.21			
14.00	7.01	.7665	.31	.61	.39	.20	.7585	
.06	.00		.36	.60	.44	.19		
.12	6.99		.41	.59	.49	.18		
.18	.98		.47	.58	18.54	6.17		
.24	.97		16.52	6.57	.58	.16		
.30	.96		.57	.56	.63	.15		
.37	.95		.63	.55	.68	.14		
.43	.94	.68	.54	.73	.13			
.49	.93	.73	.53	.77	.12			
14.55	6.92	.7655	.79	.52	.82	.11	.7575	
.61	.91		.84	.51	.87	.10		
.67	.90		.89	.50	.92	.09		
.73	.89		.94	.49	.96	.08		
.79	.88		.99	.48	19.01	6.07		
.84	.87		17.05	6.47	.06	.06		
.90	.86	.10	.46	.10	.05			
.96	.85	.15	.45	.15	.04			
15.02	6.84	.7645	.20	.44	.20	.03	.7565	
.08	.83		.25	.43	.24	.02		
.14	.82		.30	.42	.29	.01		
.19	.81		.35	.41	.33	.00		
.25	.80		.40	.40	.38	5.99		
.31	.79		.45	.39	.43	.98		
.37	.78		17.50	6.38	.47	.97		
.42	.77		.56	.37	19.52	5.96		
.48	.76	.61	.36	.56	.95			
15.54	6.75	.7635	.66	.35	.61	.94	.7565	
.59	.74		.71	.34	.65	.93		
.65	.73		.76	.33	.70	.92		
			.81	.32	.75	.91		



TABLE 10.—Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )

Salinity 10.00‰ to 19.99‰

T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f	
19.79	5.90	.7565	21.53	5.50	.7535	23.15	5.10	.7515	
.84	.89		.57	.49		.19	.09		
.88	.88		.61	.48		.23	.08		
.93	.87		.65	.47		.27	.07		
.97	.86		.70	.46		.31	.06		
		.74	.45	.35		.05			
20.01	5.85	.7555	.78	.44		.39	.04		.7505
.06	.84		.82	.43		.42	.03		
.10	.83		.86	.42		.46	.02		
.15	.82		.90	.41					
.19	.81		.94	.40					
.24	.80		.98	.39					
.28	.79								
.33	.78								
.37	.77		22.03	5.38	.7525	23.50	5.01	.7495	
.41	.76	.07	.37	.54		.00			
.46	.75	.11	.36	.58		4.99			
		.15	.35	.62		.98			
		.19	.34	.66		.97			
		.23	.33	.70		.96			
		.27	.32	.73		.95			
		.31	.31	.77		.94			
		.35	.30	.81		.93			
		.39	.29	.85		.92			
20.50	5.74	.7550	.43	.28	.89	.91	.7485		
.54	.73		.47	.27	.93	.90			
.59	.72				.96	.89			
.63	.71								
.68	.70								
.72	.69								
.76	.68								
.81	.67								
.85	.66								
.89	.65								
.93	.64								
.98	.63								
21.02	5.62	.7545	22.51	5.26	.7515	24.00	4.88	.7480	
.06	.61		.55	.25		.04	.87		
.11	.60		.59	.24		.08	.86		
.15	.59		.63	.23		.12	.85		
.19	.58		.67	.22		.15	.84		
.23	.57		.71	.21		.19	.83		
.28	.56		.75	.20		.23	.82		
.32	.55		.79	.19		.27	.81		
.36	.54		.83	.18		.31	.80		
.40	.53		.87	.17		.34	.79		
.44	.52	.91	.16	.38	.78				
.49	.51	.95	.15	.42	.77				
		.99	.14	.46	.76				
				.49	.75				
			23.03	5.13	.7515	24.53	4.74	.7490	
			.07	.12		.57	.73		
			.11	.11		.61	.72		
						.64	.71		

TABLE 10.—Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )

Salinity 10.00‰ to 19.99‰

T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f
24.68	4.70	.7490	26.17	4.29	.7470	27.59	3.88	.7450
.72	.69		.21	.28		.63	.87	
.76	.68		.24	.27		.66	.86	
.79	.67		.28	.26		.69	.85	
.83	.66		.31	.25		.73	.84	
.87	.65		.35	.24		.76	.83	
.90	.64		.38	.23		.79	.82	
.94	.63		.42	.22		.83	.81	
.98	.62		.45	.21		.86	.80	
				.49		.20	.90	
					.93	.78		
					.96	.77		
25.01	4.61	.7485	26.52	4.19	.7465	28.00	3.76	.7445
.05	.60		.56	.18		.03	.75	
.09	.59		.59	.17		.06	.74	
.12	.58		.63	.16		.10	.73	
.16	.57		.66	.15		.13	.72	
.20	.56		.70	.14		.16	.71	
.23	.55		.73	.13		.20	.70	
.27	.54		.77	.12		.23	.69	
.31	.53		.80	.11		.26	.68	
.34	.52		.84	.10		.30	.67	
.38	.51	.87	.09	.33	.66			
.42	.50	.91	.08	.36	.65			
.45	.49	.94	.07	.40	.64			
.49	.48	.98	.06	.43	.63			
				.46	.62			
25.53	4.47	.7475	27.01	4.05	.7460	28.50	3.61	.7440
.56	.46		.04	.04		.53	.60	
.60	.45		.08	.03		.56	.59	
.63	.44		.11	.02		.59	.58	
.67	.43		.15	.01		.63	.57	
.71	.42		.18	.00		.66	.56	
.74	.41		.22	3.99		.69	.55	
.78	.40		.25	.98		.73	.54	
.81	.39		.28	.97		.76	.53	
.85	.38		.32	.96		.79	.52	
.89	.37	.35	.95	.82	.51			
.92	.36	.39	.94	.86	.50			
.96	.35	.42	.93	.89	.49			
.99	.34	.46	.92	.92	.48			
		.49	.91	.95	.47			
26.03	4.33	.7470	27.52	3.90	.7450			
.06	.32		.56	.89				
.10	.31							
.13	.30							

TABLE 10.--Determining Density of Sea Water--Continued

**DENSITY ( $\sigma_t$ )**

**Salinity 10.00‰ to 19.99‰**

T. °C.	$\sigma_t$	$\tau$
28.99	3.46	.7440
29.02	3.45	.7430
.05	.44	
.08	.43	
.12	.42	
.15	.41	
.18	.40	
.21	.39	
.25	.38	
.28	.37	
.31	.36	
.34	.35	
.38	.34	
.41	.33	
.44	.32	
.47	.31	
29.50	3.30	.7430
.54	.29	
.57	.28	
.60	.27	
.63	.26	
.66	.25	
.70	.24	
.73	.23	
.76	.22	
.79	.21	
.82	.20	
.86	.19	
.89	.18	
.92	.17	
.95	.16	
.98	.15	

TABLE 10. Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )

Salinity 20.00‰ to 29.99‰

T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f
-2.00	16.04	.8100	5.78	15.79	.7860	9.38	15.40	.7780
-1.95	.05		.90	.78		.45	.39	
-1.52	16.06		6.01	15.77	9.53	15.38		
-0.75	16.07	.8060	.12	.76	.61	.37		
0.14	16.06	.8040	.23	.75	.68	.36		
0.92	16.05	.8000	.34	.74	.76	.35		
1.37	16.04	.7970	.45	.73	.83	.34		
1.72	16.03		.15	.72	.90	.33		
2.03	16.02		.01	.55	.71	.98	.32	
2.54	16.00	.7950	.66	.70	10.05	15.31		
.77	15.99		.76	.69	.12	.30		
.98	.98		.86	.68	.19	.29		
3.18	15.97	.7930	.96	7.06	15.67	.27	.28	
.37	.96		.25	.66	.34	.27		
3.55	15.95		.35	.65	.41	.26		
.72	.94	.7820	.44	.64	.48	.25		
.89	.93		.753	15.62	10.55	15.24		
4.05	15.92		.62	.61	.62	.23		
.21	.91	.7800	.72	.60	.59	.22		
.36	.90		.81	.59	.75	.21		
4.50	15.89		.89	.58	.82	.20		
.64	.88	.7790	.98	.57	.89	.19		
.78	.87		8.07	15.56	.96	.18		
.92	.86		.16	.55	11.03	15.17		
5.05	15.85	.7780	.24	.54	.09	.16		
.18	.84		.33	.53	.16	.15		
.30	.83		.41	.52	.23	.14		
.43	.82	.7760	8.50	15.51	.29	.13		
5.55	15.81		.58	.50	.36	.12		
.67	.80		.66	.49	.42	.11		
		.7750	.74	.48	.49	.10		
			.63	.47	11.55	15.09		
			.91	.46	.62	.08		
		.7740	.99	.45	.68	.07		
			9.07	15.44	.75	.06		
			.14	.43	.81	.05		
		.7730	.22	.42	.87	.04		
			.30	.41	.94	.03		
		.7720			12.00	15.02		
						.7710		

TABLE 10.—Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )

Salinity 20.00‰ to 29.99‰

T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f
12.06	15.01	.7710	14.43	14.60	.7670	16.52	14.19	.7620
.12	.00		14.49	.59		16.57	.18	
.19	14.99		14.54	14.58	16.62	.17		
.25	.98		14.59	.57	16.67	.16		
.31	.97		14.65	.56	16.72	.15		
.37	.96		14.70	.55	16.76	.14		
.42	.95		14.75	.54	16.81	.13		
.49	.94		14.81	.53	16.86	.12		
12.55	14.93	.7700	14.86	.52	.7660	16.91	.11	.7610
.61	.92		14.91	.51		16.95	.10	
.67	.91		15.01	14.49		17.00	14.09	
.73	.90		15.07	.48		17.05	.08	
.79	.89		15.12	.47		17.10	.07	
.85	.88		15.17	.46		17.14	.06	
.91	.87		15.22	.45		17.19	.05	
.97	.86		15.27	.44		17.24	.04	
13.03	14.85	.7690	15.33	.43	.7650	17.28	.03	.7610
.09	.84		15.38	.42		17.33	.02	
.14	.83		15.43	.41		17.38	.01	
.20	.82		15.48	.40		17.42	.00	
.26	.81		15.53	14.39		17.47	13.99	
.32	.80		15.58	.38		17.52	13.98	
.38	.79		15.63	.37		17.56	.97	
.43	.78		15.68	.36		17.61	.96	
.49	.77	15.73	.35	17.65	.95			
13.55	14.76	.7680	15.78	.34	.7640	17.70	.94	.7600
.60	.75		15.83	.33		17.75	.93	
.66	.74		15.88	.32		17.79	.92	
.72	.73		15.93	.31		17.84	.91	
.77	.72		15.98	.30		17.88	.90	
.83	.71		16.03	14.29		17.93	.89	
.88	.70		16.08	.28		17.97	.88	
.94	.69		16.13	.27		18.02	13.87	
.99	.68	16.18	.26	18.06	.86			
14.05	14.67	.7670	16.23	.25	.7630	18.11	.85	.7590
.10	.66		16.28	.24		18.15	.84	
.16	.65		16.33	.23		18.20	.83	
.21	.64		16.38	.22		18.24	.82	
.27	.63		16.43	.21		18.29	.81	
.32	.62		16.47	.20		18.33	.80	
.38	.61					18.38	.79	
						18.42	.78	

TABLE 10.—Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )

Salinity 20.00‰ to 29.99‰

T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f
18.47	13.77	.7590	20.22	13.36		21.90	12.94	
18.51	13.76		.26	.35		.94	.93	.7540
.55	.75		.30	.34	.7560	.98	.92	
.60	.74		.34	.33		22.03	12.91	
.64	.73		.38	.32		.06	.90	
.69	.72		.42	.31		.09	.89	.7540
.73	.71	.7580	.47	.30		.13	.88	
.77	.70		20.51	13.29		.17	.87	
.82	.69		.55	.28		.21	.86	
.86	.68		.59	.27		.25	.85	
.91	.67		.63	.26		22.29	12.84	
.95	.66		.67	.25		.32	.83	
.99	.65		.71	.24	.7560	.36	.82	
19.04	13.64		.75	.23		.40	.81	
.08	.63		.79	.22		.44	.80	
.12	.62		.83	.21		.48	.79	
.17	.61		.87	.20		.51	.78	
.21	.60	.7570	.91	.19		.55	.77	
.25	.59		.95	.18		.59	.76	
.29	.58		.99	.17		.63	.75	.7530
.34	.57		21.03	13.16		.67	.74	
.38	.56		.07	.15		.70	.73	
.42	.55		.11	.14		.74	.72	
.46	.54		.15	.13		.78	.71	
19.51	13.53		.19	.12		.82	.70	
.55	.52		.23	.11	.7550	.85	.69	
.59	.51		.27	.10		.89	.68	
.63	.50		.31	.09		.93	.67	
.68	.49		.35	.08		.97	.66	
.72	.48		.39	.07		23.00	12.65	
.76	.47	.7560	.43	.06		.04	.64	
.80	.46		.47	.05		.08	.63	
.84	.45		21.51	13.04		.12	.62	
.89	.44		.55	.03		.15	.61	
.93	.43		.59	.02		.19	.60	
.97	.42		.63	.01		.23	.59	.7520
20.01	13.41		.67	.00		.27	.58	
.05	.40	.7560	.71	12.99	.7540	.30	.57	
.10	.39		.74	.98		.34	.56	
.14	.38		.78	.97		.38	.55	
.18	.37		.82	.96		.41	.54	
			.86	.95		.45	.53	

TABLE 10.—Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )

Salinity 20.00‰ to 29.99‰

T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f
23.49	12.52	.7520	24.96	12.11	.7500	26.37	11.70	
23.52	12.51		.99	.10		.40	.69	.7490
.56	.50		25.03	12.09		.44	.68	
.60	.49		.06	.08		.47	.67	
.63	.48		.10	.07		26.50	11.66	
.67	.47		.13	.06		.54	.65	
.71	.46	.7510	.17	.05		.57	.64	
.74	.45		.20	.04		.60	.63	
.78	.44		.23	.03	.7500	.63	.62	
.82	.43		.27	.02		.66	.61	
.85	.42		.31	.01		.70	.60	.7480
.89	.41		.34	.00		.74	.59	
.92	.40		.38	11.99		.77	.58	
.96	.39		.41	.98		.80	.57	
24.00	12.38		.45	.97		.83	.56	
.03	.37		.48	.96		.87	.55	
.07	.36		25.52	11.95		.90	.54	
.11	.35		.55	.94		.94	.53	
.14	.34		.59	.93		.97	.52	
.18	.33		.62	.92		27.00	11.51	
.21	.32	.7510	.65	.91		.04	.50	
.25	.31		.69	.90		.07	.49	
.29	.30		.72	.89	.7490	.10	.48	
.32	.29		.76	.88		.13	.47	
.36	.28		.79	.87		.17	.46	
.39	.27		.83	.86		.20	.45	
.43	.26		.86	.85		.23	.44	.7480
.46	.25		.89	.84		.27	.43	
24.50	12.24		.93	.83		.30	.42	
.54	.23		.96	.82		.33	.41	
.57	.22		26.00	11.81		.36	.40	
.61	.21		.03	.80		.40	.39	
.64	.20		.06	.79		.43	.38	
.68	.19		.10	.78		.46	.37	
.71	.18		.13	.77		27.50	11.36	
.75	.17	.7500	.17	.76	.7490	.53	.35	
.78	.16		.20	.75		.56	.34	.7470
.82	.15		.23	.74		.59	.33	
.85	.14		.27	.73		.63	.32	
.88	.13		.30	.72		.66	.31	
.92	.12		.34	.71		.69	.30	

TABLE 10.—Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )

Salinity 20.00‰ to 29.99‰

T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f		
27.72	11.29	.7470	28.90	10.92	.7460		
.75	.28		.93	.91			
.78	.27		.97	.90			
.82	.26		.7450	29.00	10.89	.7450	
.85	.25			.03	.88		
.88	.24			.06	.87		
.92	.23			.09	.86		
.95	.22			.12	.85		
.98	.21			.15	.84		
28.01	11.20	.7460		.18	.83		
	.19			.21	.82		
	.18			.25	.81		
	.17			.28	.80		
	.16		.31	.79			
	.15		.34	.78			
	.14		.37	.77			
	.13		.40	.76			
	.12		.43	.75			
	.11		.46	.74			
.10	.49	.73	.7450				
28.52	11.04	.7460		29.52	10.72	.7450	
	.03			.56	.71		
	.02			.59	.70		
	.01			.62	.69		
	.00			.65	.68		
	10.99			.68	.67		
	.98			.71	.66		
	.97			.74	.65		
	.96			.77	.64		
	.95		.80	.63			
.94	.83	.62	.7450				
.93	.86	.61					
28.52	10.99	.7460		.89	.60	.7450	
	.98			.92	.59		
	.97			.96	.58		
	.96			.99	.57		
	.95			.7460	.57		.57
	.94						
	.93						
	.92						
	.91						
	.90						
.89							
.88							
.87							
.86							



TABLE 10.—Determining Density of Sea Water (Continued)

DENSITY ( $\sigma_t$ )

Salinity 30.00‰ to 39.99‰

T. °C.	$\sigma_t$	t	T. °C.	$\sigma_t$	t	T. °C.	$\sigma_t$	t
-2.00	24.15	.8120	4.07	23.83	.7960	7.37	23.46	.7860
-1.75	.14		.18	.82		.45	.45	
-1.13	24.13	.8100	.29	.81		7.52	23.44	.7850
-0.71	24.12	.8090	.40	.80	.60	.43		
-0.37	24.11	.8070	4.50	23.79	.67	.42		
-0.08	.10		.60	.78	.75	.41		
0.18	24.09	.8050	.70	.77	.82	.40		
0.42	.08		.80	.76	.89	.39	.7840	
0.64	24.07	.8040	.90	.75	.96	.38		
0.85	.06		5.00	23.74	8.04	23.37		
1.05	24.05	.8020	.09	.73	.11	.36		
.24	.04		.19	.72	.18	.35		
.41	.03		.27	.71	.25	.34	.7830	
1.58	24.02	.8010	.37	.70	.32	.33		
.75	.01		.46	.69	.39	.32		
.91	24.00	.8000	5.56	23.68	.46	.31		
2.06	23.99	.8000	.65	.67	8.53	23.30		
.21	.98		.73	.66	.60	.29	.7820	
.35	.97		.82	.65	.67	.28		
2.50	23.96	.7980	.91	.64	.74	.27		
.63	.95		6.00	23.63	.80	.26		
.77	.94		.08	.62	.87	.25		
.90	.93		.17	.61	.94	.24	.7810	
3.03	23.92	.7970	.25	.60	9.01	23.23		
.25	.91		.34	.59	.07	.22		
.27	.90		.42	.58	.14	.21		
.40	.89		6.50	23.57	.20	.20		
3.51	23.88	.7950	.59	.56	.27	.19	.7800	
.62	.87		.67	.55	.34	.18		
.74	.86		.75	.54	.40	.17		
.86	.85		.83	.53	.47	.16		
.97	.84		.91	.52	9.53	23.15		
7.06	23.50	.7860	.99	.51	.59	.14	.7800	
.14	.49		7.06	23.50	.66	.13		
.22	.48		.14	.49	.72	.12		
.30	.47		.22	.48	.79	.11		
			.30	.47	.85	.10		
					.91	.09		

TABLE 10.—Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )

Salinity 30.00‰ to 39.99‰

T. °C.	$\sigma_t$	t	T. °C.	$\sigma_t$	t	T. °C.	$\sigma_t$	t
9.97	23.08	.7810	12.24	22.69		14.31	22.29	
10.04	23.07		.30	.68	.7750	.36	.28	.7710
.10	.06		.35	.67		.40	.27	
.16	.05		.40	.66		.45	.26	
.22	.04	.7790	.46	.65		14.50	22.25	
.28	.03		12.51	22.64		.55	.24	
.34	.02		.57	.63		.60	.23	
.40	.01		.62	.62		.65	.22	
.47	.00		.67	.61		.70	.21	
10.53	22.99		.73	.60	.7740	.74	.20	.7700
.59	.98		.78	.59		.79	.19	
.65	.97	.7780	.83	.58		.84	.18	
.71	.96		.88	.57		.89	.17	
.77	.95		.94	.56		.94	.16	
.82	.94		.99	.55		.98	.15	
.88	.93		13.04	22.54		15.03	22.14	
.94	.92		.09	.53		.08	.13	
11.00	22.91		.15	.52	.7730	.13	.12	
.06	.90		.20	.51		.17	.11	
.12	.89		.25	.50		.22	.10	.7690
.18	.88		.30	.49		.27	.09	
.23	.87	.7770	.35	.48		.31	.08	
.29	.86		.40	.47		.36	.07	
.35	.85		.46	.46		.41	.06	
.41	.84		13.51	22.45		.45	.05	
.46	.83		.56	.44		15.50	22.04	
11.52	22.82		.61	.43		.55	.03	
.58	.81		.66	.42	.7720	.59	.02	
.63	.80		.71	.41		.64	.01	
.69	.79		.76	.40		.69	.00	
.74	.78	.7760	.81	.39		.73	21.99	.7680
.80	.77		.86	.38		.78	.98	
.86	.76		.91	.37		.82	.97	
.91	.75		.96	.36		.87	.96	
.97	.74		14.01	22.35		.92	.95	
12.02	22.73		.06	.34		.96	.94	
.08	.72	.7750	.11	.33	.7710	16.01	21.93	
.13	.71		.16	.32		.05	.92	.7680
.19	.70		.21	.31		.10	.91	
			.26	.30		.14	.90	

TABLE 10. Determining Density of Sea Water (Continued)

DENSITY ( $\sigma_t$ )

Salinity 30.00‰ to 39.99‰

T. °C.	$\sigma_t$	t	T. °C.	$\sigma_t$	t	T. °C.	$\sigma_t$	t
16.19	21.89	.7600	18.01	21.47	.7640	19.72	21.05	.7620
.23	.88		.06	.46		.76	.04	
.28	.87		.10	.45		.80	.03	
.32	.86		.14	.44		.84	.02	
.37	.85		.18	.43		.88	.01	
.41	.84		.22	.42		.92	.00	
.46	.83		.27	.41		.96	20.99	
16.50	21.82	.7670	.31	.40	.7630	20.00	20.98	.7610
.55	.81		.35	.39		.04	.97	
.59	.80		.39	.38		.08	.96	
.63	.79		.43	.37		.12	.95	
.68	.78		.47	.36		.15	.94	
.72	.77		18.51	21.35		.19	.93	
.77	.76		.55	.34		.23	.92	
.81	.75	.60	.33	.27	.91			
.86	.74	.64	.32	.31	.90			
.90	.73	.68	.31	.35	.89			
.94	.72	.72	.30	.39	.88			
.99	.71	.76	.29	.43	.87			
		.80	.28	.46	.86			
17.03	21.70	.7660	.84	.27	.7650	20.50	20.85	.7600
.07	.69		.88	.26		.54	.84	
.12	.68		.92	.25		.58	.83	
.16	.67		.96	.24		.62	.82	
.20	.66		19.00	21.23		.66	.81	
.25	.65		.04	.22		.69	.80	
.29	.64		.08	.21		.73	.79	
.33	.63	.13	.20	.77	.78			
.38	.62	.17	.19	.81	.77			
.42	.61	.21	.18	.85	.76			
.46	.60	.25	.17	.89	.75			
		.29	.16	.92	.74			
17.51	21.59	.7650	.33	.15	.7630	.96	.73	.7600
.55	.58		.37	.14		21.00	20.72	
.59	.57		.41	.13		.04	.71	
.63	.56		.45	.12		.07	.70	
.68	.55		.49	.11		.11	.69	
.72	.54		19.53	21.10		.15	.68	
.76	.53		.57	.09		.19	.67	
.80	.52	.60	.08	.22	.66			
.85	.51	.64	.07	.26	.65			
.89	.50	.68	.06	.30	.64			
.93	.49							
.97	.48							

TABLE 10.—Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )

Salinity 30.00‰ to 39.99‰

T. °C	$\sigma_t$	f	T. °C	$\sigma_t$	f	T. °C	$\sigma_t$	f
21.34	20.63	.7600	22.84	20.22	.7580	24.27	19.81	.7560
.37	.62		.87	.21		.30	.80	
.41	.61		.91	.20		.34	.79	
.45	.60		.94	.19		.37	.78	
.49	.59		.98	.18		.41	.77	
						.44	.76	
						.48	.75	
21.52	20.58	.7590	23.01	20.17	.7570	24.51	19.74	.7550
.56	.57		.05	.16		.54	.73	
.60	.56		.09	.15		.58	.72	
.64	.55		.12	.14		.61	.71	
.67	.54		.16	.13		.65	.70	
.71	.53		.19	.12		.68	.69	
.75	.52		.23	.11		.71	.68	
.78	.51		.26	.10		.75	.67	
.82	.50		.30	.09		.78	.66	
.86	.49		.33	.08		.81	.65	
.89	.48		.37	.07		.85	.64	
.93	.47	.40	.06	.88	.63			
.97	.46	.44	.05	.92	.62			
			.47	.04	.95	.61		
					.98	.60		
22.00	20.45	.7580	23.51	20.03	.7560	25.02	19.59	.7550
.04	.44		.54	.02		.05	.58	
.08	.43		.58	.01		.08	.57	
.11	.42		.61	.00		.12	.56	
.15	.41		.65	19.99		.15	.55	
.19	.40		.68	.98		.18	.54	
.22	.39		.72	.97		.22	.53	
.26	.38		.75	.96		.25	.52	
.30	.37		.79	.95		.28	.51	
.33	.36		.82	.94		.32	.50	
.37	.35		.86	.93		.35	.49	
.40	.34		.89	.92		.38	.48	
.44	.33		.93	.91		.42	.47	
.48	.32	.96	.90	.45	.46			
				.48	.45			
22.51	20.31	.7580	24.00	19.89	.7560	25.52	19.44	.7540
.55	.30		.03	.88		.55	.43	
.59	.29		.07	.87		.58	.42	
.62	.28		.10	.86		.62	.41	
.66	.27		.13	.85				
.69	.26		.17	.84				
.73	.25		.20	.83				
.76	.24		.24	.82				
.80	.23							

TABLE 10. --Determining Density of Sea Water--Continued

DENSITY ( $\sigma_t$ )

Salinity 30.00‰ to 39.99‰

T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f	T. °C.	$\sigma_t$	f	
25.65	19.40	.7540	27.01	18.98	.7520	28.32	18.56	.7510	
.68	.39		.04	.97		.36	.55		
.71	.38		.07	.96		.39	.54		
.75	.37		.11	.95		.42	.53		
.78	.36		.14	.94		.45	.52		
.81	.35		.17	.93		.48	.51		
.85	.34		.20	.92		28.51	18.50	.7510	
.88	.33		.23	.91			.54		.49
.91	.32		.26	.90			.57		.48
.94	.31		.30	.89			.60		.47
.98	.30		.33	.88			.63		.46
26.01	19.29	.7530	.36	.87	.66		.45		
	.04		.28	.39	.86		.69		.44
	.08		.27	.42	.85		.72		.43
	.11		.26	.45	.84		.75		.42
	.14		.25	.48	.83		.78		.41
	.17		.24	27.52	18.82		.81		.40
	.21		.23		.55	.81	.85	.39	
	.24		.22		.58	.80	.88	.38	
	.27		.21		.61	.79	.91	.37	
	.30		.20		.64	.78	.94	.36	
	.34		.19		.67	.77	.97	.35	
.37	.18	.70	.76		29.00	18.34	.7510		
.40	.17	.74	.75			.03		.33	
.43	.16	.77	.74			.06		.32	
.46	.15	.80	.73			.09		.31	
26.50	19.14	.7530	.83			.72		.12	.30
	.53		.13	.86		.71		.15	.29
	.56		.12	.89		.70		.18	.28
	.59		.11	.92		.69		.21	.27
	.63		.10	.95		.68		.24	.26
	.66		.09	.98		.67		.27	.25
	.69		.08	28.02		18.66		.30	.24
	.72		.07		.05	.65	.33	.23	
	.75		.06		.08	.64	.36	.22	
	.79		.05		.11	.63	.39	.21	
	.82		.04		.14	.62	.42	.20	
.85	.03	.17	.61		.45	.19			
.88	.02	.20	.60		.48	.18			
.91	.01	.23	.59		29.51	18.17	.7500		
.95	.00	.26	.58			.54		.16	
.98	18.99		.29		.57				

TABLE 10.—Determining Density of Sea Water—Continued

DENSITY ( $\sigma_t$ )Salinity 30.00<sup>o</sup>/oo to 39.99<sup>o</sup>/oo

T. °C.	$\sigma_t$	f
29.57	18.15	
.60	.11	
.63	.13	
.66	.12	
.69	.11	
.72	.10	
.75	.09	
.78	.08	.7500
.81	.07	
.84	.06	
.87	.05	
.90	.04	
.93	.03	
.96	.02	
.99	.01	

TABLE 11.—Determining Electrical Conductivity of Sea Water

**EXAMPLE OF COMPUTATION:**

Given a temperature of 19.90° C. and salinity of 34.26‰, compute the electrical conductivity or L-value (mhos/cm<sup>2</sup>).

1. Select the salinity interval of 30.00 to 39.90‰.
2. In column one find the temperature interval in which 19.90° C. falls and round to the nearest (upper in this example) limit of the interval or 20.00° C.
3. Entering column one at 20.00° C. read the corresponding L-value of .0417 in column two. This is the correct L-value for the base of the salinity interval, that is, for a salinity of 30.00‰ and temperature of 19.90° C.
4. To find the correct L-value for the given salinity of 34.26‰, multiply the designated f-factor (.001216) in column three by the last three digits of the given salinity (4.26), observing decimal places, and add the value obtained to the base value .0417.
5. Round the value obtained (.04688016) to four decimal places. **ANSWER .0469.**

Thus: Given 19.90° C. and 34.26‰ S.

From table for Salinity 30.00‰ to 39.90‰, enter column one at nearest limit of temperature interval (20.00):

$$\begin{array}{r}
 \text{Obtain base} \\
 \text{L-value in} \\
 \text{column two}
 \end{array}
 +
 \left\{
 \begin{array}{l}
 \text{f-factor} \\
 \text{of column} \\
 \text{three}
 \end{array}
 \times
 \begin{array}{l}
 \text{last three} \\
 \text{digits of} \\
 \text{given S.}
 \end{array}
 \right\}
 =$$

$$\begin{array}{r}
 .0417 \\
 \\
 .04688016 \text{ (round to four decimal places)}
 \end{array}
 \qquad
 \text{ANSWER .0469 (mhos/cm}^2\text{)}$$

(U.S. Naval Oceanographic Office, 1962)

TABLE 11 Determining Electrical Conductivity of Sea Water - Continued  
 ELECTRICAL CONDUCTIVITY (L)  
 Salinity ‰ to 35.00 ‰

T. °C.	L	f	T. °C.	L	f
-2.00	.0002	.000842	15.00	.0003	.001335
-1.50		855	15.50		1351
-1.00		868			
-0.50		881	16.00	.0003	1367
0.00	.0002	894	16.50		1383
0.50		908			
1.00	.0002	922	17.00	.0003	1399
1.50		937	17.50	.0004	1415
2.00	.0002	951	18.00	.0004	1430
2.50		965	18.50		1446
3.00	.0002	979	19.00	.0004	1462
3.50		993	19.50		1478
4.00	.0002	.001008	20.00	.0004	1494
4.50		1022	20.50		1510
5.00	.0002	1036	21.00	.0004	1527
5.50		1051	21.50		1543
6.00	.0002	1065	22.00	.0004	1560
6.50		1080	22.50		1576
7.00	.0002	1094	23.00	.0004	1592
7.50	.0003	1109	23.50		1609
8.00	.0003	1124	24.00	.0004	1625
8.50		1138	24.50		1642
9.00	.0003	1153	25.00	.0004	1658
9.50		1167	25.50		1674
10.00	.0003	1182	26.00	.0004	1690
10.50		1197	26.50		1706
11.00	.0003	1213	27.00	.0004	1722
11.50		1228	27.50	.0005	1738
12.00	.0003	1243	28.00	.0005	1754
12.50		1259	28.50		1770
13.00	.0003	1274	29.00	.0005	1786
13.50		1289	29.50		1802
14.00	.0003	1304	30.00	.0005	1818
14.50		1320			



TABLE 11. Determining Electrical Conductivity of Sea Water - Continued  
 ELECTRICAL CONDUCTIVITY (C.)  
 Salinity 10‰ to 19.99‰.

T. °C.	L	f	T. °C.	L	f
-2.00	.0086	.000778	14.00	.0133	.001192
-1.50	87	790	14.50	135	1206
-1.00	89	802	15.00	.0137	1219
-0.50	.0090	814	15.50	138	1233
0.00	.0091	826	16.00	.0140	1247
0.50	93	839	16.50	141	1262
1.00	.0094	851	17.00	.0143	1276
1.50	96	864	17.50	145	1290
2.00	.0097	876	18.00	.0146	1304
2.50	99	889	18.50	148	1318
3.00	.0100	902	19.00	.0150	1333
3.50	102	914	19.50	151	1347
4.00	.0103	927	20.00	.0153	1361
4.50	104	939	20.50	155	1376
5.00	.0106	952	21.00	.0156	1390
5.50	107	965	21.50	158	1405
6.00	.0109	978	22.00	.0160	1420
6.50	110	992	22.50	161	1435
7.00	.0112	.001005	23.00	.0163	1449
7.50	113	1018	23.50	165	1464
8.00	.0115	1031	24.00	.0166	1479
8.50	116	1044	24.50	168	1493
9.00	.0118	1058	25.00	.0170	1508
9.50	119	1071	25.50	171	1523
10.00	.0121	1084	26.00	.0173	1538
10.50	122	1098	26.50	175	1553
11.00	.0124	1111	27.00	.0177	1568
11.50	126	1125	27.50	178	1584
12.00	.0127	1138	28.00	.0180	1599
12.50	129	1152	28.50	182	1614
13.00	.0130	1165	29.00	.0184	1629
13.50	132	1179	29.50	185	1644
			30.00	.0187	1659

TABLE 11. Determining Electrical Conductivity of Sea Water - Continued

ELECTRICAL CONDUCTIVITY (C)

Salinity 20‰ to 20.99‰

T. °C.	L	f	T. °C.	L	f
-2.00	.0164	.000738	14.00	.0253	.001124
-1.50	167	750	14.50	256	1137
-1.00	169	761	15.00	259	1150
-0.50	171	772	15.50	262	1163
0.00	.0174	784	16.00	265	1176
0.50	177	796	16.50	268	1189
1.00	179	807	17.00	271	1202
1.50	182	819	17.50	274	1215
2.00	185	831	18.00	277	1228
2.50	188	843	18.50	280	1241
3.00	190	854	19.00	283	1254
3.50	193	866	19.50	286	1267
4.00	196	878	20.00	.0289	1280
4.50	198	889	20.50	292	1294
5.00	.0201	901	21.00	295	1307
5.50	204	913	21.50	298	1321
6.00	207	925	22.00	302	1334
6.50	210	937	22.50	305	1348
7.00	212	949	23.00	308	1362
7.50	215	962	23.50	311	1375
8.00	218	974	24.00	314	1389
8.50	221	986	24.50	317	1402
9.00	224	998	25.00	.0320	1416
9.50	226	.001010	25.50	324	1430
10.00	.0229	1022	26.00	327	1444
10.50	232	1035	26.50	330	1458
11.00	235	1048	27.00	333	1472
11.50	238	1060	27.50	337	1486
12.00	241	1073	28.00	340	1499
12.50	244	1086	28.50	343	1513
13.00	247	1099	29.00	346	1527
13.50	250	1112	29.50	350	1541
			30.00	.0353	1555

TABLE 11. Determining Electrical Conductivity of Sea Water - Continued  
 ELECTRICAL CONDUCTIVITY (C)  
 Salinity 30‰ to 39.99‰

T. °C.	L	f	T. °C.	L	f
-2.00	.0236	.000708	11.00	.0365	.001063
-1.50	240	719	11.50	369	1075
-1.00	244	730	15.00	374	1086
-0.50	248	741	15.50	378	1099
0.00	.0252	752	16.00	382	1112
0.50	256	763	16.50	387	1125
1.00	260	774	17.00	391	1138
1.50	264	785	17.50	395	1151
2.00	268	796	18.00	400	1164
2.50	272	807	18.50	404	1177
3.00	276	817	19.00	408	1190
3.50	280	828	19.50	413	1203
4.00	283	839	20.00	.0417	1216
4.50	287	850	20.50	422	1229
5.00	.0291	861	21.00	426	1242
5.50	295	872	21.50	431	1255
6.00	299	883	22.00	435	1268
6.50	303	895	22.50	440	1281
7.00	307	906	23.00	444	1294
7.50	311	917	23.50	449	1307
8.00	315	928	24.00	453	1320
8.50	319	939	24.50	458	1333
9.00	323	951	25.00	.0462	1346
9.50	327	962	25.50	467	1359
10.00	.0332	973	26.00	471	1373
10.50	336	984	26.50	476	1386
11.00	340	996	27.00	481	1400
11.50	344	.001007	27.50	485	1413
12.00	348	1018	28.00	490	1426
12.50	353	1030	28.50	494	1440
13.00	357	1041	29.00	499	1453
13.50	361	1052	29.50	504	1467
			30.00	.0508	1480

**SOUND SPEED TABLES**

TABLE 12. SOUND SPEEDS

- Table 12A- Sound speed,  $V_0$  (1449.1 m/sec) corrected for changes in Pressure ( $\text{kg}/\text{cm}^2$ ),  $V_p$ .
- Table 12B- Sound speed,  $V_0$  (1449.1 m/sec), corrected for changes in Depth (meters), (pressures derived assuming 35‰, 0°C),  $V_p$ .
- Table 12C- Correction to sound speed,  $V_0$  (1449.1 m/sec), for changes in Latitude-Depth,  $V_\phi$ .
- Table 12D- Correction to sound speed,  $V_0$  (1449.1 m/sec), for changes in Salinity (‰),  $V_s$ .
- Table 12E- Correction to sound speed,  $V_0$  (1449.1 m/sec), for changes in Temperature (°C),  $V_t$ .
- Table 12F- Correction to sound speed,  $V_0$  (1449.1 m/sec), for simultaneous changes in Salinity, Temperature, and Pressure,  $V_{stp}$ .
- Table 12G- Sound speed conversion - Meters/second to feet/second.

**Example A: Determine sound speed (in situ pressure known).**

Given: Pressure = 83.5  $\text{kg}/\text{cm}^2$ , Latitude = 60°, Salinity = 32.71‰, Temperature = 4.52°C.

From Table 12A, under 83.5 $\text{kg}/\text{cm}^2$	-----	-1449.1	+	$V_p$	=	1462.6 m/sec
From Table 12B, under 60° Lat.	-----			$V_\phi$	=	0.0 m/sec
From Table 12C, under 32.71‰	-----			$V_s$	=	-3.2 m/sec
From Table 12E, under 4.52°C	-----			$V_t$	=	19.7 m/sec
From Table 12F, under 83.5 $\text{kg}/\text{cm}^2$ , 32.71‰, 4.52°C	-----			$V_{stp}$	=	0.0 m/sec
<b>Sound Speed, <math>V = 1449.1 + V_p + V_\phi + V_s + V_t + V_{stp}</math></b>						
----- 1479.1 m/sec						

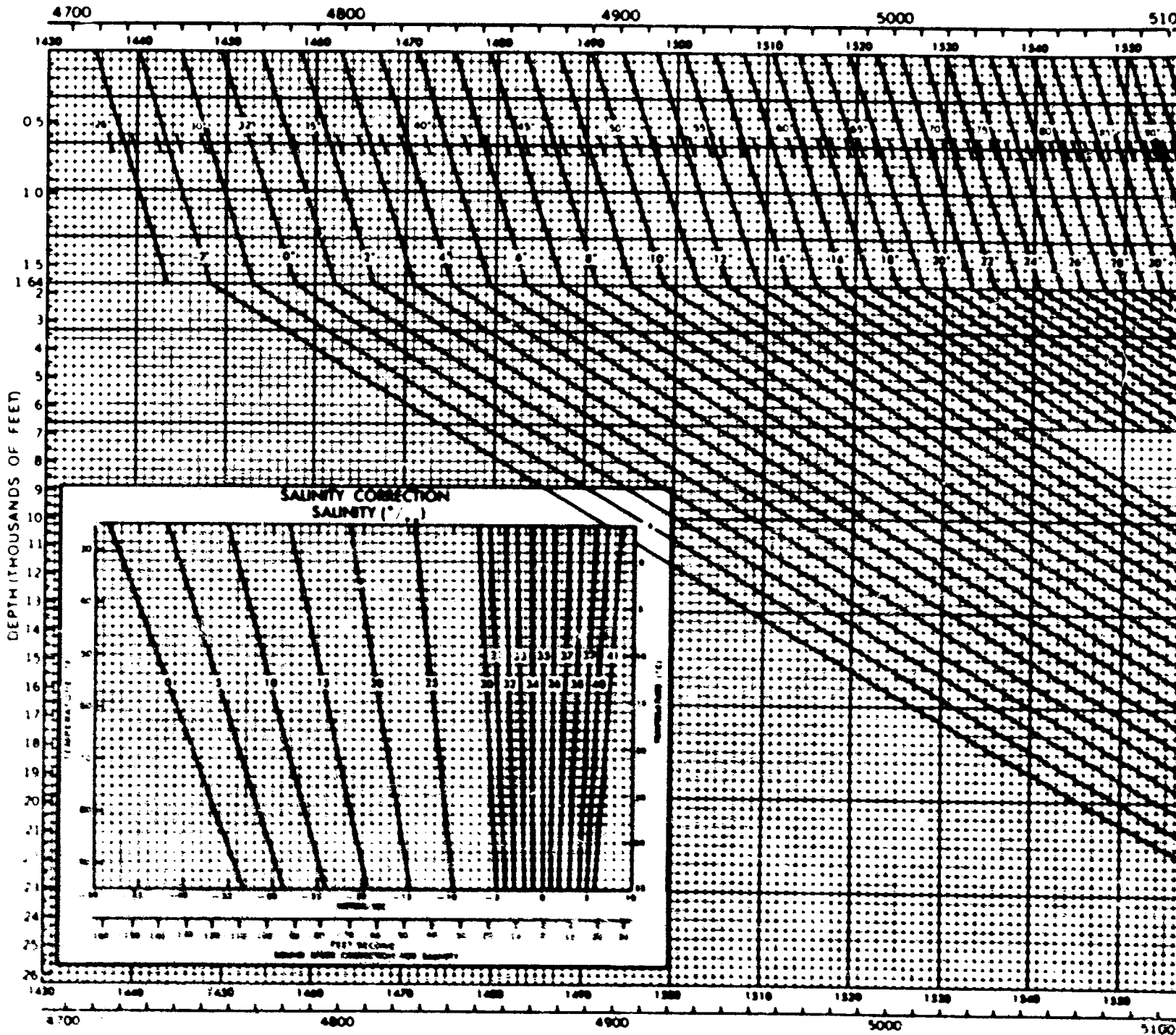
(Based on Wilson's equation, Journ. Acous. Soc. Am. Vol., 32, No. 10, pp 1357, Oct. 60)

TABLE 12—Sound Speeds—Continued

MARSDEN SQUARE NO \_\_\_\_\_

**SOUND SPEED NOMOGRAM AND STRUCTURE FORM**  
 (BASED ON WILSON'S EQUATION, JOUR. ACOUS. SOC. AM. VOL. 32, NO. 10, PP. 1357, OCT. 60)

SHP \_\_\_\_\_ STATION \_\_\_\_\_ DATE \_\_\_\_\_ WATER DEPTH \_\_\_\_\_ METERS  
 \_\_\_\_\_ FATHOMS



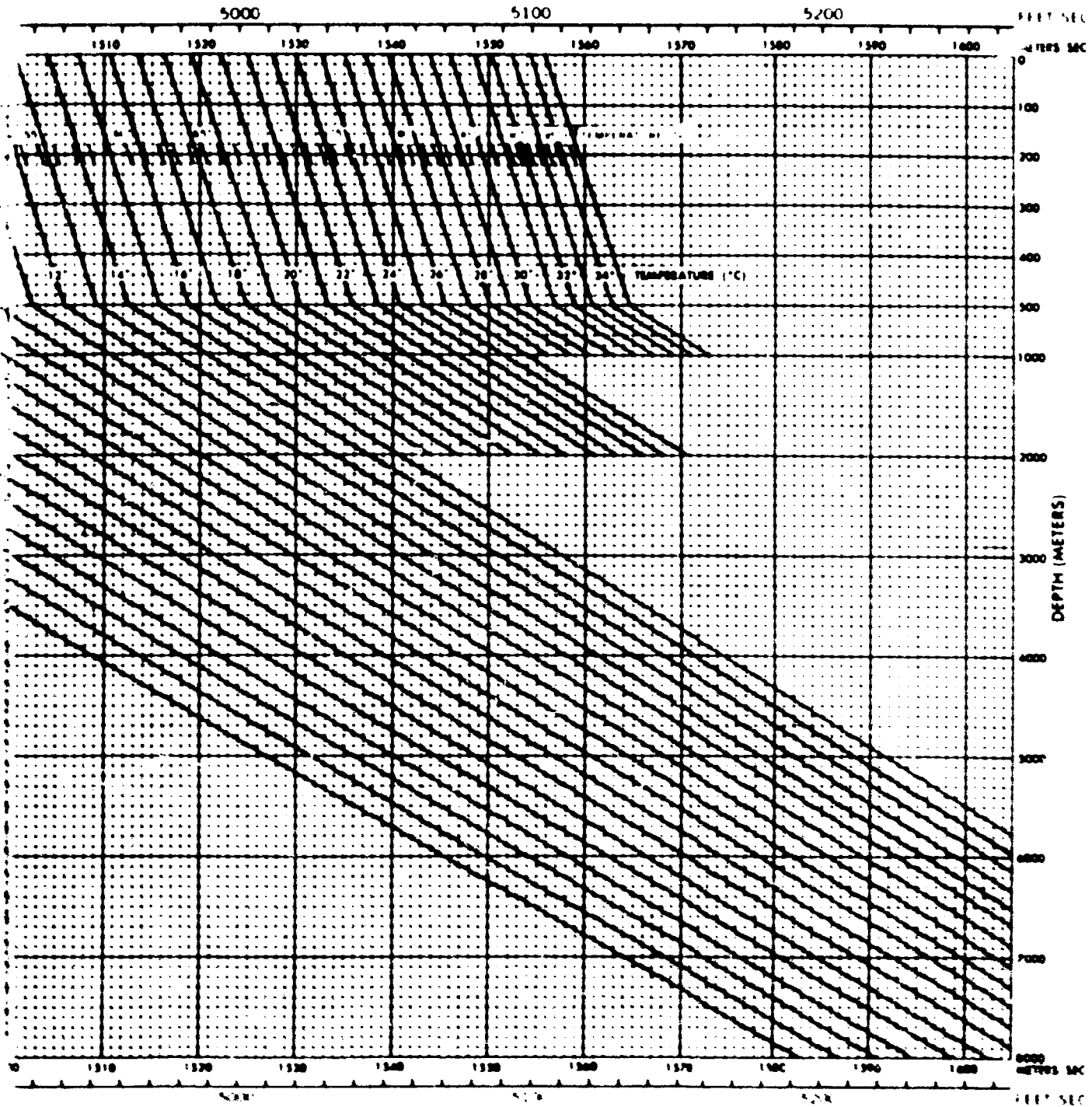
MARSDEN SQUARE NO \_\_\_\_\_ 1° SQUARE NO \_\_\_\_\_ MONTH \_\_\_\_\_

**SPEED NOMOGRAM AND STRUCTURE FORM**

SEASON \_\_\_\_\_

LOCATION: JOUR ACOUS SOC AM VOL 32, NO 10, PP 1357, OCT 60)

\_\_\_\_\_ METERS  
WATER DEPTH \_\_\_\_\_ FATHOMS LATITUDE \_\_\_\_\_ LONGITUDE \_\_\_\_\_



**Example B: Determine Sound Speed (assume a water column of 35‰, 0°C. for depth-pressure correction).**

Given: Depth-pressure = 2,000 m., Latitude = 50°, Salinity 35.20‰, Temperature 5.66°C.

From Table 12B, under 2,000 m. ----- 1449.1 +  $V_p$  = 1482.8 m/sec  
 From Table 12C, under 50° Lat. -----  $V_\phi$  = 0.1 m/sec  
 From Table 12D, under 35.20‰ -----  $V_s$  = 0.3 m/sec  
 From Table 12E, under 5.66°C -----  $V_t$  = 24.4 m/sec  
 From Table 12F, under 2,000 m, 35.20‰, 5.66°C. -----  $V_{stp}$  = -0.2 m/sec

Sound Speed,  $V = 1449.1 + V_\phi + V_s + V_t + V_{stp}$  ----- 1507.4 m/sec

TABLE 12A SOUND SPEED,  $V_0$  (1449.1 m/sec) CORRECTED FOR CHANGES IN PRESSURE (kg/cm<sup>2</sup>),  $V_p$

$V_p$ kg/cm <sup>2</sup>	1449.1 + $V_p$	$V_p$ kg/cm <sup>2</sup>	1449.1 + $V_p$	$V_p$ kg/cm <sup>2</sup>	1449.1 + $V_p$	$V_p$ kg/cm <sup>2</sup>	1449.1 + $V_p$	$V_p$ kg/cm <sup>2</sup>	1449.1 + $V_p$	$V_p$ kg/cm <sup>2</sup>	1449.1 + $V_p$	$V_p$ kg/cm <sup>2</sup>	1449.1 + $V_p$	$V_p$ kg/cm <sup>2</sup>	1449.1 + $V_p$
1.00	1450.1	70	1510.0	370	1510.0	520	1535.5	670	1561.5	820	1587.9	970	1614.5	1120	1641.2
2.00	1449.5	60	1511.6	380	1511.6	530	1537.2	680	1563.3	830	1589.7	980	1616.3	1130	1643.0
3.00	1449.0	50	1513.3	390	1513.3	540	1538.9	690	1565.0	840	1591.4	990	1618.1	1140	1644.7
4.00	1448.8	40	1515.0	400	1515.0	550	1540.7	700	1566.8	850	1593.2	1000	1619.8	1150	1646.5
5.00	1449.9	30	1516.7	410	1516.7	560	1542.4	710	1568.5	860	1595.0	1010	1621.6	1160	1648.3
6.00	1450.1	20	1518.4	420	1518.4	570	1544.1	720	1570.3	870	1596.7	1020	1623.4	1170	1650.1
7.00	1450.3	10	1520.1	430	1520.1	580	1545.9	730	1572.0	880	1598.5	1030	1625.2	1180	1651.8
8.00	1450.6	0	1521.8	440	1521.8	590	1547.6	740	1573.8	890	1600.3	1040	1627.0	1190	1653.6
9.00	1450.7	150	1523.5	450	1523.5	600	1549.3	750	1575.5	900	1602.1	1050	1628.7	1200	1655.4
10.00	1450.7	160	1525.2	460	1525.2	610	1551.1	760	1577.3	910	1603.8	1060	1630.5	1210	1657.1
20.00	1452.3	170	1526.9	470	1526.9	620	1552.8	770	1579.1	920	1605.6	1070	1632.3	1220	1658.9
30.00	1454.0	180	1528.6	480	1528.6	630	1554.5	780	1580.8	930	1607.4	1080	1634.1	1230	1660.7
40.00	1455.6	190	1530.4	490	1530.4	640	1556.3	790	1582.6	940	1609.2	1090	1635.9	1240	1662.4
50.00	1457.2	200	1532.1	500	1532.1	650	1558.0	800	1584.4	950	1610.9	1100	1637.6	1250	1664.2
60.00	1458.8	210	1533.8	510	1533.8	660	1559.8	810	1586.1	960	1612.7	1110	1639.4	1260	1666.0

TABLE 12B SOUND SPEED,  $V_0$  (1449.1 m/sec), CORRECTED FOR CHANGES IN DEPTH (METERS)  
(PRESSURES DERIVED ASSUMING 35‰, 0°C),  $V_p$

Depth m	1449.1 + $V_p$	Depth m	1449.1 + $V_p$	Depth m	1449.1 + $V_p$	Depth m	1449.1 + $V_p$	Depth m	1449.1 + $V_p$	Depth m	1449.1 + $V_p$	Depth m	1449.1 + $V_p$	Depth m	1449.1 + $V_p$
0	1449.3	80	1450.6	900	1464.3	2500	1491.5	4300	1523.1	6000	1553.8	7700	1585.4	9400	1617.5
1	1449.3	90	1450.8	950	1465.1	2600	1493.2	4400	1524.8	6100	1555.6	7800	1587.2	9500	1619.3
2	1449.3	100	1451.0	1000	1465.9	2700	1494.9	4500	1526.6	6200	1557.5	7900	1589.1	9600	1621.3
3	1449.4	150	1451.8	1050	1466.8	2800	1496.7	4600	1528.4	6300	1559.3	8000	1591.0	9700	1623.2
4	1449.4	200	1452.6	1100	1467.6	2900	1498.4	4700	1530.2	6400	1561.2	8100	1592.9	9800	1625.1
5	1449.4	250	1453.4	1200	1469.3	3000	1500.1	4800	1532.0	6500	1563.0	8200	1594.8	9900	1627.0
6	1449.4	300	1454.3	1300	1471.0	3100	1501.9	4900	1533.8	6600	1564.9	8300	1596.6	10000	1628.9
7	1449.4	350	1455.1	1400	1472.7	3200	1503.6	5000	1535.6	6700	1566.7	8400	1598.5	10100	1630.8
8	1449.4	400	1455.9	1500	1474.4	3300	1505.4	5100	1537.4	6800	1568.6	8500	1600.4	10200	1632.7
9	1449.5	450	1456.7	1600	1476.1	3400	1507.1	5200	1539.2	6900	1570.4	8600	1602.3	10300	1634.6
10	1449.5	500	1457.6	1700	1477.8	3500	1508.9	5300	1541.0	7000	1572.3	8700	1604.2	10400	1636.5
20	1449.6	600	1458.4	1800	1479.5	3600	1510.6	5400	1542.9	7100	1574.1	8800	1606.1	10500	1638.3
30	1449.8	700	1459.2	1900	1481.1	3700	1512.4	5500	1544.7	7200	1576.0	8900	1608.0	10600	1640.2
40	1450.0	800	1460.1	2000	1482.8	3800	1514.2	5600	1546.5	7300	1577.9	9000	1609.9	10700	1642.1
50	1450.1	900	1460.9	2100	1484.6	3900	1515.9	5700	1548.3	7400	1579.7	9100	1611.8	10800	1644.0
60	1450.3	1000	1461.8	2200	1486.3	4000	1517.7	5800	1550.1	7500	1581.6	9200	1613.7	10900	1645.9
70	1450.5	1100	1462.6	2300	1488.0	4100	1519.5	5900	1552.0	7600	1583.5	9300	1615.6	11000	1647.8
75	1450.5	850	1463.4	2400	1489.7	4200	1521.3								

TABLE 12C CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR CHANGES IN LATITUDE-DEPTH,  $V_p$

Depth m	Latitude									
	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°
0	0	0	0	0	0	0	0	0	0	0
1000	-.1	0	0	0	0	0	0	.1	.1	.1
2000	-.1	-.1	-.1	0	0	.1	.1	.1	.2	.2
3000	-.1	-.1	-.1	0	0	.1	.1	.2	.2	.3
4000	-.1	-.1	-.1	0	0	.1	.1	.2	.3	.3
5000	-.2	-.1	-.1	0	-.1	.1	.2	.2	.3	.4
6000	-.2	-.2	-.1	0	-.1	.2	.2	.3	.4	.4
7000	-.2	-.2	-.2	-.1	-.1	.2	.2	.3	.4	.4
8000	-.2	-.2	-.2	-.1	-.1	.2	.2	.3	.4	.4
9000	-.3	-.2	-.2	-.1	-.1	.2	.2	.3	.4	.4
10,000	-.3	-.3	-.2	-.1	-.1	.2	.2	.3	.4	.4
11,000	-.3	-.3	-.2	-.1	-.1	.2	.2	.3	.4	.4



TABLE 12D CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR CHANGES IN SALINITY (‰),  $V_0$

S	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	-46.9	-46.8	-46.8	-46.8	-46.8	-46.8	-46.8	-46.8	-46.8	-46.7
0.1	-46.7	-46.7	-46.7	-46.7	-46.7	-46.7	-46.7	-46.6	-46.6	-46.6
0.2	-46.6	-46.6	-46.6	-46.6	-46.5	-46.5	-46.5	-46.5	-46.5	-46.5
0.3	-46.5	-46.5	-46.5	-46.4	-46.4	-46.4	-46.4	-46.4	-46.4	-46.4
0.4	-46.3	-46.3	-46.3	-46.3	-46.3	-46.3	-46.3	-46.3	-46.2	-46.2
0.5	-46.2	-46.2	-46.2	-46.2	-46.2	-46.2	-46.1	-46.1	-46.1	-46.1
0.6	-46.1	-46.1	-46.1	-46.1	-46.0	-46.0	-46.0	-46.0	-46.0	-46.0
0.7	-46.0	-45.9	-45.9	-45.9	-45.9	-45.9	-45.9	-45.9	-45.9	-45.8
0.8	-45.8	-45.8	-45.8	-45.8	-45.8	-45.8	-45.8	-45.7	-45.7	-45.7
0.9	-45.7	-45.7	-45.7	-45.7	-45.7	-45.6	-45.6	-45.6	-45.6	-45.6
1.0	-45.6	-45.6	-45.6	-45.5	-45.5	-45.5	-45.5	-45.5	-45.5	-45.5
1.1	-45.4	-45.4	-45.4	-45.4	-45.4	-45.4	-45.4	-45.4	-45.3	-45.3
1.2	-45.3	-45.3	-45.3	-45.3	-45.3	-45.3	-45.3	-45.2	-45.2	-45.2
1.3	-45.2	-45.2	-45.2	-45.2	-45.2	-45.1	-45.1	-45.1	-45.1	-45.1
1.4	-45.1	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0	-44.9
1.5	-44.9	-44.9	-44.9	-44.9	-44.9	-44.9	-44.9	-44.8	-44.8	-44.8
1.6	-44.8	-44.8	-44.8	-44.8	-44.8	-44.7	-44.7	-44.7	-44.7	-44.7
1.7	-44.7	-44.7	-44.7	-44.6	-44.6	-44.6	-44.6	-44.6	-44.6	-44.6
1.8	-44.5	-44.5	-44.5	-44.5	-44.5	-44.5	-44.5	-44.5	-44.5	-44.5
1.9	-44.4	-44.4	-44.4	-44.4	-44.4	-44.4	-44.4	-44.3	-44.3	-44.3
2.0	-44.3	-44.3	-44.3	-44.3	-44.2	-44.2	-44.2	-44.2	-44.2	-44.2
2.1	-44.2	-44.1	-44.1	-44.1	-44.1	-44.1	-44.1	-44.1	-44.0	-44.0
2.2	-44.0	-44.0	-44.0	-44.0	-44.0	-44.0	-44.0	-43.9	-43.9	-43.9
2.3	-43.9	-43.9	-43.9	-43.9	-43.9	-43.8	-43.8	-43.8	-43.8	-43.8
2.4	-43.8	-43.8	-43.8	-43.7	-43.7	-43.7	-43.7	-43.7	-43.7	-43.7
2.5	-43.6	-43.6	-43.6	-43.6	-43.6	-43.6	-43.6	-43.6	-43.5	-43.5
2.6	-43.5	-43.5	-43.5	-43.5	-43.5	-43.5	-43.5	-43.5	-43.4	-43.4
2.7	-43.4	-43.4	-43.4	-43.4	-43.4	-43.4	-43.4	-43.4	-43.3	-43.3
2.8	-43.3	-43.2	-43.2	-43.2	-43.2	-43.2	-43.2	-43.2	-43.2	-43.1
2.9	-43.1	-43.1	-43.1	-43.1	-43.1	-43.1	-43.1	-43.0	-43.0	-43.0
3.0	-43.0	-43.0	-43.0	-42.9	-42.9	-42.9	-42.9	-42.9	-42.9	-42.9
3.1	-42.9	-42.9	-42.8	-42.8	-42.8	-42.8	-42.8	-42.8	-42.8	-42.8
3.2	-42.7	-42.7	-42.7	-42.7	-42.7	-42.7	-42.7	-42.7	-42.7	-42.6
3.3	-42.6	-42.6	-42.6	-42.6	-42.6	-42.6	-42.6	-42.6	-42.6	-42.6
3.4	-42.5	-42.5	-42.5	-42.5	-42.5	-42.5	-42.5	-42.5	-42.5	-42.5
3.5	-42.4	-42.4	-42.4	-42.4	-42.4	-42.4	-42.4	-42.4	-42.4	-42.4
3.6	-42.2	-42.2	-42.2	-42.2	-42.2	-42.2	-42.2	-42.2	-42.2	-42.2
3.7	-42.1	-42.1	-42.1	-42.1	-42.1	-42.1	-42.1	-42.1	-42.1	-42.1
3.8	-42.0	-42.0	-42.0	-42.0	-42.0	-42.0	-42.0	-42.0	-42.0	-42.0
3.9	-41.8	-41.8	-41.8	-41.8	-41.8	-41.8	-41.8	-41.8	-41.7	-41.7
4.0	-41.7	-41.7	-41.7	-41.7	-41.7	-41.6	-41.6	-41.6	-41.6	-41.6
4.1	-41.6	-41.6	-41.6	-41.5	-41.5	-41.5	-41.5	-41.5	-41.5	-41.5
4.2	-41.5	-41.5	-41.5	-41.5	-41.5	-41.5	-41.5	-41.5	-41.5	-41.5
4.3	-41.3	-41.3	-41.3	-41.3	-41.3	-41.3	-41.3	-41.3	-41.3	-41.3
4.4	-41.2	-41.2	-41.2	-41.2	-41.2	-41.2	-41.2	-41.2	-41.2	-41.2



TABLE D CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR CHANGES IN SALINITY (‰),  $V_s$  - Continued

$S$	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
9.5	-34.5	-34.5	-34.5	-34.5	-34.5	-34.5	-34.5	-34.5	-34.4	-34.4
9.6	-34.4	-34.4	-34.4	-34.4	-34.4	-34.4	-34.3	-34.3	-34.3	-34.3
9.7	-34.3	-34.3	-34.3	-34.2	-34.2	-34.2	-34.2	-34.2	-34.2	-34.2
9.8	-34.2	-34.1	-34.1	-34.1	-34.1	-34.1	-34.1	-34.1	-34.0	-34.0
9.9	-34.0	-34.0	-34.0	-34.0	-34.0	-34.0	-33.9	-33.9	-33.9	-33.9
10.0	-33.9	-33.9	-33.9	-33.9	-33.8	-33.8	-33.8	-33.8	-33.8	-33.8
10.1	-33.8	-33.7	-33.7	-33.7	-33.7	-33.7	-33.7	-33.7	-33.6	-33.6
10.2	-33.6	-33.6	-33.6	-33.6	-33.6	-33.6	-33.6	-33.5	-33.5	-33.5
10.3	-33.5	-33.5	-33.5	-33.5	-33.5	-33.4	-33.4	-33.4	-33.4	-33.4
10.4	-33.4	-33.4	-33.4	-33.3	-33.3	-33.3	-33.3	-33.3	-33.3	-33.2
10.5	-33.2	-33.2	-33.2	-33.2	-33.2	-33.2	-33.2	-33.1	-33.1	-33.1
10.6	-33.1	-33.1	-33.1	-33.1	-33.1	-33.0	-33.0	-33.0	-33.0	-33.0
10.7	-33.0	-33.0	-33.0	-32.9	-32.9	-32.9	-32.9	-32.9	-32.9	-32.9
10.8	-32.8	-32.8	-32.8	-32.8	-32.8	-32.8	-32.8	-32.7	-32.7	-32.7
10.9	-32.7	-32.7	-32.7	-32.7	-32.7	-32.6	-32.6	-32.6	-32.6	-32.6
11.0	-32.6	-32.6	-32.6	-32.6	-32.6	-32.5	-32.5	-32.5	-32.5	-32.5
11.1	-32.4	-32.4	-32.4	-32.4	-32.4	-32.4	-32.4	-32.4	-32.4	-32.3
11.2	-32.3	-32.3	-32.3	-32.3	-32.3	-32.3	-32.2	-32.2	-32.2	-32.2
11.3	-32.2	-32.2	-32.2	-32.2	-32.2	-32.2	-32.2	-32.1	-32.1	-32.1
11.4	-32.1	-32.0	-32.0	-32.0	-32.0	-32.0	-32.0	-32.0	-31.9	-31.9
11.5	-31.9	-31.9	-31.9	-31.9	-31.9	-31.9	-31.8	-31.8	-31.8	-31.8
11.6	-31.8	-31.8	-31.8	-31.8	-31.8	-31.7	-31.7	-31.7	-31.7	-31.7
11.7	-31.7	-31.6	-31.6	-31.6	-31.6	-31.6	-31.6	-31.6	-31.5	-31.5
11.8	-31.5	-31.5	-31.5	-31.5	-31.5	-31.5	-31.5	-31.4	-31.4	-31.4
11.9	-31.4	-31.4	-31.4	-31.4	-31.4	-31.4	-31.4	-31.4	-31.4	-31.4
12.0	-31.3	-31.3	-31.3	-31.3	-31.3	-31.3	-31.3	-31.3	-31.3	-31.3
12.1	-31.1	-31.1	-31.1	-31.1	-31.1	-31.2	-31.2	-31.2	-31.2	-31.2
12.2	-31.0	-31.0	-31.0	-31.0	-31.1	-31.1	-31.1	-31.0	-31.0	-31.0
12.3	-30.9	-30.8	-30.8	-30.8	-30.9	-30.9	-30.9	-30.9	-30.8	-30.8
12.4	-30.7	-30.7	-30.7	-30.7	-30.7	-30.7	-30.7	-30.6	-30.6	-30.6
12.5	-30.6	-30.6	-30.6	-30.6	-30.6	-30.6	-30.5	-30.5	-30.5	-30.5
12.6	-30.5	-30.5	-30.5	-30.5	-30.5	-30.5	-30.5	-30.5	-30.5	-30.5
12.7	-30.3	-30.3	-30.3	-30.3	-30.4	-30.4	-30.4	-30.4	-30.4	-30.3
12.8	-30.2	-30.2	-30.2	-30.2	-30.3	-30.3	-30.3	-30.2	-30.2	-30.2
12.9	-30.1	-30.1	-30.1	-30.2	-30.2	-30.2	-30.2	-30.1	-30.1	-30.1
13.0	-29.9	-29.9	-29.9	-29.9	-30.0	-30.0	-30.0	-30.0	-30.0	-30.0
13.1	-29.8	-29.8	-29.8	-29.8	-29.9	-29.9	-29.9	-29.8	-29.8	-29.8
13.2	-29.7	-29.7	-29.7	-29.7	-29.8	-29.8	-29.7	-29.7	-29.7	-29.7
13.3	-29.5	-29.5	-29.5	-29.5	-29.6	-29.6	-29.6	-29.6	-29.6	-29.6
13.4	-29.4	-29.4	-29.4	-29.4	-29.5	-29.5	-29.5	-29.5	-29.5	-29.5
13.5	-29.3	-29.3	-29.3	-29.3	-29.4	-29.4	-29.4	-29.3	-29.3	-29.3
13.6	-29.1	-29.1	-29.1	-29.1	-29.2	-29.2	-29.2	-29.2	-29.2	-29.2
13.7	-29.0	-29.0	-29.0	-29.0	-29.1	-29.1	-29.1	-29.0	-29.0	-29.0
13.8	-28.9	-28.9	-28.9	-28.9	-29.0	-29.0	-28.9	-28.9	-28.9	-28.9
13.9	-28.7	-28.7	-28.7	-28.8	-28.8	-28.8	-28.7	-28.8	-28.8	-28.8







TABLE 2) CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR CHANGES IN SALINITY (‰),  $V_0$  - Continued

$\theta$	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
28.5	-9.0	-8.9	-8.9	-9.0	-9.0	-8.9	-8.9	-8.9	-8.9	-8.9
28.6	-8.9	-8.7	-8.7	-8.8	-8.6	-8.8	-8.8	-8.8	-8.8	-8.8
28.7	-8.7	-8.6	-8.6	-8.7	-8.5	-8.7	-8.7	-8.7	-8.7	-8.7
28.8	-8.6	-8.5	-8.5	-8.6	-8.4	-8.5	-8.5	-8.5	-8.5	-8.5
28.9	-8.5	-8.3	-8.4	-8.4	-8.3	-8.4	-8.4	-8.4	-8.4	-8.4
29.0	-8.3	-8.2	-8.3	-8.3	-8.3	-8.3	-8.2	-8.2	-8.2	-8.3
29.1	-8.2	-8.1	-8.2	-8.1	-8.1	-8.1	-8.1	-8.1	-8.1	-8.1
29.2	-8.1	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-7.9	-7.9
29.3	-7.9	-7.9	-7.9	-7.9	-7.9	-7.8	-7.8	-7.8	-7.8	-7.8
29.4	-7.8	-7.6	-7.6	-7.6	-7.7	-7.7	-7.7	-7.7	-7.7	-7.7
29.5	-7.6	-7.5	-7.5	-7.5	-7.6	-7.6	-7.6	-7.5	-7.5	-7.5
29.6	-7.5	-7.3	-7.3	-7.3	-7.4	-7.4	-7.4	-7.4	-7.4	-7.4
29.7	-7.3	-7.2	-7.2	-7.2	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3
29.8	-7.2	-7.1	-7.1	-7.1	-7.2	-7.2	-7.1	-7.1	-7.1	-7.1
29.9	-7.1	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0
30.0	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.8	-6.8
30.1	-6.8	-6.7	-6.7	-6.8	-6.8	-6.7	-6.7	-6.7	-6.7	-6.7
30.2	-6.7	-6.5	-6.5	-6.6	-6.6	-6.6	-6.6	-6.6	-6.6	-6.5
30.3	-6.5	-6.4	-6.4	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5
30.4	-6.4	-6.2	-6.2	-6.4	-6.4	-6.4	-6.3	-6.3	-6.3	-6.3
30.5	-6.3	-6.1	-6.1	-6.2	-6.2	-6.2	-6.2	-6.2	-6.1	-6.1
30.6	-6.1	-6.0	-6.0	-6.1	-6.1	-6.0	-6.0	-6.0	-6.0	-6.0
30.7	-6.0	-5.8	-5.8	-5.9	-5.9	-5.9	-5.9	-5.9	-5.9	-5.9
30.8	-5.8	-5.7	-5.7	-5.8	-5.8	-5.8	-5.8	-5.7	-5.7	-5.7
30.9	-5.7	-5.6	-5.6	-5.7	-5.7	-5.6	-5.6	-5.6	-5.6	-5.6
31.0	-5.6	-5.4	-5.4	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5
31.1	-5.4	-5.3	-5.3	-5.4	-5.4	-5.4	-5.3	-5.3	-5.3	-5.3
31.2	-5.3	-5.1	-5.1	-5.2	-5.2	-5.2	-5.2	-5.2	-5.2	-5.2
31.3	-5.1	-5.0	-5.0	-5.1	-5.1	-5.1	-5.1	-5.0	-5.0	-5.0
31.4	-5.0	-4.9	-4.9	-5.0	-5.0	-4.9	-4.9	-4.9	-4.9	-4.9
31.5	-4.9	-4.7	-4.7	-4.8	-4.8	-4.8	-4.8	-4.8	-4.8	-4.7
31.6	-4.7	-4.6	-4.6	-4.7	-4.7	-4.7	-4.7	-4.7	-4.6	-4.6
31.7	-4.6	-4.4	-4.4	-4.6	-4.6	-4.6	-4.5	-4.5	-4.5	-4.5
31.8	-4.5	-4.3	-4.3	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4
31.9	-4.3	-4.2	-4.2	-4.3	-4.3	-4.3	-4.2	-4.2	-4.2	-4.2
32.0	-4.2	-4.0	-4.0	-4.1	-4.1	-4.1	-4.1	-4.1	-4.1	-4.1
32.1	-4.0	-3.9	-3.9	-4.0	-4.0	-4.0	-4.0	-3.9	-3.9	-3.9
32.2	-3.9	-3.7	-3.7	-3.9	-3.9	-3.8	-3.8	-3.8	-3.8	-3.8
32.3	-3.7	-3.6	-3.6	-3.7	-3.7	-3.7	-3.7	-3.7	-3.7	-3.7
32.4	-3.6	-3.4	-3.4	-3.6	-3.6	-3.6	-3.5	-3.5	-3.5	-3.5
32.5	-3.5	-3.3	-3.3	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4
32.6	-3.3	-3.2	-3.2	-3.3	-3.3	-3.3	-3.3	-3.2	-3.2	-3.2
32.7	-3.2	-3.1	-3.1	-3.2	-3.2	-3.1	-3.1	-3.1	-3.1	-3.1
32.8	-3.1	-2.9	-2.9	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-2.9
32.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.8	-2.8	-2.8	-2.8

TABLE 120 CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR CHANGES IN SALINITY (‰),  $V_0$  - Continued

$\theta$	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
33.0	-2.8	-2.8	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7
33.1	-2.7	-2.6	-2.6	-2.6	-2.6	-2.6	-2.6	-2.6	-2.5	-2.5
33.2	-2.5	-2.5	-2.5	-2.5	-2.5	-2.4	-2.4	-2.4	-2.4	-2.4
33.3	-2.4	-2.4	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.2
33.4	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.1	-2.1	-2.1
33.5	-2.1	-2.1	-2.1	-2.1	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
33.6	-2.0	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.8	-1.8
33.7	-1.8	-1.8	-1.8	-1.8	-1.8	-1.7	-1.7	-1.7	-1.7	-1.7
33.8	-1.7	-1.7	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.5
33.9	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.4	-1.4	-1.4
34.0	-1.4	-1.4	-1.4	-1.4	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3
34.1	-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.1	-1.1
34.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0	-1.0	-1.0
34.3	-1.0	-1.0	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9
34.4	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.7	-0.7	-0.7
34.5	-0.7	-0.7	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
34.6	-0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
34.7	-0.4	-0.4	-0.4	-0.4	-0.4	-0.3	-0.3	-0.3	-0.3	-0.3
34.8	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
34.9	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
35.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
35.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
35.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
35.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
35.4	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7
35.5	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8
35.6	0.6	0.6	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0
35.7	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1
35.8	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2
35.9	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.4
36.0	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5
36.1	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7
36.2	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8
36.3	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9
36.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1
36.5	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2
36.6	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4
36.7	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5
36.8	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6
36.9	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8
37.0	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9
37.1	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1
37.2	3.1	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.2
37.3	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
37.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.5	3.5
37.5	3.5	3.5	3.5	3.5	3.6	3.6	3.6	3.6	3.6	3.6
37.6	3.6	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
37.7	3.8	3.8	3.8	3.8	3.8	3.9	3.9	3.9	3.9	3.9
37.8	3.9	3.9	3.9	3.9	4.0	4.0	4.0	4.0	4.0	4.0
37.9	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.2	4.2	4.2





TABLE 12E CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR CHANGES IN TEMPERATURE ( $^{\circ}\text{C}$ ),  $V_t$

T	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-2.5	-11.7	-11.8	-11.8	-11.8	-11.9	-11.9	-12.0	-12.0	-12.1	-12.1
-2.4	-11.2	-11.3	-11.3	-11.4	-11.4	-11.5	-11.5	-11.6	-11.6	-11.7
-2.3	-10.7	-10.8	-10.8	-10.9	-10.9	-11.0	-11.0	-11.1	-11.1	-11.2
-2.2	-10.3	-10.3	-10.4	-10.4	-10.5	-10.5	-10.6	-10.6	-10.7	-10.7
-2.1	-9.8	-9.8	-9.9	-9.9	-10.0	-10.0	-10.1	-10.1	-10.2	-10.2
-2.0	-9.3	-9.4	-9.4	-9.5	-9.5	-9.6	-9.6	-9.7	-9.7	-9.7
-1.9	-8.8	-8.9	-8.9	-9.0	-9.0	-9.1	-9.1	-9.2	-9.2	-9.3
-1.8	-8.4	-8.4	-8.5	-8.5	-8.6	-8.6	-8.7	-8.7	-8.8	-8.8
-1.7	-7.9	-7.9	-8.0	-8.0	-8.1	-8.1	-8.2	-8.2	-8.3	-8.3
-1.6	-7.4	-7.5	-7.5	-7.6	-7.6	-7.7	-7.7	-7.8	-7.8	-7.9
-1.5	-7.0	-7.0	-7.1	-7.1	-7.2	-7.2	-7.3	-7.3	-7.4	-7.4
-1.4	-6.5	-6.5	-6.6	-6.6	-6.7	-6.7	-6.8	-6.8	-6.9	-6.9
-1.3	-6.0	-6.1	-6.1	-6.2	-6.2	-6.3	-6.3	-6.4	-6.4	-6.4
-1.2	-5.6	-5.6	-5.6	-5.7	-5.7	-5.8	-5.8	-5.9	-5.9	-6.0
-1.1	-5.1	-5.1	-5.2	-5.2	-5.3	-5.3	-5.4	-5.4	-5.5	-5.5
-1.0	-4.6	-4.7	-4.7	-4.8	-4.8	-4.8	-4.9	-4.9	-5.0	-5.0
-0.9	-4.2	-4.2	-4.2	-4.3	-4.3	-4.4	-4.4	-4.5	-4.5	-4.6
-0.8	-3.7	-3.7	-3.8	-3.8	-3.9	-3.9	-4.0	-4.0	-4.1	-4.1
-0.7	-3.2	-3.3	-3.3	-3.4	-3.4	-3.5	-3.5	-3.6	-3.6	-3.6
-0.6	-2.8	-2.8	-2.9	-2.9	-2.9	-3.0	-3.0	-3.1	-3.1	-3.2
-0.5	-2.3	-2.3	-2.4	-2.4	-2.5	-2.5	-2.6	-2.6	-2.7	-2.7
-0.4	-1.8	-1.9	-1.9	-2.0	-2.0	-2.1	-2.1	-2.2	-2.2	-2.3
-0.3	-1.4	-1.4	-1.5	-1.5	-1.6	-1.6	-1.7	-1.7	-1.8	-1.8
-0.2	-0.9	-1.0	-1.0	-1.1	-1.1	-1.2	-1.2	-1.3	-1.3	-1.3
-0.1	-0.5	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8	-0.8	-0.9
0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4
0.1	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9
0.2	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3
0.3	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.8
0.4	1.8	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.2	2.2
0.5	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.7
0.6	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.0	3.1	3.1
0.7	3.2	3.2	3.3	3.3	3.4	3.4	3.4	3.5	3.5	3.6
0.8	3.6	3.7	3.7	3.8	3.8	3.9	3.9	3.9	4.0	4.0
0.9	4.1	4.1	4.2	4.2	4.3	4.3	4.3	4.4	4.4	4.5
1.0	4.5	4.6	4.6	4.7	4.7	4.8	4.8	4.9	4.9	5.0
1.1	5.0	5.0	5.1	5.1	5.2	5.2	5.2	5.3	5.3	5.4
1.2	5.4	5.5	5.5	5.6	5.6	5.6	5.7	5.7	5.8	5.8
1.3	5.9	5.9	6.0	6.0	6.1	6.1	6.1	6.2	6.2	6.3
1.4	6.3	6.4	6.4	6.4	6.5	6.5	6.6	6.6	6.7	6.7
1.5	6.8	6.8	6.8	6.9	6.9	7.0	7.0	7.1	7.1	7.2
1.6	7.2	7.2	7.3	7.3	7.4	7.4	7.5	7.5	7.6	7.6
1.7	7.6	7.7	7.7	7.8	7.8	7.9	7.9	8.0	8.0	8.0
1.8	8.1	8.1	8.2	8.2	8.3	8.3	8.3	8.4	8.4	8.5

TABLE 12. CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR CHANGES IN TEMPERATURE ( $^{\circ}\text{C}$ ),  $V_t$  - Continued

T	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
1.9	8.5	8.6	8.6	8.7	8.7	8.7	8.8	8.8	8.9	8.9
2.0	9.0	9.0	9.1	9.1	9.1	9.2	9.2	9.3	9.3	9.4
2.1	9.4	9.4	9.5	9.5	9.6	9.6	9.7	9.7	9.8	9.8
2.2	9.8	9.9	9.9	10.0	10.0	10.1	10.1	10.2	10.2	10.2
2.3	10.3	10.3	10.4	10.4	10.5	10.5	10.5	10.6	10.6	10.7
2.4	10.7	10.8	10.8	10.8	10.9	10.9	11.0	11.0	11.1	11.1
2.5	11.1	11.2	11.2	11.3	11.3	11.4	11.4	11.5	11.5	11.5
2.6	11.6	11.6	11.7	11.7	11.8	11.8	11.8	11.9	11.9	12.0
2.7	12.0	12.1	12.1	12.1	12.2	12.2	12.3	12.3	12.4	12.4
2.8	12.4	12.5	12.5	12.6	12.6	12.7	12.7	12.8	12.8	12.8
2.9	12.9	12.9	13.0	13.0	13.1	13.1	13.1	13.2	13.2	13.3
3.0	13.3	13.4	13.4	13.4	13.5	13.5	13.6	13.6	13.7	13.7
3.1	13.7	13.8	13.8	13.9	13.9	14.0	14.0	14.0	14.1	14.1
3.2	14.2	14.2	14.3	14.3	14.3	14.4	14.4	14.5	14.5	14.6
3.3	14.6	14.6	14.7	14.7	14.8	14.8	14.9	14.9	14.9	15.0
3.4	15.0	15.1	15.1	15.1	15.2	15.2	15.3	15.3	15.4	15.4
3.5	15.4	15.5	15.5	15.6	15.6	15.7	15.7	15.8	15.8	15.8
3.6	15.9	16.0	16.0	16.0	16.1	16.1	16.2	16.2	16.3	16.3
3.7	16.3	16.3	16.4	16.4	16.5	16.5	16.5	16.6	16.6	16.7
3.8	16.7	16.8	16.8	16.8	16.9	16.9	17.0	17.1	17.1	17.1
3.9	17.1	17.2	17.2	17.3	17.3	17.4	17.4	17.5	17.5	17.5
4.0	17.6	17.6	17.6	17.7	17.7	17.8	17.8	17.9	17.9	17.9
4.1	18.0	18.0	18.1	18.1	18.1	18.2	18.2	18.3	18.3	18.4
4.2	18.4	18.4	18.5	18.5	18.6	18.6	18.7	18.7	18.7	18.8
4.3	18.8	18.9	18.9	18.9	19.0	19.0	19.1	19.1	19.2	19.2
4.4	19.2	19.3	19.3	19.4	19.4	19.4	19.5	19.5	19.6	19.6
4.5	19.7	19.7	19.7	19.8	19.8	19.9	19.9	19.9	20.0	20.0
4.6	20.1	20.1	20.2	20.2	20.2	20.3	20.3	20.4	20.4	20.4
4.7	20.5	20.5	20.6	20.6	20.6	20.7	20.7	20.8	20.8	20.9
4.8	20.9	20.9	21.0	21.0	21.1	21.1	21.1	21.2	21.2	21.3
4.9	21.3	21.3	21.4	21.4	21.5	21.5	21.6	21.6	21.7	21.7
5.0	21.7	21.8	21.8	21.8	21.9	21.9	22.0	22.0	22.1	22.1
5.1	22.1	22.2	22.2	22.3	22.3	22.3	22.4	22.4	22.5	22.5
5.2	22.5	22.6	22.6	22.7	22.7	22.8	22.8	22.8	22.9	22.9
5.3	22.9	23.0	23.0	23.1	23.1	23.2	23.2	23.3	23.3	23.3
5.4	23.4	23.4	23.4	23.5	23.5	23.6	23.6	23.7	23.7	23.7
5.5	23.8	23.8	23.8	23.9	23.9	24.0	24.0	24.1	24.1	24.1
5.6	24.2	24.2	24.3	24.3	24.3	24.4	24.4	24.5	24.5	24.5
5.7	24.6	24.6	24.7	24.7	24.7	24.8	24.8	24.9	24.9	24.9
5.8	25.0	25.0	25.1	25.1	25.1	25.2	25.2	25.3	25.3	25.3
5.9	25.4	25.4	25.5	25.5	25.5	25.6	25.6	25.7	25.7	25.7
6.0	25.8	25.8	25.9	25.9	25.9	26.0	26.0	26.1	26.1	26.1
6.1	26.2	26.2	26.3	26.3	26.3	26.4	26.4	26.5	26.5	26.5
6.2	26.6	26.6	26.7	26.7	26.8	26.8	26.8	26.9	26.9	26.9
6.3	27.0	27.0	27.1	27.1	27.1	27.2	27.2	27.3	27.3	27.3
6.4	27.4	27.4	27.5	27.5	27.5	27.6	27.6	27.7	27.7	27.7
6.5	27.8	27.8	27.9	27.9	27.9	28.0	28.0	28.1	28.1	28.1
6.6	28.2	28.2	28.3	28.3	28.3	28.4	28.4	28.5	28.5	28.5
6.7	28.6	28.6	28.7	28.7	28.7	28.8	28.8	28.9	28.9	28.9
6.8	29.0	29.0	29.0	29.1	29.1	29.2	29.2	29.2	29.3	29.3

TABLE 12E CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR CHANGES IN TEMPERATURE ( $^{\circ}\text{C}$ ),  $V_t$  - Continued

T	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
6.9	29.4	29.4	29.4	29.5	29.5	29.6	29.6	29.6	29.7	29.7
7.0	29.8	29.8	29.8	29.9	29.9	29.9	30.0	30.0	30.1	30.1
7.1	30.1	30.2	30.2	30.3	30.3	30.3	30.4	30.4	30.5	30.5
7.2	30.5	30.6	30.6	30.7	30.7	30.7	30.8	30.8	30.9	30.9
7.3	30.9	31.0	31.0	31.0	31.1	31.1	31.2	31.2	31.3	31.3
7.4	31.3	31.4	31.4	31.4	31.5	31.5	31.5	31.6	31.7	31.7
7.5	31.7	31.7	31.8	31.8	31.9	31.9	31.9	32.0	32.0	32.0
7.6	32.1	32.1	32.2	32.2	32.2	32.3	32.3	32.4	32.4	32.4
7.7	32.5	32.5	32.6	32.6	32.6	32.7	32.7	32.8	32.8	32.8
7.8	32.9	32.9	33.0	33.0	33.0	33.1	33.1	33.2	33.2	33.2
7.9	33.3	33.3	33.4	33.4	33.4	33.5	33.5	33.6	33.6	33.6
8.0	33.7	33.7	33.8	33.8	33.8	33.9	33.9	34.0	34.0	34.0
8.1	34.0	34.0	34.1	34.1	34.2	34.2	34.3	34.3	34.4	34.4
8.2	34.4	34.4	34.5	34.5	34.5	34.6	34.6	34.7	34.7	34.7
8.3	34.8	34.8	34.9	34.9	34.9	35.0	35.0	35.1	35.1	35.1
8.4	35.1	35.2	35.2	35.3	35.3	35.3	35.4	35.4	35.5	35.5
8.5	35.5	35.6	35.6	35.6	35.7	35.7	35.8	35.8	35.9	35.9
8.6	35.9	36.0	36.0	36.0	36.1	36.1	36.2	36.2	36.3	36.3
8.7	36.3	36.3	36.4	36.4	36.4	36.5	36.5	36.6	36.6	36.6
8.8	36.7	36.7	36.8	36.8	36.8	36.9	36.9	37.0	37.0	37.0
8.9	37.0	37.1	37.1	37.1	37.2	37.2	37.3	37.3	37.4	37.4
9.0	37.4	37.4	37.5	37.5	37.5	37.6	37.6	37.7	37.7	37.7
9.1	37.8	37.8	37.9	37.9	37.9	38.0	38.0	38.1	38.1	38.1
9.2	38.1	38.2	38.2	38.3	38.3	38.4	38.4	38.5	38.5	38.5
9.3	38.5	38.6	38.6	38.6	38.7	38.7	38.8	38.8	38.9	38.9
9.4	38.9	39.0	39.0	39.0	39.1	39.1	39.2	39.2	39.3	39.3
9.5	39.3	39.3	39.3	39.4	39.4	39.4	39.5	39.5	39.6	39.6
9.6	39.6	39.7	39.7	39.7	39.8	39.8	39.9	39.9	40.0	40.0
9.7	40.0	40.0	40.1	40.1	40.1	40.2	40.2	40.3	40.3	40.3
9.8	40.4	40.4	40.4	40.5	40.5	40.5	40.6	40.6	40.7	40.7
9.9	40.7	40.8	40.8	40.8	40.9	40.9	41.0	41.0	41.1	41.1
10.0	41.1	41.1	41.2	41.2	41.2	41.3	41.3	41.4	41.4	41.4
10.1	41.5	41.5	41.5	41.6	41.6	41.6	41.7	41.7	41.8	41.8
10.2	41.8	41.8	41.9	41.9	42.0	42.0	42.1	42.1	42.2	42.2
10.3	42.2	42.2	42.2	42.3	42.3	42.4	42.4	42.5	42.5	42.5
10.4	42.5	42.6	42.6	42.6	42.7	42.7	42.8	42.8	42.9	42.9
10.5	42.9	43.0	43.0	43.0	43.1	43.1	43.2	43.2	43.3	43.3
10.6	43.3	43.3	43.4	43.4	43.4	43.5	43.5	43.6	43.6	43.6
10.7	43.6	43.7	43.7	43.7	43.8	43.8	43.9	43.9	44.0	44.0
10.8	44.0	44.0	44.0	44.1	44.1	44.1	44.2	44.2	44.3	44.3
10.9	44.4	44.4	44.4	44.5	44.5	44.5	44.6	44.6	44.7	44.7
11.0	44.7	44.7	44.8	44.8	44.8	44.9	44.9	45.0	45.0	45.0
11.1	45.0	45.1	45.1	45.1	45.2	45.2	45.3	45.3	45.4	45.4
11.2	45.4	45.4	45.5	45.5	45.5	45.6	45.6	45.7	45.7	45.7
11.3	45.7	45.8	45.8	45.8	45.9	45.9	46.0	46.0	46.0	46.0

TABLE 12. CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR CHANGES IN TEMPERATURE ( $^{\circ}\text{C}$ ),  $V_t$  - Continued

T	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
11.4	46.1	46.1	46.2	46.2	46.2	46.3	46.3	46.3	46.4	46.4
11.5	46.4	46.5	46.5	46.5	46.6	46.6	46.6	46.7	46.7	46.7
11.6	46.8	46.8	46.9	46.9	46.9	47.0	47.0	47.0	47.1	47.1
11.7	47.1	47.2	47.2	47.2	47.3	47.3	47.4	47.4	47.4	47.5
11.8	47.5	47.5	47.5	47.6	47.6	47.7	47.7	47.7	47.8	47.8
11.9	47.8	47.9	47.9	47.9	48.0	48.0	48.1	48.1	48.1	48.1
12.0	48.2	48.2	48.2	48.3	48.3	48.3	48.4	48.4	48.4	48.5
12.1	48.5	48.5	48.6	48.6	48.6	48.7	48.7	48.8	48.8	48.8
12.2	48.9	48.9	48.9	49.0	49.0	49.1	49.1	49.1	49.2	49.2
12.3	49.2	49.2	49.3	49.3	49.3	49.4	49.4	49.4	49.5	49.5
12.4	49.5	49.6	49.6	49.6	49.7	49.7	49.7	49.8	49.8	49.8
12.5	49.9	49.9	49.9	50.0	50.0	50.1	50.1	50.1	50.2	50.2
12.6	50.2	50.3	50.3	50.3	50.4	50.4	50.4	50.5	50.5	50.5
12.7	50.6	50.6	50.6	50.7	50.7	50.7	50.8	50.8	50.8	50.9
12.8	50.9	50.9	51.0	51.0	51.0	51.1	51.1	51.1	51.2	51.2
12.9	51.2	51.3	51.3	51.3	51.4	51.4	51.4	51.5	51.5	51.5
13.0	51.6	51.6	51.7	51.7	51.7	51.7	51.8	51.8	51.8	51.9
13.1	51.9	51.9	52.0	52.0	52.0	52.1	52.1	52.1	52.2	52.2
13.2	52.2	52.2	52.3	52.3	52.3	52.4	52.4	52.5	52.5	52.5
13.3	52.6	52.6	52.6	52.7	52.7	52.7	52.8	52.8	52.8	52.9
13.4	52.9	52.9	53.0	53.0	53.0	53.1	53.1	53.1	53.2	53.2
13.5	53.2	53.3	53.3	53.3	53.4	53.4	53.5	53.5	53.5	53.5
13.6	53.6	53.6	53.6	53.7	53.7	53.7	53.8	53.8	53.8	53.9
13.7	53.9	53.9	54.0	54.0	54.0	54.1	54.1	54.1	54.2	54.2
13.8	54.2	54.3	54.3	54.3	54.4	54.4	54.4	54.5	54.5	54.5
13.9	54.5	54.5	54.6	54.6	54.6	54.7	54.7	54.7	54.8	54.8
14.0	54.9	54.9	54.9	55.0	55.0	55.0	55.1	55.1	55.1	55.2
14.1	55.2	55.2	55.3	55.3	55.3	55.4	55.4	55.4	55.5	55.5
14.2	55.5	55.6	55.6	55.6	55.7	55.7	55.7	55.7	55.8	55.8
14.3	55.8	55.9	55.9	55.9	56.0	56.0	56.0	56.1	56.1	56.1
14.4	56.2	56.2	56.2	56.3	56.3	56.3	56.4	56.4	56.4	56.5
14.5	56.5	56.5	56.6	56.6	56.6	56.7	56.7	56.7	56.8	56.8
14.6	56.8	56.8	56.9	56.9	56.9	57.0	57.0	57.1	57.1	57.1
14.7	57.1	57.2	57.2	57.2	57.3	57.3	57.3	57.4	57.4	57.4
14.8	57.5	57.5	57.5	57.5	57.6	57.6	57.6	57.7	57.7	57.7
14.9	57.8	57.8	57.8	57.9	57.9	57.9	58.0	58.0	58.0	58.1
15.0	58.1	58.1	58.2	58.2	58.2	58.3	58.3	58.3	58.4	58.4
15.1	58.4	58.4	58.5	58.5	58.5	58.6	58.6	58.6	58.7	58.7
15.2	58.7	58.7	58.8	58.8	58.8	58.9	58.9	58.9	59.0	59.0
15.3	59.0	59.1	59.1	59.1	59.2	59.2	59.2	59.3	59.3	59.3
15.4	59.3	59.4	59.4	59.4	59.5	59.5	59.5	59.6	59.6	59.6
15.5	59.7	59.7	59.7	59.8	59.8	59.8	59.8	59.9	59.9	59.9
15.6	60.0	60.0	60.0	60.1	60.1	60.1	60.2	60.2	60.2	60.3
15.7	60.3	60.3	60.3	60.4	60.4	60.4	60.5	60.5	60.5	60.6
15.8	60.6	60.6	60.7	60.7	60.7	60.7	60.8	60.8	60.8	60.9
15.9	60.9	60.9	61.0	61.0	61.0	61.1	61.1	61.1	61.1	61.2

TABLE 12E CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec). FOR CHANGES IN TEMPERATURE ( $^{\circ}\text{C}$ ).  $V_t - \text{Continued}$

T	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
16.0	61.2	61.2	61.3	61.3	61.3	61.4	61.4	61.4	61.5	61.5
16.1	61.5	61.5	61.6	61.6	61.6	61.7	61.7	61.7	61.8	61.8
16.2	61.8	61.9	61.9	62.0	62.0	62.0	62.0	62.0	62.1	62.1
16.3	62.1	62.2	62.2	62.2	62.3	62.3	62.3	62.3	62.4	62.4
16.4	62.4	62.5	62.5	62.5	62.6	62.6	62.6	62.6	62.7	62.7
16.5	62.7	62.8	62.8	62.8	62.9	62.9	62.9	62.9	63.0	63.0
16.6	63.0	63.1	63.1	63.1	63.2	63.2	63.2	63.3	63.3	63.3
16.7	63.2	63.3	63.3	63.4	63.4	63.5	63.5	63.6	63.6	63.6
16.8	63.6	63.7	63.7	63.7	63.8	63.8	63.8	63.9	63.9	63.9
16.9	63.9	64.0	64.0	64.0	64.1	64.1	64.2	64.2	64.2	64.2
17.0	64.2	64.3	64.3	64.3	64.4	64.4	64.4	64.5	64.5	64.5
17.1	64.5	64.6	64.6	64.6	64.7	64.7	64.7	64.8	64.8	64.8
17.2	64.8	64.9	64.9	64.9	65.0	65.0	65.0	65.1	65.1	65.1
17.3	65.1	65.2	65.2	65.2	65.3	65.3	65.3	65.4	65.4	65.4
17.4	65.4	65.5	65.5	65.5	65.6	65.6	65.6	65.7	65.7	65.7
17.5	65.7	65.8	65.8	65.8	65.8	65.9	65.9	66.0	66.0	66.0
17.6	66.0	66.1	66.1	66.1	66.2	66.2	66.2	66.3	66.3	66.3
17.7	66.3	66.3	66.4	66.4	66.4	66.5	66.5	66.5	66.5	66.5
17.8	66.6	66.6	66.7	66.7	66.7	66.8	66.8	66.8	66.8	66.8
17.9	66.9	66.9	67.0	67.0	67.0	67.1	67.1	67.1	67.2	67.2
18.0	67.2	67.2	67.2	67.3	67.3	67.3	67.4	67.4	67.4	67.4
18.1	67.5	67.5	67.5	67.6	67.6	67.6	67.7	67.7	67.7	67.7
18.2	67.8	67.8	67.8	67.9	67.9	67.9	68.0	68.0	68.0	68.0
18.3	68.1	68.1	68.1	68.1	68.2	68.2	68.2	68.3	68.3	68.3
18.4	68.3	68.4	68.4	68.4	68.5	68.5	68.5	68.5	68.6	68.6
18.5	68.6	68.7	68.7	68.7	68.8	68.8	68.8	68.9	68.9	68.9
18.6	68.9	68.9	69.0	69.0	69.0	69.1	69.1	69.1	69.2	69.2
18.7	69.2	69.2	69.3	69.3	69.3	69.3	69.4	69.4	69.5	69.5
18.8	69.5	69.5	69.5	69.6	69.6	69.6	69.7	69.7	69.7	69.7
18.9	69.8	69.8	69.8	69.9	69.9	69.9	70.0	70.0	70.0	70.0
19.0	70.0	70.1	70.1	70.1	70.2	70.2	70.2	70.3	70.3	70.3
19.1	70.3	70.4	70.4	70.4	70.4	70.5	70.5	70.6	70.6	70.6
19.2	70.6	70.6	70.7	70.7	70.7	70.7	70.8	70.8	70.8	70.8
19.3	70.9	70.9	70.9	71.0	71.0	71.0	71.1	71.1	71.1	71.1
19.4	71.2	71.2	71.2	71.3	71.3	71.3	71.4	71.4	71.4	71.4
19.5	71.4	71.5	71.5	71.5	71.6	71.6	71.6	71.7	71.7	71.7
19.6	71.7	71.8	71.8	71.8	71.8	71.9	71.9	71.9	72.0	72.0
19.7	72.0	72.0	72.1	72.1	72.1	72.1	72.2	72.2	72.2	72.2
19.8	72.3	72.3	72.3	72.4	72.4	72.4	72.5	72.5	72.5	72.5
19.9	72.5	72.6	72.6	72.6	72.7	72.7	72.7	72.8	72.8	72.8
20.0	72.8	72.9	72.9	72.9	73.0	73.0	73.0	73.1	73.1	73.1
20.1	73.1	73.1	73.2	73.2	73.2	73.2	73.3	73.3	73.3	73.3
20.2	73.4	73.4	73.4	73.4	73.5	73.5	73.5	73.6	73.6	73.6
20.3	73.6	73.7	73.7	73.7	73.7	73.8	73.8	73.9	73.9	73.9
20.4	73.9	73.9	74.0	74.0	74.0	74.0	74.1	74.1	74.1	74.1
20.5	74.2	74.2	74.2	74.3	74.3	74.3	74.3	74.4	74.4	74.4

TABLE 12E CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR CHANGES IN TEMPERATURE ( $^{\circ}\text{C}$ ),  $V_t$  - Continued

T	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
20.6	74.4	74.5	74.5	74.5	74.6	74.6	74.6	74.6	74.7	74.7
20.7	74.7	74.7	74.8	74.8	74.8	74.9	74.9	74.9	74.9	75.0
20.8	75.0	75.0	75.0	75.1	75.1	75.1	75.1	75.2	75.2	75.2
20.9	75.3	75.3	75.3	75.3	75.4	75.4	75.4	75.4	75.5	75.5
21.0	75.5	75.5	75.5	75.5	75.6	75.6	75.7	75.7	75.7	75.8
21.1	75.8	75.8	75.8	75.9	75.9	75.9	76.0	76.0	76.0	76.0
21.2	76.0	76.1	76.1	76.1	76.2	76.2	76.2	76.2	76.3	76.3
21.3	76.3	76.3	76.4	76.4	76.4	76.4	76.5	76.5	76.5	76.5
21.4	76.6	76.6	76.6	76.6	76.7	76.7	76.7	76.8	76.8	76.8
21.5	76.8	76.9	76.9	76.9	77.0	77.0	77.0	77.0	77.0	77.1
21.6	77.1	77.1	77.1	77.2	77.2	77.2	77.3	77.3	77.3	77.3
21.7	77.4	77.4	77.4	77.4	77.5	77.5	77.5	77.5	77.6	77.6
21.8	77.6	77.6	77.7	77.7	77.7	77.7	77.8	77.8	77.8	77.8
21.9	77.9	77.9	77.9	77.9	78.0	78.0	78.0	78.1	78.1	78.1
22.0	78.1	78.2	78.2	78.2	78.2	78.3	78.3	78.3	78.3	78.4
22.1	78.4	78.4	78.4	78.5	78.5	78.5	78.5	78.6	78.6	78.6
22.2	78.6	78.7	78.7	78.7	78.7	78.8	78.8	78.8	78.8	78.9
22.3	78.9	78.9	78.9	79.0	79.0	79.0	79.1	79.1	79.1	79.1
22.4	79.2	79.2	79.2	79.2	79.3	79.3	79.3	79.3	79.4	79.4
22.5	79.4	79.4	79.5	79.5	79.5	79.5	79.6	79.6	79.6	79.6
22.6	79.7	79.7	79.7	79.7	79.8	79.8	79.8	79.9	79.9	79.9
22.7	79.9	79.9	80.0	80.0	80.0	80.1	80.1	80.1	80.1	80.1
22.8	80.2	80.2	80.2	80.2	80.3	80.3	80.3	80.3	80.4	80.4
22.9	80.4	80.4	80.5	80.5	80.5	80.5	80.6	80.6	80.6	80.6
23.0	80.7	80.7	80.7	80.7	80.8	80.8	80.8	80.8	80.9	80.9
23.1	80.9	80.9	81.0	81.0	81.0	81.0	81.1	81.1	81.1	81.1
23.2	81.2	81.2	81.2	81.2	81.3	81.3	81.3	81.3	81.4	81.4
23.3	81.4	81.4	81.5	81.5	81.5	81.5	81.6	81.6	81.6	81.6
23.4	81.7	81.7	81.7	81.7	81.8	81.8	81.8	81.8	81.9	81.9
23.5	81.9	81.9	82.0	82.0	82.0	82.0	82.1	82.1	82.1	82.1
23.6	82.2	82.2	82.2	82.2	82.3	82.3	82.3	82.3	82.4	82.4
23.7	82.4	82.4	82.4	82.5	82.5	82.5	82.5	82.6	82.6	82.6
23.8	82.6	82.7	82.7	82.7	82.7	82.8	82.8	82.8	82.9	82.9
23.9	82.9	82.9	82.9	83.0	83.0	83.0	83.1	83.1	83.1	83.1
24.0	83.1	83.2	83.2	83.2	83.2	83.2	83.3	83.3	83.3	83.3
24.1	83.4	83.4	83.4	83.4	83.5	83.5	83.5	83.5	83.6	83.6
24.2	83.6	83.6	83.6	83.7	83.7	83.7	83.8	83.8	83.8	83.8
24.3	83.9	83.9	83.9	83.9	84.0	84.0	84.0	84.0	84.1	84.1
24.4	84.1	84.1	84.1	84.2	84.2	84.2	84.2	84.3	84.3	84.3
24.5	84.3	84.4	84.4	84.4	84.4	84.5	84.5	84.5	84.5	84.5
24.6	84.6	84.6	84.6	84.6	84.7	84.7	84.7	84.8	84.8	84.8
24.7	84.8	84.8	84.9	84.9	84.9	84.9	85.0	85.0	85.0	85.0
24.8	85.0	85.1	85.1	85.1	85.1	85.2	85.2	85.2	85.3	85.3
24.9	85.3	85.3	85.3	85.4	85.4	85.4	85.4	85.5	85.5	85.5
25.0	85.5	85.5	85.6	85.6	85.6	85.6	85.7	85.7	85.7	85.7
25.1	85.8	85.8	85.8	85.8	85.8	85.9	85.9	85.9	85.9	86.0
25.2	86.0	86.0	86.0	86.1	86.1	86.1	86.1	86.2	86.2	86.2
25.3	86.2	86.2	86.3	86.3	86.3	86.3	86.4	86.4	86.4	86.4
25.4	86.5	86.5	86.5	86.5	86.5	86.6	86.6	86.6	86.6	86.7
25.5	86.7	86.7	86.7	86.8	86.8	86.8	86.8	86.9	86.9	86.9

TABLE 12E CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR CHANGES IN TEMPERATURE ( $^{\circ}\text{C}$ ),  $V_t$  - Continued

T	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
25.6	86.9	87.0	87.1	87.2	87.3	87.4	87.5	87.6	87.7	87.8
25.7	87.2	87.3	87.4	87.5	87.6	87.7	87.8	87.9	88.0	88.1
25.8	87.4	87.5	87.6	87.7	87.8	87.9	88.0	88.1	88.2	88.3
25.9	87.6	87.7	87.8	87.9	88.0	88.1	88.2	88.3	88.4	88.5
26.0	87.8	87.9	88.0	88.1	88.2	88.3	88.4	88.5	88.6	88.7
26.1	88.1	88.2	88.3	88.4	88.5	88.6	88.7	88.8	88.9	89.0
26.2	88.3	88.4	88.5	88.6	88.7	88.8	88.9	89.0	89.1	89.2
26.3	88.5	88.6	88.7	88.8	88.9	89.0	89.1	89.2	89.3	89.4
26.4	88.8	88.9	89.0	89.1	89.2	89.3	89.4	89.5	89.6	89.7
26.5	89.0	89.1	89.2	89.3	89.4	89.5	89.6	89.7	89.8	89.9
26.6	89.2	89.3	89.4	89.5	89.6	89.7	89.8	89.9	90.0	90.1
26.7	89.4	89.5	89.6	89.7	89.8	89.9	90.0	90.1	90.2	90.3
26.8	89.7	89.8	89.9	90.0	90.1	90.2	90.3	90.4	90.5	90.6
26.9	89.9	90.0	90.1	90.2	90.3	90.4	90.5	90.6	90.7	90.8
27.0	90.1	90.2	90.3	90.4	90.5	90.6	90.7	90.8	90.9	91.0
27.1	90.3	90.4	90.5	90.6	90.7	90.8	90.9	91.0	91.1	91.2
27.2	90.5	90.6	90.7	90.8	90.9	91.0	91.1	91.2	91.3	91.4
27.3	90.8	90.9	91.0	91.1	91.2	91.3	91.4	91.5	91.6	91.7
27.4	91.0	91.1	91.2	91.3	91.4	91.5	91.6	91.7	91.8	91.9
27.5	91.2	91.3	91.4	91.5	91.6	91.7	91.8	91.9	92.0	92.1
27.6	91.4	91.5	91.6	91.7	91.8	91.9	92.0	92.1	92.2	92.3
27.7	91.6	91.7	91.8	91.9	92.0	92.1	92.2	92.3	92.4	92.5
27.8	91.9	92.0	92.1	92.2	92.3	92.4	92.5	92.6	92.7	92.8
27.9	92.1	92.2	92.3	92.4	92.5	92.6	92.7	92.8	92.9	93.0
28.0	92.3	92.4	92.5	92.6	92.7	92.8	92.9	93.0	93.1	93.2
28.1	92.5	92.6	92.7	92.8	92.9	93.0	93.1	93.2	93.3	93.4
28.2	92.7	92.8	92.9	93.0	93.1	93.2	93.3	93.4	93.5	93.6
28.3	92.9	93.0	93.1	93.2	93.3	93.4	93.5	93.6	93.7	93.8
28.4	93.2	93.3	93.4	93.5	93.6	93.7	93.8	93.9	94.0	94.1
28.5	93.4	93.5	93.6	93.7	93.8	93.9	94.0	94.1	94.2	94.3
28.6	93.6	93.7	93.8	93.9	94.0	94.1	94.2	94.3	94.4	94.5
28.7	93.8	93.9	94.0	94.1	94.2	94.3	94.4	94.5	94.6	94.7
28.8	94.0	94.1	94.2	94.3	94.4	94.5	94.6	94.7	94.8	94.9
28.9	94.2	94.3	94.4	94.5	94.6	94.7	94.8	94.9	95.0	95.1
29.0	94.4	94.5	94.6	94.7	94.8	94.9	95.0	95.1	95.2	95.3
29.1	94.6	94.7	94.8	94.9	95.0	95.1	95.2	95.3	95.4	95.5
29.2	94.9	95.0	95.1	95.2	95.3	95.4	95.5	95.6	95.7	95.8
29.3	95.1	95.2	95.3	95.4	95.5	95.6	95.7	95.8	95.9	96.0
29.4	95.3	95.4	95.5	95.6	95.7	95.8	95.9	96.0	96.1	96.2
29.5	95.5	95.6	95.7	95.8	95.9	96.0	96.1	96.2	96.3	96.4
29.6	95.7	95.8	95.9	96.0	96.1	96.2	96.3	96.4	96.5	96.6
29.7	95.9	96.0	96.1	96.2	96.3	96.4	96.5	96.6	96.7	96.8
29.8	96.1	96.2	96.3	96.4	96.5	96.6	96.7	96.8	96.9	97.0
29.9	96.3	96.4	96.5	96.6	96.7	96.8	96.9	97.0	97.1	97.2
30.0	96.5	96.6	96.7	96.8	96.9	97.0	97.1	97.2	97.3	97.4



TABLE 12E CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec.), FOR CHANGES IN TEMPERATURE ( $^{\circ}\text{C}$ ),  $V_t$  - Continued

T	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
30.1	96.7	96.7	96.8	96.8	96.8	96.8	96.8	96.9	96.9	96.9
30.2	96.9	97.0	97.0	97.0	97.0	97.0	97.1	97.1	97.1	97.1
30.3	97.1	97.2	97.2	97.2	97.2	97.2	97.3	97.3	97.3	97.3
30.4	97.3	97.4	97.4	97.4	97.4	97.4	97.5	97.5	97.5	97.5
30.5	97.5	97.6	97.6	97.6	97.6	97.6	97.7	97.7	97.7	97.7
30.6	97.7	97.8	97.8	97.8	97.8	97.8	97.9	97.9	97.9	97.9
30.7	97.9	98.0	98.0	98.0	98.0	98.1	98.1	98.1	98.1	98.1
30.8	98.2	98.2	98.2	98.2	98.2	98.3	98.3	98.3	98.3	98.3
30.9	98.4	98.4	98.4	98.4	98.4	98.5	98.5	98.5	98.5	98.5
31.0	98.6	98.6	98.6	98.6	98.6	98.7	98.7	98.7	98.7	98.7
31.1	98.8	98.8	98.8	98.8	98.8	98.9	98.9	98.9	98.9	98.9
31.2	99.0	99.0	99.0	99.0	99.0	99.1	99.1	99.1	99.1	99.1
31.3	99.2	99.2	99.2	99.2	99.2	99.3	99.3	99.3	99.3	99.3
31.4	99.4	99.4	99.4	99.4	99.4	99.5	99.5	99.5	99.5	99.5
31.5	99.6	99.6	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7
31.6	99.8	99.8	99.8	99.8	99.8	99.9	99.9	99.9	99.9	99.9
31.7	100.0	100.0	100.0	100.0	100.0	100.1	100.1	100.1	100.1	100.1
31.8	100.2	100.2	100.2	100.2	100.2	100.3	100.3	100.3	100.3	100.3
31.9	100.3	100.4	100.4	100.4	100.4	100.5	100.5	100.5	100.5	100.5
32.0	100.5	100.6	100.6	100.6	100.6	100.7	100.7	100.7	100.7	100.7
32.1	100.7	100.8	100.8	100.8	100.8	100.9	100.9	100.9	100.9	100.9
32.2	100.9	101.0	101.0	101.0	101.0	101.1	101.1	101.1	101.1	101.1
32.3	101.1	101.2	101.2	101.2	101.2	101.3	101.3	101.3	101.3	101.3
32.4	101.3	101.4	101.4	101.4	101.4	101.5	101.5	101.5	101.5	101.5
32.5	101.5	101.6	101.6	101.6	101.6	101.7	101.7	101.7	101.7	101.7
32.6	101.7	101.8	101.8	101.8	101.8	101.9	101.9	101.9	101.9	101.9
32.7	101.9	102.0	102.0	102.0	102.0	102.1	102.1	102.1	102.1	102.1
32.8	102.1	102.1	102.1	102.1	102.2	102.2	102.2	102.2	102.2	102.2
32.9	102.3	102.3	102.3	102.3	102.4	102.4	102.4	102.4	102.4	102.4
33.0	102.5	102.5	102.5	102.5	102.6	102.6	102.6	102.6	102.6	102.6
33.1	102.7	102.7	102.7	102.7	102.8	102.8	102.8	102.8	102.8	102.8
33.2	102.9	102.9	102.9	102.9	103.0	103.0	103.0	103.0	103.0	103.0
33.3	103.1	103.1	103.1	103.1	103.2	103.2	103.2	103.2	103.2	103.2
33.4	103.3	103.3	103.3	103.3	103.4	103.4	103.4	103.4	103.4	103.4
33.5	103.5	103.5	103.5	103.5	103.5	103.5	103.6	103.6	103.6	103.6
33.6	103.6	103.7	103.7	103.7	103.7	103.8	103.8	103.8	103.8	103.8
33.7	103.8	103.9	103.9	103.9	103.9	104.0	104.0	104.0	104.0	104.0
33.8	104.0	104.0	104.1	104.1	104.1	104.1	104.1	104.2	104.2	104.2
33.9	104.2	104.2	104.3	104.3	104.3	104.3	104.3	104.3	104.4	104.4
34.0	104.4	104.4	104.5	104.5	104.5	104.5	104.5	104.5	104.6	104.6
34.1	104.6	104.6	104.6	104.7	104.7	104.7	104.7	104.7	104.8	104.8
34.2	104.8	104.8	104.8	104.8	104.9	104.9	104.9	104.9	104.9	105.0
34.3	105.0	105.0	105.0	105.0	105.1	105.1	105.1	105.1	105.1	105.1
34.4	105.2	105.2	105.2	105.2	105.2	105.3	105.3	105.3	105.3	105.3
34.5	105.4	105.4	105.4	105.4	105.4	105.5	105.5	105.5	105.5	105.5
34.6	105.5	105.6	105.6	105.6	105.6	105.6	105.7	105.7	105.7	105.7
34.7	105.7	105.7	105.8	105.8	105.8	105.8	105.9	105.9	105.9	105.9
34.8	105.9	105.9	106.0	106.0	106.0	106.0	106.0	106.0	106.1	106.1
34.9	106.1	106.1	106.1	106.2	106.2	106.2	106.2	106.2	106.3	106.3

TABLE 12f CORRECTION TO SOUND SPEED, V<sub>s</sub> (1449.1 m/sec.), FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE, V<sub>stp</sub>

S <sub>t</sub> °C	O METERS (1.03 kg/cm <sup>2</sup> )																				
	-4	-2	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
0.0	-1.6	-0.6	-0.0	0.7	1.6	2.5	3.1	3.9	4.7	5.5	6.3	7.1	7.9	8.6	9.4	10.2	11.0	11.8	12.6	13.4	14.1
0.5	-1.6	-0.6	-0.0	0.8	1.5	2.3	3.1	3.9	4.6	5.4	6.2	7.0	7.7	8.5	9.3	10.1	10.8	11.6	12.4	13.2	13.9
1.0	-1.5	-0.8	-0.0	0.8	1.5	2.3	3.0	3.8	4.6	5.3	6.1	6.9	7.6	8.4	9.2	9.9	10.7	11.4	12.2	13.0	13.7
1.5	-1.5	-0.8	-0.0	0.7	1.5	2.2	3.0	3.7	4.4	5.2	5.9	6.7	7.5	8.3	9.0	9.8	10.5	11.3	12.0	12.8	13.5
2.0	-1.5	-0.7	-0.0	0.7	1.5	2.2	2.9	3.6	4.4	5.1	5.8	6.6	7.3	8.0	8.8	9.5	10.2	10.9	11.7	12.4	13.1
2.5	-1.4	-0.7	-0.0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.5	9.2	9.9	10.6	11.3	12.0	12.7
3.0	-1.4	-0.7	-0.0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.3	9.0	9.7	10.4	11.1	11.8	12.5
3.5	-1.4	-0.7	-0.0	0.7	1.4	2.1	2.7	3.4	4.1	4.8	5.5	6.2	6.8	7.5	8.2	8.9	9.6	10.3	11.0	11.6	12.3
4.0	-1.4	-0.7	-0.0	0.7	1.3	2.0	2.7	3.4	4.1	4.7	5.4	6.1	6.7	7.3	7.9	8.6	9.3	9.9	10.6	11.3	11.9
4.5	-1.3	-0.7	-0.0	0.7	1.3	2.0	2.6	3.3	4.0	4.6	5.3	6.0	6.6	7.3	7.9	8.6	9.3	9.9	10.6	11.3	11.9
5.0	-1.3	-0.7	-0.0	0.6	1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.2	7.8	8.5	9.1	9.8	10.4	11.1	11.7
5.5	-1.3	-0.6	-0.0	0.6	1.3	1.9	2.6	3.2	3.8	4.5	5.1	5.8	6.4	7.0	7.7	8.3	9.0	9.6	10.2	10.9	11.5
6.0	-1.3	-0.6	-0.0	0.6	1.3	1.9	2.5	3.1	3.8	4.4	5.0	5.7	6.3	6.9	7.5	8.2	8.8	9.4	10.1	10.7	11.3
6.5	-1.2	-0.6	-0.0	0.6	1.2	1.9	2.5	3.1	3.7	4.3	4.9	5.6	6.2	6.8	7.4	8.0	8.6	9.3	9.9	10.5	11.1
7.0	-1.2	-0.6	-0.0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.5	6.1	6.7	7.3	7.9	8.5	9.1	9.7	10.3	10.9
7.5	-1.2	-0.6	-0.0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.5	7.1	7.7	8.3	8.9	9.5	10.1	10.7
8.0	-1.2	-0.6	-0.0	0.6	1.2	1.8	2.3	2.9	3.5	4.1	4.7	5.3	5.9	6.5	7.1	7.6	8.2	8.8	9.3	9.9	10.5
8.5	-1.2	-0.6	-0.0	0.6	1.1	1.7	2.3	2.9	3.4	4.0	4.6	5.2	5.7	6.3	6.9	7.4	8.0	8.6	9.2	9.7	10.3
9.0	-1.1	-0.6	-0.0	0.6	1.1	1.7	2.2	2.8	3.4	3.9	4.5	5.1	5.6	6.2	6.7	7.3	7.9	8.4	9.0	9.5	10.1
9.5	-1.1	-0.6	-0.0	0.5	1.1	1.6	2.2	2.7	3.3	3.8	4.3	4.8	5.4	5.9	6.5	7.0	7.5	8.1	8.6	9.2	9.7
10.0	-1.1	-0.5	-0.0	0.5	1.1	1.6	2.1	2.6	3.2	3.7	4.2	4.7	5.3	5.8	6.4	6.9	7.4	7.9	8.4	8.9	9.5
10.5	-1.1	-0.5	-0.0	0.5	1.1	1.6	2.1	2.6	3.2	3.7	4.2	4.7	5.2	5.7	6.2	6.7	7.2	7.7	8.2	8.7	9.2
11.0	-1.0	-0.5	-0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1
11.5	-1.0	-0.5	-0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
12.0	-1.0	-0.5	-0.0	0.5	1.0	1.5	2.0	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9
12.5	-1.0	-0.5	-0.0	0.5	1.0	1.5	2.0	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9
13.0	-0.9	-0.5	-0.0	0.5	1.0	1.5	2.0	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9
13.5	-0.9	-0.5	-0.0	0.5	1.0	1.4	1.9	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9
14.0	-0.9	-0.5	-0.0	0.5	0.9	1.4	1.8	2.3	2.8	3.2	3.7	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6
14.5	-0.9	-0.5	-0.0	0.5	0.9	1.4	1.8	2.3	2.8	3.2	3.7	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6
15.0	-0.9	-0.5	-0.0	0.4	0.9	1.3	1.8	2.2	2.7	3.1	3.6	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
15.5	-0.9	-0.5	-0.0	0.4	0.9	1.3	1.7	2.1	2.6	3.0	3.5	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4
16.0	-0.9	-0.5	-0.0	0.4	0.8	1.2	1.7	2.1	2.6	3.0	3.5	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4
16.5	-0.8	-0.4	-0.0	0.4	0.8	1.2	1.6	2.0	2.5	2.9	3.3	3.7	4.2	4.7	5.1	5.6	6.1	6.6	7.1	7.6	8.1
17.0	-0.8	-0.4	-0.0	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
17.5	-0.8	-0.4	-0.0	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9
18.0	-0.8	-0.4	-0.0	0.4	0.7	1.1	1.5	1.9	2.3	2.7	3.1	3.5	3.9	4.3	4.7	5.1	5.5	5.9	6.3	6.7	7.1
18.5	-0.7	-0.4	-0.0	0.4	0.7	1.1	1.5	1.9	2.3	2.6	3.0	3.3	3.7	4.1	4.5	5.0	5.4	5.8	6.2	6.6	7.0
19.0	-0.7	-0.4	-0.0	0.4	0.7	1.1	1.4	1.8	2.2	2.5	2.9	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.0	6.4	6.8
19.5	-0.7	-0.3	-0.0	0.3	0.7	1.0	1.4	1.7	2.0	2.4	2.8	3.1	3.5	3.8	4.2	4.6	5.0	5.4	5.8	6.2	6.6
20.0	-0.7	-0.3	-0.0	0.3	0.7	1.0	1.3	1.6	2.0	2.3	2.6	2.9	3.2	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2
20.5	-0.6	-0.3	-0.0	0.3	0.6	0.9	1.3	1.6	2.0	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.5	4.9	5.3	5.7	6.1
21.0	-0.6	-0.3	-0.0	0.3	0.6	0.9	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.4	4.7	5.1	5.5	5.9
21.5	-0.6	-0.3	-0.0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.6	4.9	5.3	5.7



TABLE 177 CORRECTION TO SOUND SPEED,  $V_s$  (1449.1 m/sec), FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE,  $V_{stp}$  - Continued

$T$ , °C	500 METERS (52.47 kg/cm <sup>2</sup> )																					
	-4	-3	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38
0.0	-1.7	-0.9	-0.1	0.6	1.4	2.2	3.0	3.7	4.5	5.3	6.1	6.9	7.7	8.5	9.3	10.1	10.9	11.8	12.6	13.4	14.2	15.0
0.5	-1.6	-0.9	-0.1	0.6	1.4	2.2	2.9	3.7	4.5	5.2	6.0	6.8	7.6	8.4	9.2	10.0	10.8	11.6	12.4	13.2	14.0	14.8
1.0	-1.6	-0.9	-0.1	0.6	1.4	2.1	2.9	3.6	4.4	5.2	5.9	6.7	7.5	8.3	9.0	9.8	10.6	11.4	12.2	13.0	13.8	14.6
1.5	-1.6	-0.8	-0.1	0.6	1.3	2.1	2.8	3.5	4.3	5.0	5.8	6.6	7.4	8.1	8.9	9.7	10.5	11.3	12.0	12.8	13.6	14.4
2.0	-1.5	-0.8	-0.1	0.6	1.3	2.0	2.7	3.5	4.2	5.0	5.7	6.5	7.3	8.0	8.8	9.5	10.3	11.1	11.9	12.7	13.4	14.2
2.5	-1.5	-0.8	-0.1	0.6	1.3	2.0	2.7	3.4	4.1	4.9	5.6	6.3	7.0	7.8	8.5	9.3	10.0	10.8	11.5	12.3	13.0	13.8
3.0	-1.5	-0.8	-0.1	0.6	1.3	2.0	2.7	3.4	4.1	4.8	5.5	6.2	6.9	7.6	8.3	9.1	9.8	10.6	11.3	12.1	12.8	13.6
3.5	-1.5	-0.8	-0.1	0.6	1.2	1.9	2.6	3.3	4.0	4.7	5.4	6.1	6.8	7.5	8.2	9.0	9.7	10.4	11.2	11.9	12.6	13.4
4.0	-1.5	-0.8	-0.1	0.6	1.2	1.9	2.6	3.3	3.9	4.6	5.3	6.0	6.7	7.4	8.1	8.8	9.5	10.3	11.0	11.7	12.4	13.2
4.5	-1.5	-0.8	-0.1	0.5	1.2	1.9	2.5	3.2	3.9	4.5	5.2	5.9	6.6	7.3	8.0	8.7	9.4	10.1	10.8	11.5	12.2	13.0
5.0	-1.5	-0.7	-0.1	0.5	1.2	1.8	2.5	3.1	3.8	4.5	5.1	5.8	6.5	7.2	7.9	8.5	9.2	9.9	10.6	11.3	12.0	12.8
5.5	-1.5	-0.7	-0.1	0.5	1.2	1.8	2.4	3.1	3.7	4.4	5.0	5.7	6.4	7.0	7.7	8.4	9.1	9.8	10.4	11.1	11.8	12.6
6.0	-1.5	-0.7	-0.1	0.5	1.1	1.8	2.4	3.0	3.7	4.3	5.0	5.6	6.3	6.9	7.6	8.2	8.9	9.6	10.3	11.0	11.6	12.4
6.5	-1.5	-0.7	-0.1	0.5	1.1	1.7	2.4	3.0	3.6	4.2	4.9	5.5	6.2	6.8	7.4	8.1	8.8	9.4	10.1	10.8	11.4	12.2
7.0	-1.5	-0.7	-0.1	0.5	1.1	1.7	2.3	2.9	3.5	4.1	4.8	5.4	6.1	6.7	7.3	8.0	8.6	9.3	9.9	10.6	11.2	12.0
7.5	-1.5	-0.7	-0.1	0.5	1.1	1.7	2.3	2.9	3.5	4.1	4.7	5.3	5.9	6.6	7.2	7.8	8.5	9.1	9.7	10.4	11.0	11.8
8.0	-1.5	-0.7	-0.1	0.5	1.1	1.6	2.2	2.8	3.4	4.0	4.6	5.2	5.8	6.4	7.0	7.7	8.3	8.9	9.6	10.2	10.8	11.6
8.5	-1.2	-0.7	-0.1	0.5	1.1	1.6	2.2	2.8	3.3	3.9	4.5	5.1	5.7	6.3	6.9	7.5	8.1	8.8	9.4	10.0	10.6	11.4
9.0	-1.2	-0.6	-0.1	0.5	1.0	1.6	2.1	2.7	3.3	3.9	4.5	5.0	5.6	6.2	6.8	7.4	8.0	8.6	9.2	9.8	10.4	11.2
9.5	-1.2	-0.6	-0.1	0.5	1.0	1.5	2.1	2.7	3.2	3.8	4.4	4.9	5.5	6.1	6.7	7.2	7.8	8.4	9.0	9.6	10.2	11.0
10.0	-1.2	-0.6	-0.1	0.4	1.0	1.5	2.1	2.7	3.2	3.8	4.3	4.8	5.4	6.0	6.5	7.1	7.7	8.3	8.9	9.5	10.1	10.9
10.5	-1.1	-0.6	-0.1	0.4	1.0	1.5	2.0	2.5	3.1	3.7	4.3	4.8	5.4	5.9	6.5	7.0	7.6	8.1	8.7	9.3	9.9	10.6
11.0	-1.1	-0.6	-0.1	0.4	0.9	1.5	2.0	2.5	3.0	3.6	4.2	4.7	5.3	5.8	6.4	7.0	7.5	8.1	8.7	9.3	9.9	10.6
11.5	-1.1	-0.6	-0.1	0.4	0.9	1.4	1.9	2.5	3.0	3.5	4.1	4.6	5.2	5.7	6.3	6.8	7.4	7.9	8.5	9.1	9.6	10.4
12.0	-1.1	-0.6	-0.1	0.4	0.9	1.4	1.9	2.4	2.9	3.4	3.9	4.5	5.0	5.6	6.1	6.5	7.1	7.6	8.1	8.7	9.2	10.0
12.5	-1.0	-0.5	-0.1	0.4	0.9	1.4	1.8	2.3	2.8	3.3	3.8	4.3	4.8	5.3	5.9	6.4	6.9	7.4	8.0	8.5	9.0	10.0
13.0	-1.0	-0.5	-0.1	0.4	0.9	1.3	1.8	2.3	2.8	3.2	3.7	4.2	4.7	5.2	5.7	6.2	6.7	7.1	7.6	8.1	8.5	9.6
13.5	-1.0	-0.5	-0.1	0.4	0.8	1.3	1.8	2.2	2.7	3.2	3.6	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.6
14.0	-0.9	-0.5	-0.1	0.4	0.8	1.2	1.7	2.2	2.6	3.1	3.5	4.0	4.5	5.0	5.5	5.9	6.4	6.9	7.4	7.9	8.4	9.6
14.5	-0.9	-0.5	-0.1	0.3	0.8	1.2	1.7	2.1	2.5	2.9	3.4	3.8	4.3	4.7	5.2	5.7	6.1	6.6	7.1	7.6	8.2	9.4
15.0	-0.9	-0.5	-0.1	0.3	0.8	1.2	1.6	2.0	2.4	2.9	3.3	3.7	4.2	4.6	5.1	5.5	6.0	6.5	7.0	7.5	8.0	9.4
15.5	-0.9	-0.5	-0.1	0.3	0.7	1.2	1.6	2.0	2.4	2.9	3.3	3.7	4.2	4.6	5.1	5.5	6.0	6.4	6.9	7.3	7.8	9.4
16.0	-0.9	-0.5	-0.1	0.3	0.7	1.1	1.5	1.9	2.4	2.8	3.2	3.6	4.1	4.5	5.0	5.4	5.9	6.4	6.8	7.3	7.8	9.5
16.5	-0.8	-0.5	-0.1	0.3	0.7	1.1	1.5	1.9	2.3	2.7	3.1	3.5	4.0	4.4	4.8	5.2	5.7	6.1	6.6	7.1	7.6	9.5
17.0	-0.8	-0.4	-0.1	0.3	0.7	1.1	1.5	1.8	2.3	2.6	3.0	3.4	3.9	4.3	4.7	5.2	5.6	6.0	6.5	7.0	7.5	9.6
17.5	-0.8	-0.4	-0.1	0.3	0.7	1.1	1.5	1.8	2.2	2.5	2.9	3.3	3.7	4.1	4.5	5.0	5.4	5.9	6.4	6.8	7.3	9.7
18.0	-0.8	-0.4	-0.1	0.3	0.6	1.0	1.4	1.8	2.2	2.5	2.9	3.3	3.7	4.1	4.5	5.0	5.4	5.9	6.4	6.8	7.3	9.8
18.5	-0.8	-0.4	-0.1	0.3	0.6	1.0	1.4	1.7	2.1	2.4	2.8	3.2	3.6	4.0	4.4	4.9	5.3	5.8	6.3	6.7	7.2	10.1
19.0	-0.7	-0.4	-0.1	0.3	0.6	1.0	1.3	1.7	2.0	2.3	2.7	3.1	3.5	3.9	4.3	4.8	5.2	5.7	6.2	6.6	7.1	10.2
19.5	-0.7	-0.4	-0.1	0.3	0.6	0.9	1.3	1.6	2.0	2.3	2.6	3.0	3.4	3.8	4.2	4.7	5.1	5.6	6.0	6.5	7.0	10.3
20.0	-0.7	-0.4	-0.1	0.3	0.6	0.9	1.2	1.6	1.9	2.2	2.5	2.9	3.3	3.7	4.1	4.5	5.0	5.4	5.9	6.4	6.9	10.4
20.5	-0.7	-0.4	-0.1	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.8	3.2	3.6	4.0	4.4	4.9	5.3	5.8	6.3	6.8	10.5

500 METERS  
(52.47 kg/cm<sup>2</sup>)

TABLE 12f CORRECTION TO SOUND SPEED, V<sub>0</sub> (1449.1 m/sec), FOR SIMULTANEOUS CHANGES IN  
SALINITY, TEMPERATURE, AND PRESSURE, V<sub>stp</sub> - Continued

°C	-4	-2	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
21.0	-0.4	-0.3	-0.1	0.2	0.5	0.8	1.1	1.5	1.8	2.1	2.4	2.7	3.1	3.4	3.7	4.1	4.4	4.8	5.1	5.5	5.8
21.5	-0.6	-0.5	-0.3	0.0	0.5	0.8	1.1	1.4	1.7	2.0	2.3	2.6	2.9	3.3	3.6	3.9	4.3	4.6	4.9	5.3	5.6
22.0	-0.6	-0.5	-0.3	0.0	0.5	0.7	1.0	1.3	1.6	1.9	2.1	2.4	2.7	3.0	3.3	3.6	4.0	4.3	4.6	4.9	5.2
22.5	-0.5	-0.4	-0.2	0.0	0.5	0.7	1.0	1.2	1.5	1.8	2.0	2.3	2.6	2.9	3.2	3.4	3.8	4.1	4.4	4.7	5.0
23.0	-0.5	-0.4	-0.2	0.0	0.5	0.7	0.9	1.2	1.4	1.7	1.9	2.2	2.5	2.8	3.1	3.2	3.6	3.9	4.2	4.5	4.8
23.5	-0.5	-0.4	-0.2	0.0	0.5	0.6	0.8	1.1	1.3	1.5	1.7	2.0	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.3	4.6
24.0	-0.4	-0.3	-0.2	0.0	0.5	0.6	0.8	1.0	1.2	1.4	1.6	1.9	2.2	2.5	2.8	3.1	3.3	3.6	3.9	4.2	4.4
24.5	-0.4	-0.3	-0.2	0.0	0.5	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.1	2.3	2.5	2.8	3.0	3.3	3.5	3.8	4.0
25.0	-0.4	-0.3	-0.2	0.0	0.5	0.5	0.7	0.9	1.1	1.3	1.5	1.7	2.0	2.2	2.4	2.6	2.9	3.1	3.3	3.6	3.8
25.5	-0.4	-0.3	-0.2	0.0	0.5	0.5	0.7	0.9	1.0	1.2	1.4	1.6	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.6
26.0	-0.4	-0.3	-0.2	0.0	0.5	0.5	0.7	0.9	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4
26.5	-0.3	-0.2	-0.1	0.0	0.5	0.4	0.6	0.8	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.2	2.4	2.6	2.8	3.0	3.2
27.0	-0.3	-0.2	-0.1	0.0	0.5	0.4	0.6	0.8	0.9	1.1	1.3	1.4	1.6	1.8	2.0	2.1	2.2	2.4	2.6	2.8	3.0
27.5	-0.3	-0.2	-0.1	0.0	0.5	0.4	0.5	0.7	0.9	1.0	1.2	1.3	1.5	1.7	1.9	2.0	2.1	2.3	2.5	2.7	2.8
28.0	-0.3	-0.2	-0.1	0.0	0.5	0.4	0.5	0.6	0.8	0.9	1.1	1.2	1.4	1.6	1.7	1.9	1.9	2.1	2.3	2.5	2.6
28.5	-0.3	-0.2	-0.1	0.0	0.5	0.3	0.4	0.5	0.7	0.8	1.0	1.1	1.3	1.5	1.6	1.8	1.8	1.9	2.1	2.3	2.4
29.0	-0.2	-0.1	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.1	1.2	1.3	1.5	1.6	1.6	1.7	1.9	2.0
29.5	-0.2	-0.1	0.0	0.1	0.2	0.3	0.4	0.5	0.5	0.6	0.7	0.7	1.0	1.1	1.2	1.3	1.5	1.5	1.6	1.7	1.8
30.0	-0.2	-0.1	0.0	0.1	0.2	0.2	0.3	0.4	0.5	0.5	0.6	0.6	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7
30.5	-0.2	-0.1	0.0	0.1	0.2	0.2	0.3	0.4	0.5	0.5	0.6	0.6	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
31.0	-0.1	-0.1	0.0	0.0	0.1	0.2	0.2	0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5
31.5	-0.1	-0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4
32.0	-0.1	-0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3
32.5	-0.1	-0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1
33.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.7	0.8	0.9
33.5	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6
34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4
34.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
35.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
35.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
36.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
36.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
37.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
37.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
38.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
38.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
39.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
39.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
40.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
40.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
41.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
41.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
42.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2

TABLE 121 CORRECTION TO SOUND SPEED, V (1442.1 m/sec), FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE, V<sub>stp</sub> - Continued

Table with 19 columns (0 to 36) and 28 rows (0.0 to 21.5). Columns represent salinity changes and rows represent temperature changes. Values are in m/sec.

TABLE 12F CORRECTION TO SOUND SPEED,  $V_s$  (1449.1 m/sec). FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE,  $V_{stp}$  - Continued

1000 METERS  
(104.09 kg/cm<sup>2</sup>)

$^{\circ}\text{C}$	-4	-2	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
22.0	-0.6	-0.3	-0.1	0.2	0.4	0.7	1.0	1.2	1.5	1.8	2.1	2.4	2.7	3.1	3.4	3.7	4.1	4.5	4.8	5.2	5.6
22.5	-0.5	-0.3	-0.1	0.2	0.4	0.7	0.9	1.2	1.5	1.7	2.0	2.3	2.6	2.9	3.3	3.6	3.9	4.3	4.7	5.0	5.4
23.0	-0.5	-0.3	-0.1	0.1	0.4	0.6	0.9	1.1	1.4	1.7	1.9	2.2	2.5	2.8	3.1	3.5	3.8	4.1	4.5	4.8	5.2
23.5	-0.5	-0.3	-0.1	0.1	0.3	0.6	0.8	1.0	1.3	1.6	1.8	2.0	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.5	4.8
24.0	-0.5	-0.3	-0.1	0.1	0.3	0.5	0.7	1.0	1.2	1.4	1.7	1.9	2.2	2.5	2.7	3.0	3.3	3.6	4.0	4.3	4.6
24.5	-0.4	-0.2	-0.1	0.1	0.3	0.5	0.7	0.9	1.1	1.4	1.6	1.8	2.0	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.4
25.0	-0.4	-0.2	-0.1	0.1	0.3	0.5	0.7	0.9	1.1	1.3	1.5	1.7	1.9	2.2	2.5	2.7	3.0	3.3	3.6	3.9	4.2
25.5	-0.4	-0.2	-0.1	0.1	0.3	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.6	2.9	3.1	3.4	3.7	4.0
26.0	-0.4	-0.2	-0.1	0.1	0.2	0.4	0.6	0.8	0.9	1.1	1.3	1.5	1.8	2.0	2.2	2.5	2.7	3.0	3.3	3.5	3.8
26.5	-0.3	-0.2	-0.1	0.1	0.2	0.4	0.5	0.7	0.8	1.0	1.2	1.4	1.7	1.9	2.1	2.2	2.4	2.6	2.9	3.2	3.5
27.0	-0.3	-0.2	-0.0	0.1	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.3	1.5	1.7	1.8	2.0	2.3	2.5	2.7	3.0	3.3
27.5	-0.3	-0.2	-0.0	0.1	0.2	0.3	0.4	0.5	0.7	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.3	2.5	2.7	3.0	3.2
28.0	-0.2	-0.1	-0.0	0.1	0.2	0.3	0.4	0.5	0.7	0.8	1.0	1.2	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.8	3.0
28.5	-0.2	-0.1	-0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	1.0	1.1	1.3	1.4	1.6	1.8	2.0	2.2	2.4	2.6
29.0	-0.2	-0.1	-0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.9	1.0	1.1	1.3	1.5	1.6	1.8	2.0	2.2	2.4
29.5	-0.2	-0.1	-0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.3	1.5	1.6	1.8	2.0	2.2
30.0	-0.1	-0.1	-0.0	0.0	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	1.0	1.2	1.3	1.5	1.7	1.8	2.0	2.2
30.5	-0.1	-0.1	-0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.3	1.5	1.7	1.8	2.0
31.0	-0.1	-0.1	-0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.3	1.5	1.7	1.8
31.5	-0.1	-0.0	-0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.3	1.5	1.7	1.8
32.0	-0.1	-0.0	-0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.3	1.5	1.6
32.5	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.5	0.6	0.7	0.9	1.0	1.1	1.3	1.4
33.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.7	0.8	1.0	1.1
33.5	0.0	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.8
34.0	0.1	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.7
34.5	0.1	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.5
35.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.5
35.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
36.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
36.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
37.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
37.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
38.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
38.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
39.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
39.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
40.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
40.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
41.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
41.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
42.0	0.5	0.3	0.0	-0.2	-0.3	-0.5	-0.7	-0.8	-1.0	-1.2	-1.3	-1.5	-1.5	-1.6	-1.7	-1.8	-2.0	-2.1	-2.2	-2.3	-2.4

TABLE 12F CORRECTION TO SOUND SPEED,  $V_s$  (1449.1 m/sec), FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE,  $V_{stp}$  - Continued

$\sigma_t$	$^{\circ}\text{C}$	-4	-2	0	2	4	6	8	10	12	14	16	18	20	22	24	26
0.0		-1.7	-1.0	-0.3	0.4	1.1	1.9	2.6	3.4	4.2	4.9	5.7	6.5	7.4	8.2	9.0	9.9
0.5		-1.7	-1.0	-0.3	0.4	1.1	1.8	2.6	3.3	4.1	4.9	5.7	6.5	7.3	8.1	8.9	9.8
1.0		-1.7	-1.0	-0.3	0.4	1.1	1.8	2.5	3.3	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6
1.5		-1.6	-1.0	-0.3	0.4	1.1	1.8	2.5	3.2	4.0	4.7	5.5	6.3	7.0	7.8	8.5	9.3
2.0		-1.6	-0.9	-0.3	0.4	1.0	1.7	2.4	3.1	3.6	4.6	5.3	6.1	6.8	7.6	8.4	9.2
2.5		-1.6	-0.9	-0.3	0.4	1.0	1.7	2.3	3.0	3.7	4.5	5.2	6.0	6.7	7.5	8.3	9.1
3.0		-1.5	-0.9	-0.3	0.4	1.0	1.7	2.3	3.0	3.7	4.4	5.1	5.9	6.6	7.4	8.1	8.9
3.5		-1.5	-0.9	-0.3	0.4	1.0	1.6	2.3	2.9	3.6	4.3	5.0	5.8	6.5	7.2	8.0	8.8
4.0		-1.5	-0.9	-0.3	0.3	1.0	1.6	2.2	2.9	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.5
4.5		-1.4	-0.8	-0.3	0.3	0.9	1.6	2.2	2.8	3.5	4.1	4.8	5.5	6.2	6.9	7.6	8.3
5.0		-1.4	-0.8	-0.3	0.3	0.9	1.5	2.1	2.7	3.4	4.0	4.7	5.4	6.1	6.8	7.5	8.2
5.5		-1.3	-0.8	-0.2	0.3	0.9	1.5	2.1	2.7	3.3	3.9	4.5	5.2	5.9	6.5	7.2	7.9
6.0		-1.3	-0.8	-0.2	0.3	0.9	1.4	2.0	2.6	3.2	3.8	4.4	5.1	5.7	6.4	7.1	7.8
6.5		-1.3	-0.8	-0.2	0.3	0.8	1.4	1.9	2.5	3.1	3.7	4.3	4.9	5.5	6.2	6.8	7.5
7.0		-1.2	-0.7	-0.2	0.3	0.8	1.4	1.9	2.4	3.0	3.6	4.2	4.8	5.4	6.1	6.7	7.4
7.5		-1.2	-0.7	-0.2	0.3	0.8	1.3	1.8	2.4	2.9	3.5	4.0	4.6	5.2	5.8	6.4	7.1
8.0		-1.2	-0.7	-0.2	0.3	0.8	1.3	1.8	2.3	2.8	3.3	3.9	4.5	5.0	5.6	6.2	6.8
8.5		-1.1	-0.7	-0.2	0.3	0.7	1.2	1.7	2.2	2.7	3.2	3.7	4.2	4.8	5.3	5.9	6.5
9.0		-1.1	-0.6	-0.2	0.2	0.7	1.2	1.7	2.1	2.6	3.1	3.6	4.1	4.7	5.2	5.7	6.3
9.5		-1.0	-0.6	-0.2	0.2	0.7	1.1	1.6	2.1	2.5	3.0	3.5	4.0	4.6	5.1	5.6	6.2
10.0		-1.0	-0.6	-0.2	0.2	0.7	1.1	1.5	2.0	2.5	2.9	3.4	3.9	4.5	5.0	5.5	6.1
10.5		-0.9	-0.6	-0.2	0.2	0.6	1.0	1.5	1.9	2.4	2.8	3.3	3.8	4.3	4.9	5.4	6.0
11.0		-0.9	-0.5	-0.2	0.2	0.6	1.0	1.4	1.8	2.2	2.6	3.1	3.6	4.1	4.6	5.1	5.7
11.5		-0.8	-0.5	-0.2	0.2	0.5	0.9	1.3	1.7	2.1	2.5	2.9	3.4	3.9	4.4	4.9	5.5
12.0		-0.8	-0.5	-0.2	0.2	0.5	0.9	1.3	1.6	2.0	2.4	2.8	3.3	3.8	4.3	4.8	5.4
12.5		-0.8	-0.5	-0.2	0.2	0.5	0.9	1.3	1.6	2.0	2.4	2.8	3.2	3.7	4.2	4.7	5.2
13.0		-0.7	-0.4	-0.1	0.2	0.5	0.8	1.2	1.5	1.9	2.3	2.7	3.1	3.6	4.1	4.6	5.1
13.5		-0.7	-0.4	-0.1	0.2	0.5	0.8	1.1	1.5	1.9	2.3	2.7	3.0	3.5	4.0	4.5	5.0
14.0		-0.7	-0.4	-0.1	0.2	0.5	0.8	1.1	1.5	1.9	2.2	2.6	3.0	3.4	3.9	4.4	4.9
14.5		-0.7	-0.4	-0.1	0.2	0.5	0.8	1.1	1.5	1.9	2.2	2.6	3.0	3.4	3.8	4.3	4.8
15.0		-0.7	-0.4	-0.1	0.2	0.5	0.8	1.1	1.4	1.8	2.2	2.6	3.0	3.4	3.8	4.3	4.8
15.5		-0.7	-0.4	-0.1	0.2	0.5	0.8	1.1	1.4	1.8	2.2	2.6	3.0	3.4	3.8	4.3	4.8
16.0		-0.6	-0.4	-0.1	0.2	0.5	0.8	1.1	1.3	1.7	2.1	2.5	2.9	3.3	3.8	4.3	4.8
16.5		-0.6	-0.4	-0.1	0.2	0.5	0.8	1.1	1.3	1.7	2.1	2.5	2.9	3.3	3.7	4.2	4.7
17.0		-0.6	-0.4	-0.1	0.2	0.5	0.8	1.1	1.3	1.6	2.0	2.4	2.8	3.2	3.7	4.2	4.7
17.5		-0.6	-0.4	-0.1	0.2	0.5	0.8	1.1	1.2	1.6	2.0	2.4	2.8	3.2	3.6	4.1	4.6
18.0		-0.6	-0.4	-0.1	0.2	0.5	0.8	1.1	1.2	1.5	1.9	2.3	2.7	3.1	3.5	4.0	4.5
18.5		-0.6	-0.4	-0.1	0.2	0.5	0.8	1.1	1.1	1.5	1.8	2.2	2.6	3.0	3.4	3.9	4.4
19.0		-0.6	-0.4	-0.1	0.2	0.5	0.8	1.1	1.1	1.4	1.8	2.2	2.6	3.0	3.4	3.8	4.3
19.5		-0.6	-0.4	-0.1	0.2	0.5	0.8	1.1	1.1	1.4	1.7	2.1	2.5	2.9	3.3	3.7	4.1
20.0		-0.6	-0.4	-0.1	0.2	0.5	0.7	1.0	1.3	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.5
20.5		-0.6	-0.4	-0.1	0.2	0.5	0.7	1.0	1.3	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.4
21.0		-0.6	-0.4	-0.1	0.2	0.5	0.7	1.0	1.3	1.6	1.9	2.3	2.7	3.1	3.5	3.9	4.3
21.5		-0.6	-0.4	-0.1	0.2	0.5	0.6	0.9	1.2	1.5	1.8	2.2	2.6	3.0	3.4	3.8	4.2



TABLE 12F CORRECTION TO SOUND SPEED,  $V_s$  (1449.1 m/sec). FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE,  $V_{stp}$  - Continued

°C	1500 METERS (155.81 kg/cm <sup>2</sup> )															
	-4	-2	0	2	4	6	8	10	12	14	16	18	20	22	24	26
22.0	-0.5	-0.3	-0.1	0.1	0.3	0.6	0.8	1.1	1.4	1.7	2.0	2.3	2.6	3.0	3.3	3.7
22.5	-0.5	-0.3	-0.1	0.1	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.2	2.5	2.8	3.2	3.5
23.0	-0.5	-0.3	-0.1	0.1	0.3	0.5	0.8	1.0	1.3	1.5	1.8	2.1	2.4	2.7	3.1	3.4
23.5	-0.4	-0.3	-0.1	0.1	0.3	0.5	0.7	0.9	1.2	1.5	1.7	2.0	2.3	2.6	2.9	3.3
24.0	-0.4	-0.3	-0.1	0.1	0.3	0.4	0.6	0.9	1.1	1.4	1.6	1.8	2.1	2.4	2.8	3.1
24.5	-0.4	-0.2	-0.1	0.1	0.2	0.4	0.6	0.8	1.0	1.2	1.5	1.7	2.0	2.3	2.5	2.8
25.0	-0.3	-0.2	-0.1	0.1	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.9	2.1	2.4	2.7
25.5	-0.3	-0.2	-0.1	0.1	0.2	0.4	0.5	0.7	0.9	1.1	1.3	1.5	1.8	2.0	2.3	2.6
26.0	-0.3	-0.2	-0.1	0.0	0.2	0.3	0.5	0.6	0.8	1.0	1.2	1.4	1.7	1.9	2.1	2.4
26.5	-0.3	-0.2	-0.1	0.0	0.2	0.3	0.4	0.6	0.8	0.9	1.1	1.3	1.5	1.8	2.0	2.3
27.0	-0.3	-0.2	-0.1	0.0	0.2	0.3	0.4	0.5	0.7	0.9	1.0	1.2	1.4	1.7	1.9	2.1
27.5	-0.2	-0.1	-0.1	0.0	0.1	0.2	0.3	0.4	0.6	0.8	0.9	1.1	1.3	1.5	1.8	2.0
28.0	-0.2	-0.1	-0.1	0.0	0.1	0.2	0.3	0.4	0.6	0.7	0.9	1.0	1.2	1.4	1.6	1.8
28.5	-0.2	-0.1	-0.1	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.8	0.9	1.1	1.3	1.5	1.7
29.0	-0.2	-0.1	-0.1	0.0	0.1	0.2	0.2	0.3	0.5	0.6	0.7	0.8	1.0	1.2	1.4	1.6
29.5	-0.1	-0.1	-0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.8	0.9	1.1	1.2	1.4
30.0	-0.1	-0.1	-0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.4	0.5	0.7	0.8	0.9	1.1	1.3
30.5	-0.1	-0.1	-0.0	-0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.4	0.6	0.7	0.8	1.0	1.1
31.0	-0.1	-0.0	-0.0	-0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	1.0
31.5	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.9
32.0	0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.9
32.5	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.7
33.0	0.1	0.0	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.1	0.1	0.2	0.3	0.3	0.5	0.6
33.5	0.1	0.0	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.1	0.1	0.2	0.3	0.3	0.5	0.6
34.0	0.1	0.0	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.3	0.4
34.5	0.1	0.1	0.0	-0.0	-0.1	-0.1	-0.2	-0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.3
35.0	0.2	0.1	0.0	-0.0	-0.1	-0.2	-0.2	-0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2
35.5	0.2	0.1	0.0	-0.0	-0.1	-0.2	-0.2	-0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
36.0	0.2	0.1	0.0	-0.0	-0.1	-0.2	-0.3	-0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
36.5	0.2	0.1	0.0	-0.0	-0.1	-0.2	-0.3	-0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
37.0	0.3	0.1	0.0	-0.0	-0.1	-0.2	-0.4	-0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
37.5	0.3	0.2	0.0	-0.0	-0.1	-0.2	-0.4	-0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
38.0	0.3	0.2	0.0	-0.0	-0.1	-0.2	-0.4	-0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
38.5	0.4	0.2	0.0	-0.0	-0.1	-0.2	-0.4	-0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
39.0	0.4	0.2	0.0	-0.0	-0.1	-0.2	-0.4	-0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
39.5	0.4	0.2	0.0	-0.0	-0.1	-0.2	-0.4	-0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
40.0	0.4	0.2	0.0	-0.0	-0.1	-0.2	-0.4	-0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
40.5	0.5	0.2	0.0	-0.0	-0.1	-0.2	-0.4	-0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
41.0	0.5	0.3	0.1	-0.0	-0.1	-0.2	-0.4	-0.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
41.5	0.5	0.3	0.1	-0.0	-0.1	-0.2	-0.4	-0.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
42.0	0.5	0.3	0.1	-0.0	-0.1	-0.2	-0.4	-0.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1

TABLE 12f CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR SIMULTANEOUS CHANGES IN 2000 METERS SALINITY, TEMPERATURE, AND PRESSURE,  $V_{stp}$  - Continued

$\Delta T$ °C	-4	-2	0	2	4	6	8	10	12	14	16	18	20	22	24	26
0.0	-1.7	-1.0	-0.4	0.3	1.0	1.7	2.5	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.9	9.8
0.5	-1.7	-1.0	-0.4	0.3	1.0	1.7	2.4	3.2	3.9	4.7	5.5	6.3	7.1	7.9	8.8	9.6
1.0	-1.7	-1.0	-0.4	0.3	1.0	1.7	2.4	3.1	3.8	4.6	5.4	6.2	7.0	7.8	8.6	9.5
1.5	-1.6	-1.0	-0.3	0.3	1.0	1.6	2.3	3.0	3.7	4.5	5.3	6.1	5.9	7.7	8.5	9.4
2.0	-1.6	-1.0	-0.3	0.3	0.9	1.6	2.3	3.0	3.7	4.4	5.1	5.9	6.8	7.6	8.4	9.2
2.5	-1.6	-0.9	-0.2	0.3	0.9	1.6	2.2	2.9	3.6	4.3	5.0	5.8	6.5	7.3	8.1	8.9
3.0	-1.5	-0.9	-0.2	0.3	0.9	1.5	2.2	2.9	3.6	4.2	5.0	5.7	6.4	7.2	8.0	8.8
4.0	-1.5	-0.9	-0.3	0.3	0.9	1.5	2.2	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.5
4.5	-1.5	-0.9	-0.3	0.3	0.9	1.5	2.1	2.8	3.4	4.1	4.8	5.5	6.2	7.0	7.7	8.5
5.0	-1.4	-0.9	-0.3	0.3	0.9	1.5	2.1	2.7	3.4	4.0	4.7	5.4	6.1	6.9	7.6	8.4
5.5	-1.4	-0.9	-0.3	0.3	0.8	1.4	2.0	2.7	3.3	4.0	4.6	5.3	6.0	6.7	7.5	8.2
6.0	-1.3	-0.8	-0.3	0.3	0.8	1.4	2.0	2.6	3.2	3.9	4.5	5.2	5.9	6.6	7.3	8.1
6.5	-1.3	-0.8	-0.3	0.2	0.8	1.4	2.0	2.6	3.2	3.8	4.5	5.1	5.8	6.5	7.2	7.9
7.0	-1.3	-0.8	-0.3	0.2	0.8	1.3	1.9	2.5	3.1	3.7	4.4	5.0	5.7	6.4	7.0	7.7
7.5	-1.3	-0.8	-0.3	0.2	0.8	1.3	1.8	2.4	3.0	3.6	4.2	4.8	5.5	6.1	6.8	7.5
8.0	-1.3	-0.8	-0.3	0.2	0.7	1.2	1.8	2.4	2.9	3.4	4.0	4.6	5.2	5.9	6.6	7.2
8.5	-1.2	-0.8	-0.3	0.2	0.7	1.2	1.8	2.3	2.8	3.4	3.9	4.5	5.2	5.8	6.4	7.0
9.0	-1.2	-0.7	-0.3	0.2	0.7	1.2	1.7	2.3	2.8	3.4	3.9	4.4	5.1	5.7	6.3	7.0
9.5	-1.2	-0.7	-0.3	0.2	0.7	1.2	1.7	2.2	2.7	3.3	3.9	4.4	5.1	5.7	6.3	7.0
10.0	-1.2	-0.7	-0.3	0.2	0.7	1.1	1.6	2.2	2.7	3.2	3.8	4.3	4.9	5.6	6.2	6.8
10.5	-1.1	-0.7	-0.2	0.2	0.7	1.1	1.6	2.1	2.6	3.1	3.7	4.2	4.8	5.4	6.0	6.7
11.0	-1.1	-0.7	-0.2	0.2	0.6	1.1	1.6	2.1	2.6	3.1	3.6	4.1	4.7	5.3	5.9	6.5
11.5	-1.1	-0.7	-0.2	0.2	0.6	1.1	1.5	2.0	2.5	3.0	3.5	4.1	4.6	5.2	5.8	6.4
12.0	-1.0	-0.6	-0.2	0.2	0.6	1.1	1.5	2.0	2.4	2.9	3.4	4.0	4.5	5.1	5.7	6.3
12.5	-1.0	-0.6	-0.2	0.2	0.6	1.0	1.4	1.9	2.4	2.9	3.4	3.9	4.4	5.0	5.5	6.1
13.0	-1.0	-0.6	-0.2	0.2	0.6	1.0	1.4	1.9	2.3	2.8	3.3	3.8	4.3	4.8	5.4	6.0
13.5	-1.0	-0.6	-0.2	0.2	0.5	0.9	1.4	1.8	2.3	2.8	3.2	3.7	4.2	4.7	5.3	5.8
14.0	-0.9	-0.6	-0.2	0.2	0.5	0.9	1.3	1.7	2.2	2.7	3.1	3.6	4.1	4.6	5.1	5.7
14.5	-0.9	-0.6	-0.2	0.2	0.5	0.9	1.3	1.7	2.2	2.6	3.0	3.5	4.0	4.5	5.0	5.6
15.0	-0.9	-0.5	-0.2	0.1	0.5	0.9	1.3	1.7	2.1	2.5	2.9	3.4	3.9	4.4	4.9	5.4
15.5	-0.8	-0.5	-0.2	0.1	0.5	0.8	1.2	1.6	2.0	2.4	2.8	3.3	3.8	4.3	4.8	5.3
16.0	-0.8	-0.5	-0.2	0.1	0.5	0.8	1.2	1.5	1.9	2.3	2.8	3.2	3.7	4.1	4.6	5.1
16.5	-0.8	-0.5	-0.2	0.1	0.4	0.8	1.1	1.5	1.9	2.3	2.7	3.1	3.6	4.0	4.5	5.0
17.0	-0.8	-0.5	-0.2	0.1	0.4	0.8	1.1	1.4	1.8	2.2	2.6	3.0	3.4	3.9	4.4	4.9
17.5	-0.7	-0.5	-0.2	0.1	0.4	0.8	1.1	1.4	1.8	2.2	2.6	3.0	3.4	3.8	4.2	4.7
18.0	-0.7	-0.5	-0.2	0.1	0.4	0.7	1.0	1.4	1.7	2.1	2.5	2.9	3.3	3.7	4.1	4.6
18.5	-0.7	-0.4	-0.2	0.1	0.4	0.7	1.0	1.3	1.7	2.0	2.4	2.8	3.2	3.6	4.0	4.5
19.0	-0.7	-0.4	-0.2	0.1	0.4	0.7	1.0	1.3	1.6	2.0	2.3	2.7	3.1	3.5	3.9	4.4
19.5	-0.6	-0.4	-0.2	0.1	0.4	0.6	0.9	1.2	1.6	2.0	2.3	2.7	3.1	3.5	3.9	4.3
20.0	-0.6	-0.4	-0.2	0.1	0.3	0.6	0.9	1.2	1.5	1.9	2.2	2.6	2.9	3.3	3.7	4.2
20.5	-0.6	-0.4	-0.2	0.1	0.3	0.6	0.9	1.1	1.5	1.8	2.2	2.5	2.9	3.3	3.7	4.1
21.0	-0.6	-0.4	-0.2	0.1	0.3	0.6	0.8	1.1	1.4	1.8	2.1	2.4	2.8	3.2	3.6	4.0
21.5	-0.5	-0.3	-0.1	0.1	0.3	0.6	0.8	1.0	1.3	1.7	2.0	2.3	2.7	3.1	3.5	3.9
							0.8	1.0	1.3	1.6	1.9	2.2	2.6	3.0	3.3	3.7







TABLE 12F CORRECTION TO SOUND SPEED,  $V_s$  (1449.1 m/sec), FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE,  $V_{stp}$  - Continued

5000 METERS  
(526.58 kg/cm<sup>2</sup>)

$\theta$ , °C	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0
32.0	0.6	0.5	0.4	0.3	0.2	0.1	0.1	-0.0	-0.1	-0.2	-0.2	-0.3	-0.4	-0.5
32.5	0.6	0.5	0.4	0.3	0.2	0.2	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
33.0	0.6	0.5	0.4	0.3	0.3	0.2	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
33.5	0.7	0.6	0.5	0.4	0.3	0.2	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
34.0	0.7	0.6	0.5	0.4	0.3	0.2	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
34.5	0.7	0.6	0.5	0.4	0.3	0.2	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
35.0	0.7	0.6	0.5	0.4	0.3	0.2	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
35.5	0.8	0.6	0.5	0.4	0.3	0.2	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
36.0	0.8	0.7	0.5	0.4	0.3	0.2	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
36.5	0.8	0.7	0.6	0.5	0.3	0.2	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
37.0	0.8	0.7	0.6	0.5	0.4	0.2	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
37.5	0.8	0.7	0.6	0.5	0.4	0.2	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
38.0	0.9	0.8	0.6	0.5	0.4	0.3	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
38.5	0.9	0.8	0.6	0.5	0.4	0.3	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5
39.0	0.9	0.8	0.6	0.5	0.4	0.3	0.2	-0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5

$\theta$ , °C	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	11	12	13	14	15	
32.0	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
32.5	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
33.0	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
33.5	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
34.0	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
34.5	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
35.0	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
35.5	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
36.0	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
36.5	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
37.0	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
37.5	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
38.0	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
38.5	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8
39.0	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.7	-0.8

TABLE 12/ CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE,  $V_{stp}$  - Continued

6000 METERS  
(625.75 kg/cm<sup>2</sup>)

$t$ , °C	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0
32.0	0.9	0.7	0.6	0.5	0.4	0.2	0.1	0.0	-0.1	-0.2	-0.3	-0.4	-0.5	-0.6
32.5	0.9	0.6	0.6	0.5	0.4	0.2	0.1	0.0	-0.1	-0.2	-0.3	-0.4	-0.5	-0.7
33.0	0.9	0.8	0.6	0.5	0.4	0.3	0.1	0.0	-0.1	-0.2	-0.3	-0.5	-0.6	-0.7
33.5	0.9	0.8	0.7	0.5	0.4	0.3	0.1	0.0	-0.1	-0.2	-0.4	-0.5	-0.6	-0.7
34.0	1.0	0.8	0.7	0.5	0.4	0.3	0.1	0.0	-0.1	-0.3	-0.4	-0.5	-0.6	-0.7
35.0	1.0	0.8	0.7	0.5	0.4	0.3	0.1	0.0	-0.1	-0.3	-0.4	-0.5	-0.6	-0.8
36.0	1.0	0.9	0.7	0.6	0.4	0.3	0.1	-0.0	-0.1	-0.3	-0.4	-0.5	-0.7	-0.8
36.5	1.0	0.9	0.7	0.6	0.4	0.3	0.1	-0.0	-0.1	-0.3	-0.4	-0.5	-0.7	-0.8
37.0	1.1	0.9	0.7	0.6	0.4	0.3	0.1	-0.0	-0.1	-0.3	-0.4	-0.6	-0.7	-0.8
37.5	1.1	0.9	0.6	0.6	0.4	0.3	0.1	-0.0	-0.2	-0.3	-0.4	-0.6	-0.7	-0.8
38.0	1.1	0.9	0.6	0.6	0.5	0.3	0.1	-0.0	-0.2	-0.3	-0.4	-0.6	-0.7	-0.9
38.5	1.1	0.9	0.6	0.6	0.5	0.3	0.1	-0.0	-0.2	-0.3	-0.5	-0.6	-0.7	-0.9
39.0	1.1	1.0	0.6	0.6	0.5	0.3	0.1	-0.0	-0.2	-0.3	-0.5	-0.6	-0.7	-0.9

$t$ , °C	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
32.0	-0.7	-0.8	-0.9	-1.0	-1.1	-1.2	-1.3	-1.4	-1.4	-1.5	-1.6	-1.7	-1.7	-1.7
32.5	-0.3	-0.6	-0.9	-1.0	-1.1	-1.2	-1.3	-1.4	-1.4	-1.5	-1.6	-1.7	-1.7	-1.8
33.0	-0.3	-0.9	-1.0	-1.1	-1.2	-1.3	-1.4	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-1.9
33.5	-0.8	-0.9	-1.0	-1.1	-1.2	-1.3	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-1.9	-2.0
34.0	-0.8	-0.9	-1.0	-1.2	-1.2	-1.3	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.0
35.0	-0.9	-1.0	-1.1	-1.2	-1.3	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.1
35.5	-0.9	-1.0	-1.1	-1.2	-1.3	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2
36.0	-0.9	-1.0	-1.1	-1.3	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3
37.0	-0.9	-1.1	-1.2	-1.3	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3
37.5	-1.0	-1.1	-1.2	-1.3	-1.4	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4
38.0	-1.0	-1.1	-1.2	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4
38.5	-1.0	-1.1	-1.3	-1.4	-1.5	-1.6	-1.7	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5
39.0	-1.0	-1.2	-1.3	-1.4	-1.5	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5

TABLE 12F CORRECTION TO SOUND SPEED,  $V_s$  (1449.1 m/sec), FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE,  $V_{stp}$  - Continued

7000 METERS  
(731.34 kg/cm<sup>2</sup>)

‰	°C		‰												
	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0	
32.0	1.2	1.0	0.9	0.7	0.5	0.4	0.2	0.0	-0.1	-0.3	-0.4	-0.6	-0.7	-0.8	
32.5	1.2	1.1	0.9	0.7	0.5	0.4	0.2	0.0	-0.1	-0.3	-0.4	-0.6	-0.7	-0.8	
33.0	1.2	1.1	0.9	0.7	0.5	0.4	0.2	0.0	-0.1	-0.3	-0.4	-0.6	-0.7	-0.8	
33.5	1.3	1.1	0.9	0.7	0.5	0.4	0.2	0.0	-0.1	-0.3	-0.5	-0.6	-0.8	-0.9	
34.0	1.3	1.1	0.9	0.7	0.5	0.4	0.2	0.0	-0.2	-0.3	-0.5	-0.6	-0.8	-0.9	
34.5	1.3	1.1	0.9	0.7	0.5	0.4	0.2	0.0	-0.2	-0.3	-0.5	-0.7	-0.8	-0.9	
35.0	1.3	1.1	0.9	0.7	0.5	0.4	0.2	0.0	-0.2	-0.3	-0.5	-0.7	-0.8	-1.0	
35.5	1.3	1.1	0.9	0.7	0.5	0.4	0.2	0.0	-0.2	-0.4	-0.5	-0.7	-0.9	-1.0	
36.0	1.3	1.1	0.9	0.7	0.5	0.4	0.2	0.0	-0.2	-0.4	-0.5	-0.7	-0.9	-1.0	
36.5	1.3	1.1	0.9	0.7	0.5	0.4	0.2	0.0	-0.2	-0.4	-0.6	-0.7	-0.9	-1.1	
37.0	1.4	1.1	0.9	0.7	0.5	0.4	0.2	0.0	-0.2	-0.4	-0.6	-0.7	-0.9	-1.1	
37.5	1.4	1.2	0.9	0.7	0.5	0.4	0.2	0.0	-0.2	-0.4	-0.6	-0.8	-0.9	-1.1	
38.0	1.4	1.2	1.0	0.6	0.5	0.3	0.2	0.0	-0.2	-0.4	-0.6	-0.8	-1.0	-1.1	
38.5	1.4	1.2	1.0	0.6	0.5	0.3	0.2	0.0	-0.2	-0.4	-0.6	-0.8	-1.0	-1.1	
39.0	1.4	1.2	1.0	0.6	0.6	0.3	0.1	-0.1	-0.2	-0.4	-0.6	-0.8	-1.0	-1.2	

‰	°C		‰												
	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	
32.0	-1.0	-1.1	-1.2	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	
32.5	-1.0	-1.1	-1.2	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	
33.0	-1.0	-1.1	-1.2	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	
33.5	-1.1	-1.1	-1.2	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	
34.0	-1.1	-1.1	-1.2	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	
34.5	-1.1	-1.1	-1.2	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	
35.0	-1.1	-1.1	-1.2	-1.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	
35.5	-1.2	-1.2	-1.3	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5	
36.0	-1.2	-1.2	-1.3	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5	
36.5	-1.2	-1.2	-1.3	-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5	
37.0	-1.3	-1.3	-1.4	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5	-2.6	
37.5	-1.3	-1.3	-1.4	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5	-2.6	
38.0	-1.3	-1.3	-1.4	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5	-2.6	
38.5	-1.3	-1.3	-1.4	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5	-2.6	
39.0	-1.3	-1.3	-1.4	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5	-2.6	



8000 METERS  
(837.49 kg/cm<sup>2</sup>)

TABLE 127 CORRECTION TO SOUND SPEED, V (1449.1 m/sec), FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE, V<sub>stp</sub> - Continued

°C	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0
32.0	1.6	1.6	1.2	0.9	0.7	0.5	0.3	0.1	-0.1	-0.3	-0.5	-0.7	-0.9	-1.1
32.5	1.6	1.6	1.2	0.9	0.7	0.5	0.3	0.1	-0.1	-0.3	-0.5	-0.7	-0.9	-1.1
33.0	1.6	1.6	1.2	0.9	0.7	0.5	0.3	0.1	-0.2	-0.4	-0.6	-0.8	-1.0	-1.2
33.5	1.6	1.6	1.2	0.9	0.7	0.5	0.3	0.0	-0.2	-0.4	-0.6	-0.8	-1.0	-1.2
34.0	1.7	1.6	1.2	0.9	0.7	0.5	0.2	0.0	-0.2	-0.4	-0.6	-0.8	-1.0	-1.2
34.5	1.7	1.6	1.2	0.9	0.7	0.5	0.2	0.0	-0.2	-0.4	-0.6	-0.9	-1.1	-1.3
35.0	1.7	1.6	1.2	0.9	0.7	0.5	0.2	-0.0	-0.2	-0.5	-0.7	-0.9	-1.1	-1.3
35.5	1.7	1.6	1.2	0.9	0.7	0.5	0.2	-0.0	-0.3	-0.5	-0.7	-0.9	-1.1	-1.3
36.0	1.7	1.6	1.2	0.9	0.7	0.5	0.2	-0.0	-0.3	-0.5	-0.7	-0.9	-1.1	-1.3
36.5	1.7	1.6	1.2	0.9	0.7	0.5	0.2	-0.1	-0.3	-0.5	-0.7	-1.0	-1.2	-1.4
37.0	1.7	1.6	1.2	0.9	0.7	0.5	0.2	-0.1	-0.3	-0.5	-0.7	-1.0	-1.2	-1.4
37.5	1.7	1.6	1.2	0.9	0.7	0.5	0.2	-0.1	-0.3	-0.5	-0.8	-1.0	-1.2	-1.4
38.0	1.7	1.6	1.2	0.9	0.7	0.5	0.2	-0.1	-0.3	-0.6	-0.8	-1.0	-1.2	-1.5
38.5	1.7	1.6	1.2	0.9	0.7	0.5	0.2	-0.1	-0.3	-0.6	-0.8	-1.0	-1.2	-1.5
39.0	1.7	1.6	1.2	0.9	0.7	0.5	0.1	-0.1	-0.3	-0.6	-0.8	-1.1	-1.3	-1.5

°C	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
32.0	-1.3	-1.5	-1.6	-1.6	-2.0	-2.1	-2.3	-2.4	-2.6	-2.7	-2.9	-3.0	-3.1	-3.3
32.5	-1.3	-1.5	-1.7	-1.6	-2.0	-2.1	-2.3	-2.4	-2.6	-2.7	-2.9	-3.0	-3.1	-3.3
33.0	-1.3	-1.5	-1.7	-1.9	-2.1	-2.3	-2.4	-2.6	-2.8	-2.9	-3.1	-3.2	-3.3	-3.5
33.5	-1.4	-1.6	-1.7	-1.9	-2.1	-2.3	-2.5	-2.7	-2.8	-3.0	-3.1	-3.3	-3.4	-3.6
34.0	-1.4	-1.6	-1.8	-2.0	-2.2	-2.4	-2.5	-2.7	-2.9	-3.0	-3.2	-3.3	-3.5	-3.6
34.5	-1.5	-1.7	-1.9	-2.0	-2.2	-2.4	-2.6	-2.8	-2.9	-3.1	-3.2	-3.4	-3.5	-3.7
35.0	-1.5	-1.7	-1.9	-2.1	-2.3	-2.5	-2.6	-2.8	-3.0	-3.1	-3.3	-3.5	-3.6	-3.8
35.5	-1.5	-1.7	-1.9	-2.1	-2.3	-2.5	-2.7	-2.9	-3.0	-3.2	-3.4	-3.5	-3.7	-3.8
36.0	-1.6	-1.8	-2.0	-2.2	-2.4	-2.6	-2.7	-2.9	-3.1	-3.3	-3.4	-3.6	-3.7	-3.9
36.5	-1.6	-1.8	-2.0	-2.2	-2.4	-2.6	-2.7	-2.9	-3.1	-3.3	-3.4	-3.6	-3.7	-3.9
37.0	-1.6	-1.8	-2.0	-2.2	-2.4	-2.6	-2.8	-3.0	-3.1	-3.3	-3.5	-3.7	-3.8	-4.0
37.5	-1.6	-1.8	-2.1	-2.3	-2.5	-2.6	-2.8	-3.0	-3.2	-3.4	-3.5	-3.7	-3.9	-4.0
38.0	-1.7	-1.9	-2.1	-2.3	-2.5	-2.7	-2.9	-3.1	-3.3	-3.4	-3.6	-3.8	-3.9	-4.1
38.5	-1.7	-1.9	-2.1	-2.3	-2.5	-2.7	-2.9	-3.1	-3.3	-3.5	-3.6	-3.8	-4.0	-4.2
39.0	-1.7	-2.0	-2.2	-2.4	-2.6	-2.8	-3.0	-3.2	-3.4	-3.5	-3.7	-3.9	-4.1	-4.2

9000 METERS  
(943.96 kg/cm<sup>2</sup>)

TABLE 12F CORRECTION TO SOUND SPEED, V<sub>0</sub> (1449.1 m/sec), FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE, V<sub>stp</sub> - Continued

‰	°C		°C		°C		°C		°C		°C		°C		°C	
	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0		
32.0	2.1	1.8	1.5	1.2	0.9	0.7	0.4	0.1	-0.1	-0.4	-0.7	-0.9	-1.1	-1.4		
32.5	2.1	1.8	1.5	1.2	0.9	0.7	0.4	0.1	-0.2	-0.4	-0.7	-0.9	-1.2	-1.4		
33.0	2.1	1.8	1.5	1.2	0.9	0.6	0.3	0.1	-0.2	-0.4	-0.7	-1.0	-1.3	-1.5		
33.5	2.1	1.8	1.5	1.2	0.9	0.6	0.3	0.0	-0.2	-0.5	-0.8	-1.0	-1.3	-1.5		
34.0	2.1	1.8	1.5	1.2	0.9	0.6	0.3	0.0	-0.3	-0.5	-0.8	-1.1	-1.3	-1.6		
34.5	2.1	1.8	1.5	1.2	0.9	0.6	0.3	0.0	-0.3	-0.6	-0.9	-1.1	-1.4	-1.6		
35.0	2.1	1.8	1.5	1.2	0.9	0.6	0.3	-0.0	-0.3	-0.6	-0.9	-1.1	-1.4	-1.7		
35.5	2.1	1.8	1.5	1.1	0.8	0.5	0.2	-0.0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.7		
36.0	2.1	1.8	1.4	1.1	0.8	0.5	0.2	-0.1	-0.4	-0.7	-1.0	-1.2	-1.5	-1.8		
36.5	2.1	1.8	1.4	1.1	0.8	0.5	0.2	-0.1	-0.4	-0.7	-1.0	-1.3	-1.5	-1.8		
37.0	2.1	1.8	1.4	1.1	0.8	0.5	0.2	-0.1	-0.4	-0.7	-1.0	-1.3	-1.6	-1.8		
37.5	2.1	1.7	1.4	1.1	0.8	0.5	0.2	-0.1	-0.4	-0.7	-1.0	-1.3	-1.6	-1.8		
38.0	2.1	1.7	1.4	1.1	0.8	0.5	0.2	-0.1	-0.4	-0.7	-1.0	-1.3	-1.6	-1.9		
38.5	2.1	1.7	1.4	1.1	0.8	0.5	0.2	-0.1	-0.4	-0.7	-1.0	-1.3	-1.6	-1.9		
39.0	2.1	1.7	1.4	1.1	0.8	0.4	0.1	-0.2	-0.5	-0.8	-1.1	-1.4	-1.6	-1.9		

‰	°C		°C		°C		°C		°C		°C		°C		°C	
	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0		
32.0	-1.6	-1.9	-2.1	-2.3	-2.5	-2.7	-3.0	-3.2	-3.4	-3.6	-3.7	-3.9	-4.1	-4.3		
32.5	-1.7	-1.9	-2.2	-2.4	-2.6	-2.8	-3.0	-3.2	-3.4	-3.6	-3.8	-4.0	-4.2	-4.4		
33.0	-1.8	-2.0	-2.2	-2.5	-2.7	-2.9	-3.1	-3.3	-3.5	-3.7	-3.9	-4.1	-4.3	-4.5		
33.5	-1.8	-2.0	-2.3	-2.5	-2.7	-3.0	-3.2	-3.4	-3.6	-3.8	-4.0	-4.2	-4.4	-4.6		
34.0	-1.8	-2.1	-2.4	-2.6	-2.8	-3.0	-3.2	-3.5	-3.7	-3.9	-4.1	-4.3	-4.5	-4.7		
34.5	-1.9	-2.1	-2.4	-2.6	-2.8	-3.1	-3.3	-3.6	-3.8	-4.0	-4.2	-4.4	-4.6	-4.8		
35.0	-1.9	-2.2	-2.5	-2.7	-2.9	-3.1	-3.4	-3.6	-3.8	-4.1	-4.3	-4.5	-4.7	-4.9		
35.5	-2.0	-2.2	-2.5	-2.7	-2.9	-3.2	-3.4	-3.7	-3.9	-4.1	-4.3	-4.5	-4.7	-5.0		
36.0	-2.0	-2.3	-2.6	-2.8	-3.0	-3.3	-3.5	-3.8	-4.0	-4.2	-4.4	-4.6	-4.8	-5.1		
36.5	-2.0	-2.3	-2.6	-2.9	-3.1	-3.3	-3.5	-3.8	-4.0	-4.2	-4.4	-4.6	-4.9	-5.1		
37.0	-2.1	-2.3	-2.6	-2.9	-3.1	-3.3	-3.6	-3.8	-4.1	-4.3	-4.5	-4.7	-4.9	-5.2		
37.5	-2.1	-2.4	-2.6	-2.9	-3.2	-3.4	-3.6	-3.9	-4.1	-4.3	-4.6	-4.8	-5.0	-5.2		
38.0	-2.2	-2.4	-2.7	-3.0	-3.2	-3.5	-3.7	-3.9	-4.2	-4.4	-4.6	-4.9	-5.1	-5.3		
38.5	-2.2	-2.4	-2.7	-3.0	-3.3	-3.5	-3.7	-4.0	-4.2	-4.4	-4.6	-4.9	-5.1	-5.3		
39.0	-2.2	-2.5	-2.7	-3.0	-3.3	-3.5	-3.8	-4.0	-4.2	-4.4	-4.7	-4.9	-5.2	-5.4		

10,000 METERS  
(1050.96 kg/cm<sup>2</sup>)

TABLE 12F CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE,  $V_{stp}$  - Continued

$\frac{\%}{^\circ\text{C}}$	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0
32.0	2.6	2.3	1.9	1.6	1.2	0.9	0.5	0.2	-0.1	-0.5	-0.8	-1.1	-1.4	-1.7
32.5	2.6	2.3	1.9	1.5	1.2	0.8	0.5	0.2	-0.2	-0.5	-0.8	-1.2	-1.5	-1.8
33.0	2.6	2.3	1.9	1.5	1.2	0.8	0.5	0.1	-0.2	-0.5	-0.9	-1.2	-1.5	-1.8
33.5	2.6	2.2	1.9	1.5	1.1	0.8	0.4	0.1	-0.3	-0.6	-0.9	-1.3	-1.6	-1.9
34.0	2.6	2.2	1.8	1.5	1.1	0.8	0.4	0.0	-0.3	-0.7	-1.0	-1.3	-1.6	-2.0
34.5	2.6	2.2	1.8	1.4	1.1	0.7	0.4	0.0	-0.3	-0.7	-1.0	-1.4	-1.7	-2.0
35.0	2.6	2.2	1.8	1.4	1.1	0.7	0.3	-0.0	-0.4	-0.7	-1.1	-1.4	-1.7	-2.1
35.5	2.6	2.2	1.8	1.4	1.0	0.7	0.3	-0.1	-0.4	-0.8	-1.1	-1.5	-1.8	-2.2
36.0	2.5	2.2	1.8	1.4	1.0	0.6	0.3	-0.1	-0.5	-0.8	-1.2	-1.5	-1.8	-2.2
36.5	2.5	2.1	1.8	1.4	1.0	0.6	0.2	-0.1	-0.5	-0.8	-1.2	-1.5	-1.9	-2.3
37.0	2.5	2.1	1.7	1.3	1.0	0.6	0.2	-0.2	-0.5	-0.9	-1.2	-1.6	-2.0	-2.3
37.5	2.5	2.1	1.7	1.3	0.9	0.6	0.2	-0.2	-0.6	-0.9	-1.3	-1.6	-2.0	-2.4
38.0	2.5	2.1	1.7	1.3	0.9	0.5	0.2	-0.2	-0.6	-0.9	-1.3	-1.7	-2.0	-2.4
38.5	2.5	2.1	1.7	1.3	0.9	0.5	0.2	-0.2	-0.6	-1.0	-1.3	-1.7	-2.1	-2.4
39.0	2.5	2.1	1.7	1.3	0.9	0.5	0.1	-0.2	-0.6	-1.0	-1.3	-1.7	-2.1	-2.4

$\frac{\%}{^\circ\text{C}}$	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
32.0	-2.0	-2.3	-2.6	-2.9	-3.2	-3.5	-3.7	-4.0	-4.3	-4.5	-4.8	-5.0	-5.2	-5.5
32.5	-2.1	-2.4	-2.7	-3.0	-3.2	-3.5	-3.8	-4.1	-4.3	-4.6	-4.8	-5.1	-5.3	-5.6
33.0	-2.1	-2.4	-2.7	-3.0	-3.3	-3.6	-3.9	-4.2	-4.5	-4.7	-5.0	-5.2	-5.5	-5.7
33.5	-2.2	-2.5	-2.8	-3.1	-3.4	-3.7	-4.0	-4.3	-4.5	-4.8	-5.1	-5.3	-5.6	-5.8
34.0	-2.2	-2.6	-2.9	-3.2	-3.5	-3.8	-4.1	-4.4	-4.6	-4.9	-5.2	-5.4	-5.7	-5.9
34.5	-2.3	-2.7	-3.0	-3.3	-3.6	-3.9	-4.2	-4.5	-4.7	-5.0	-5.3	-5.5	-5.8	-6.0
35.0	-2.4	-2.7	-3.0	-3.3	-3.6	-3.9	-4.2	-4.5	-4.8	-5.0	-5.3	-5.6	-5.9	-6.2
35.5	-2.4	-2.8	-3.1	-3.4	-3.7	-4.0	-4.3	-4.6	-4.9	-5.1	-5.4	-5.7	-6.0	-6.3
36.0	-2.5	-2.8	-3.1	-3.4	-3.7	-4.0	-4.3	-4.6	-4.9	-5.2	-5.5	-5.8	-6.1	-6.5
36.5	-2.5	-2.9	-3.2	-3.5	-3.8	-4.1	-4.4	-4.7	-5.0	-5.3	-5.6	-5.9	-6.2	-6.6
37.0	-2.6	-2.9	-3.2	-3.5	-3.9	-4.2	-4.5	-4.8	-5.1	-5.4	-5.7	-6.0	-6.3	-6.7
37.5	-2.6	-3.0	-3.3	-3.6	-3.9	-4.2	-4.5	-4.8	-5.1	-5.4	-5.7	-6.0	-6.3	-6.7
38.0	-2.6	-3.0	-3.3	-3.6	-4.0	-4.3	-4.6	-4.9	-5.2	-5.5	-5.8	-6.1	-6.4	-6.8
38.5	-2.7	-3.0	-3.3	-3.6	-4.0	-4.3	-4.6	-4.9	-5.2	-5.5	-5.8	-6.1	-6.4	-6.8
39.0	-2.7	-3.1	-3.4	-3.7	-4.1	-4.4	-4.7	-5.0	-5.3	-5.6	-5.9	-6.2	-6.5	-6.9

11,000 METERS  
(1157.22 kg/cm<sup>2</sup>)

TABLE 12F CORRECTION TO SOUND SPEED,  $V_0$  (1449.1 m/sec), FOR SIMULTANEOUS CHANGES IN SALINITY, TEMPERATURE, AND PRESSURE,  $V_{stp}$  - Continued

‰	°C		-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0
	32.0			3.3	2.8	2.4	1.9	1.5	1.1	0.7	0.3	-0.2	-0.6	-1.0	-1.4	-1.7
32.5			3.3	2.8	2.4	1.9	1.5	1.1	0.6	0.2	-0.2	-0.6	-1.0	-1.4	-1.8	-2.2
33.0			3.2	2.8	2.3	1.9	1.4	1.0	0.6	0.2	-0.2	-0.7	-1.1	-1.5	-1.9	-2.3
33.5			3.2	2.8	2.3	1.9	1.4	1.0	0.5	0.1	-0.3	-0.7	-1.1	-1.5	-1.9	-2.3
34.0			3.2	2.7	2.3	1.8	1.4	0.9	0.5	0.1	-0.3	-0.8	-1.2	-1.6	-2.0	-2.4
34.5			3.1	2.7	2.2	1.8	1.3	0.9	0.5	0.0	-0.4	-0.8	-1.2	-1.6	-2.0	-2.4
35.0			3.1	2.6	2.2	1.7	1.3	0.8	0.4	-0.0	-0.5	-0.9	-1.3	-1.7	-2.1	-2.5
35.5			3.1	2.6	2.2	1.7	1.2	0.8	0.4	-0.1	-0.5	-0.9	-1.3	-1.7	-2.1	-2.5
36.0			3.1	2.6	2.2	1.7	1.2	0.8	0.3	-0.1	-0.5	-0.9	-1.3	-1.7	-2.1	-2.5
36.5			3.0	2.6	2.1	1.7	1.2	0.7	0.3	-0.1	-0.6	-1.0	-1.4	-1.8	-2.2	-2.6
37.0			3.0	2.5	2.1	1.6	1.2	0.7	0.2	-0.2	-0.6	-1.0	-1.4	-1.8	-2.2	-2.6
37.5			3.0	2.5	2.1	1.6	1.1	0.7	0.2	-0.2	-0.7	-1.1	-1.5	-1.9	-2.3	-2.7
38.0			3.0	2.5	2.0	1.6	1.1	0.7	0.2	-0.3	-0.7	-1.1	-1.5	-1.9	-2.3	-2.7
38.5			3.0	2.5	2.0	1.5	1.1	0.6	0.2	-0.3	-0.7	-1.1	-1.5	-1.9	-2.3	-2.7
39.0			3.0	2.5	2.0	1.5	1.0	0.6	0.1	-0.3	-0.8	-1.2	-1.6	-2.0	-2.4	-2.8

‰	°C		3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
	32.0			-2.5	-2.9	-3.2	-3.6	-4.0	-4.3	-4.6	-5.0	-5.3	-5.6	-5.9	-6.2	-6.5
32.5			-2.6	-2.9	-3.3	-3.7	-4.0	-4.4	-4.7	-5.0	-5.4	-5.7	-6.0	-6.3	-6.6	-6.9
33.0			-2.6	-3.0	-3.4	-3.7	-4.1	-4.4	-4.8	-5.1	-5.5	-5.8	-6.1	-6.4	-6.7	-7.0
33.5			-2.7	-3.1	-3.5	-3.8	-4.2	-4.5	-4.9	-5.2	-5.5	-5.9	-6.2	-6.5	-6.8	-7.1
34.0			-2.7	-3.1	-3.5	-3.9	-4.2	-4.6	-4.9	-5.3	-5.6	-6.0	-6.3	-6.6	-6.9	-7.2
34.5			-2.8	-3.2	-3.6	-4.0	-4.4	-4.7	-5.0	-5.4	-5.7	-6.0	-6.4	-6.7	-7.0	-7.3
35.0			-2.9	-3.3	-3.6	-4.1	-4.4	-4.8	-5.1	-5.4	-5.8	-6.1	-6.5	-6.8	-7.1	-7.4
35.5			-2.9	-3.3	-3.7	-4.1	-4.5	-4.9	-5.2	-5.5	-5.9	-6.2	-6.5	-6.9	-7.2	-7.5
36.0			-3.0	-3.4	-3.8	-4.2	-4.6	-5.0	-5.3	-5.6	-6.0	-6.3	-6.7	-7.0	-7.3	-7.6
36.5			-3.1	-3.4	-3.9	-4.3	-4.7	-5.0	-5.4	-5.7	-6.0	-6.4	-6.7	-7.1	-7.4	-7.7
37.0			-3.1	-3.5	-3.9	-4.3	-4.7	-5.0	-5.4	-5.8	-6.1	-6.5	-6.8	-7.2	-7.5	-7.8
37.5			-3.2	-3.6	-4.0	-4.4	-4.8	-5.1	-5.5	-5.9	-6.2	-6.6	-6.9	-7.3	-7.6	-7.9
38.0			-3.2	-3.6	-4.0	-4.4	-4.8	-5.2	-5.5	-5.9	-6.2	-6.6	-6.9	-7.3	-7.6	-8.0
38.5			-3.3	-3.7	-4.1	-4.5	-4.9	-5.3	-5.6	-6.0	-6.3	-6.7	-7.0	-7.4	-7.7	-8.1
39.0			-3.4	-3.8	-4.2	-4.6	-5.0	-5.3	-5.7	-6.1	-6.4	-6.8	-7.1	-7.5	-7.8	-8.2



TABLE 13. -Oxygen Conversions

Conversion from milligram-atoms per liter to milliliters per liter  
 (1 milligram-atom per liter of  $O_2$  = 11.196 milliliters per liter of  $O_2$ )

Milligram- atoms/liter of $O_2$	.000	.001	.002	.003	.004	.005	.006	.007	.008	.009
0.00	0.00	0.01	0.02	0.03	0.04	0.06	0.07	0.08	0.09	0.10
0.01	0.11	0.12	0.13	0.15	0.16	0.17	0.18	0.19	0.20	0.21
0.02	0.22	0.24	0.25	0.26	0.27	0.28	0.29	0.30	0.31	0.32
0.03	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.43	0.44
0.04	0.45	0.46	0.47	0.48	0.49	0.50	0.52	0.53	0.54	0.55
0.05	0.56	0.57	0.58	0.59	0.60	0.62	0.63	0.64	0.65	0.66
0.06	0.67	0.68	0.69	0.71	0.72	0.73	0.74	0.75	0.76	0.77
0.07	0.78	0.79	0.81	0.82	0.83	0.84	0.85	0.86	0.87	0.88
0.08	0.90	0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.99	1.00
0.09	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.09	1.10	1.11
0.10	1.12	1.13	1.14	1.15	1.16	1.18	1.19	1.20	1.21	1.22
0.11	1.23	1.24	1.25	1.27	1.28	1.29	1.30	1.31	1.32	1.33
0.12	1.34	1.35	1.37	1.38	1.39	1.40	1.41	1.42	1.43	1.44
0.13	1.46	1.47	1.48	1.49	1.50	1.51	1.52	1.53	1.55	1.56
0.14	1.57	1.58	1.59	1.60	1.61	1.62	1.63	1.65	1.66	1.67
0.15	1.68	1.69	1.70	1.71	1.72	1.74	1.75	1.76	1.77	1.78
0.16	1.79	1.80	1.81	1.82	1.84	1.85	1.86	1.87	1.88	1.89
0.17	1.90	1.91	1.93	1.94	1.95	1.96	1.97	1.98	1.99	2.00
0.18	2.02	2.03	2.04	2.05	2.06	2.07	2.08	2.09	2.10	2.12
0.19	2.13	2.14	2.15	2.16	2.17	2.18	2.19	2.21	2.22	2.23
0.20	2.24	2.25	2.26	2.27	2.28	2.30	2.31	2.32	2.33	2.34
0.21	2.35	2.36	2.37	2.38	2.40	2.41	2.42	2.43	2.44	2.45
0.22	2.46	2.47	2.49	2.50	2.51	2.52	2.53	2.54	2.55	2.56
0.23	2.58	2.59	2.60	2.61	2.62	2.63	2.64	2.65	2.66	2.68
0.24	2.69	2.70	2.71	2.72	2.73	2.74	2.75	2.77	2.78	2.79
0.25	2.80	2.81	2.82	2.83	2.84	2.85	2.87	2.88	2.89	2.90
0.26	2.91	2.92	2.93	2.94	2.96	2.97	2.98	2.99	3.00	3.01
0.27	3.02	3.03	3.05	3.06	3.07	3.08	3.09	3.10	3.11	3.12
0.28	3.13	3.15	3.16	3.17	3.18	3.19	3.20	3.21	3.22	3.24
0.29	3.25	3.26	3.27	3.28	3.29	3.30	3.31	3.33	3.34	3.35
0.30	3.36	3.37	3.38	3.39	3.40	3.41	3.43	3.44	3.45	3.46

(National Oceanographic Data Center, 1962)

TABLE 13. -Oxygen Conversions -Continued

Conversion from milligram-atoms per liter to milliliters per liter  
(1 milligram-atom per liter of O<sub>2</sub> = 11.196 milliliters per liter of O<sub>2</sub>)

Milligram-atoms/liter of O <sub>2</sub>	.000	.001	.002	.003	.004	.005	.006	.007	.008	.009
0.31	3.47	3.48	3.49	3.50	3.52	3.53	3.54	3.55	3.56	3.57
0.32	3.58	3.59	3.61	3.62	3.63	3.64	3.65	3.66	3.67	3.68
0.33	3.69	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.78	3.80
0.34	3.81	3.82	3.83	3.84	3.85	3.86	3.87	3.89	3.90	3.91
0.35	3.92	3.93	3.94	3.95	3.96	3.97	3.99	4.00	4.01	4.02
0.36	4.03	4.04	4.05	4.06	4.08	4.09	4.10	4.11	4.12	4.13
0.37	4.14	4.15	4.16	4.18	4.19	4.20	4.21	4.22	4.23	4.24
0.38	4.25	4.27	4.28	4.29	4.30	4.31	4.32	4.33	4.34	4.36
0.39	4.37	4.38	4.39	4.40	4.41	4.42	4.43	4.44	4.46	4.47
0.40	4.48	4.49	4.50	4.51	4.52	4.53	4.55	4.56	4.57	4.58
0.41	4.59	4.60	4.61	4.62	4.64	4.65	4.66	4.67	4.68	4.69
0.42	4.70	4.71	4.72	4.74	4.75	4.76	4.77	4.78	4.79	4.80
0.43	4.81	4.83	4.84	4.85	4.86	4.87	4.88	4.89	4.90	4.92
0.44	4.93	4.94	4.95	4.96	4.97	4.98	4.99	5.00	5.02	5.03
0.45	5.04	5.05	5.06	5.07	5.08	5.09	5.11	5.12	5.13	5.14
0.46	5.15	5.16	5.17	5.18	5.19	5.21	5.22	5.23	5.24	5.25
0.47	5.26	5.27	5.28	5.30	5.31	5.32	5.33	5.34	5.35	5.36
0.48	5.37	5.39	5.40	5.41	5.42	5.43	5.44	5.45	5.46	5.47
0.49	5.49	5.50	5.51	5.52	5.53	5.54	5.55	5.56	5.58	5.59
0.50	5.60	5.61	5.62	5.63	5.64	5.65	5.67	5.68	5.69	5.70
0.51	5.71	5.72	5.73	5.74	5.75	5.77	5.78	5.79	5.80	5.81
0.52	5.82	5.83	5.84	5.86	5.87	5.88	5.89	5.90	5.91	5.92
0.53	5.93	5.95	5.96	5.97	5.98	5.99	6.00	6.01	6.02	6.03
0.54	6.05	6.06	6.07	6.08	6.09	6.10	6.11	6.12	6.14	6.15
0.55	6.16	6.17	6.18	6.19	6.20	6.21	6.22	6.24	6.25	6.26
0.56	6.27	6.28	6.29	6.30	6.31	6.33	6.34	6.35	6.36	6.37
0.57	6.38	6.39	6.40	6.42	6.43	6.44	6.45	6.46	6.47	6.48
0.58	6.49	6.50	6.52	6.53	6.54	6.55	6.56	6.57	6.58	6.59
0.59	6.61	6.62	6.63	6.64	6.65	6.66	6.67	6.68	6.70	6.71
0.60	6.72	6.73	6.74	6.75	6.76	6.77	6.78	6.80	6.81	6.82

TABLE 13. Oxygen Conversions—Continued

Conversion from milligram-atoms per liter to milliliters per liter  
 (1 milligram-atom per liter of O<sub>2</sub> = 11.196 milliliters per liter of O<sub>2</sub>)

Milligram- atoms/liter of O <sub>2</sub>	.000	.001	.002	.003	.004	.005	.006	.007	.008	.009
0.61	6.83	6.84	6.85	6.86	6.87	6.89	6.90	6.91	6.92	6.93
0.62	6.94	6.95	6.96	6.98	6.99	7.00	7.01	7.02	7.03	7.04
0.63	7.05	7.06	7.08	7.09	7.10	7.11	7.12	7.13	7.14	7.15
0.64	7.17	7.18	7.19	7.20	7.21	7.22	7.23	7.24	7.26	7.27
0.65	7.28	7.29	7.30	7.31	7.32	7.33	7.34	7.36	7.37	7.38
0.66	7.39	7.40	7.41	7.42	7.43	7.45	7.46	7.47	7.48	7.49
0.67	7.50	7.51	7.52	7.53	7.55	7.56	7.57	7.58	7.59	7.60
0.68	7.61	7.62	7.64	7.65	7.66	7.67	7.68	7.69	7.70	7.71
0.69	7.73	7.74	7.75	7.76	7.77	7.78	7.79	7.80	7.81	7.83
0.70	7.84	7.85	7.86	7.87	7.88	7.89	7.90	7.92	7.93	7.94
0.71	7.95	7.96	7.97	7.98	7.99	8.01	8.02	8.03	8.04	8.05
0.72	8.06	8.07	8.08	8.09	8.11	8.12	8.13	8.14	8.15	8.16
0.73	8.17	8.18	8.20	8.21	8.22	8.23	8.24	8.25	8.26	8.27
0.74	8.29	8.30	8.31	8.32	8.33	8.34	8.35	8.36	8.37	8.39
0.75	8.40	8.41	8.42	8.43	8.44	8.45	8.46	8.48	8.49	8.50
0.76	8.51	8.52	8.53	8.54	8.55	8.56	8.58	8.59	8.60	8.61
0.77	8.62	8.63	8.64	8.65	8.67	8.68	8.69	8.70	8.71	8.72
0.78	8.73	8.74	8.76	8.77	8.78	8.79	8.80	8.81	8.82	8.83
0.79	8.84	8.86	8.87	8.88	8.89	8.90	8.91	8.92	8.93	8.95
0.80	8.96	8.97	8.98	8.99	9.00	9.01	9.02	9.04	9.05	9.06
0.81	9.07	9.08	9.09	9.10	9.11	9.12	9.14	9.15	9.16	9.17
0.82	9.18	9.19	9.20	9.21	9.23	9.24	9.25	9.26	9.27	9.28
0.83	9.29	9.30	9.32	9.33	9.34	9.35	9.36	9.37	9.38	9.39
0.84	9.40	9.42	9.43	9.44	9.45	9.46	9.47	9.48	9.49	9.51
0.85	9.52	9.53	9.54	9.55	9.56	9.57	9.58	9.59	9.61	9.62
0.86	9.63	9.64	9.65	9.66	9.67	9.68	9.70	9.71	9.72	9.73
0.87	9.74	9.75	9.76	9.77	9.79	9.80	9.81	9.82	9.83	9.84
0.88	9.85	9.86	9.87	9.89	9.90	9.91	9.92	9.93	9.94	9.95
0.89	9.96	9.98	9.99	10.00	10.01	10.02	10.03	10.04	10.05	10.07
0.90	10.08	10.09	10.10	10.11	10.12	10.13	10.14	10.15	10.17	10.18



TABLE 13.—Oxygen Conversions—Continued

Conversion from milligram-atoms per liter to milliliters per liter  
(1 milligram-atom per liter of O<sub>2</sub> = 11.196 milliliters per liter of O<sub>2</sub>)

Milligram-atoms/liter of O <sub>2</sub>	.000	.001	.002	.003	.004	.005	.006	.007	.008	.009
0.91	10.19	10.20	10.21	10.22	10.23	10.24	10.26	10.27	10.28	10.29
0.92	10.30	10.31	10.32	10.33	10.35	10.36	10.37	10.38	10.39	10.40
0.93	10.41	10.42	10.43	10.45	10.46	10.47	10.48	10.49	10.50	10.51
0.94	10.52	10.54	10.55	10.56	10.57	10.58	10.59	10.60	10.61	10.63
0.95	10.64	10.65	10.66	10.67	10.68	10.69	10.70	10.71	10.73	10.74
0.96	10.75	10.76	10.77	10.78	10.79	10.80	10.82	10.83	10.84	10.85
0.97	10.86	10.87	10.88	10.89	10.90	10.92	10.93	10.94	10.95	10.96
0.98	10.97	10.98	10.99	11.01	11.02	11.03	11.04	11.05	11.06	11.07
0.99	11.08	11.10	11.11	11.12	11.13	11.14	11.15	11.16	11.17	11.18
1.00	11.20	11.21	11.22	11.23	11.24	11.25	11.26	11.27	11.29	11.30
1.01	11.31	11.32	11.33	11.34	11.35	11.36	11.38	11.39	11.40	11.41
1.02	11.42	11.43	11.44	11.45	11.46	11.48	11.49	11.50	11.51	11.52
1.03	11.53	11.54	11.55	11.57	11.58	11.59	11.60	11.61	11.62	11.63
1.04	11.64	11.66	11.67	11.68	11.69	11.70	11.71	11.72	11.73	11.74
1.05	11.76	11.77	11.78	11.79	11.80	11.81	11.82	11.83	11.85	11.86
1.06	11.87	11.88	11.89	11.90	11.91	11.92	11.93	11.95	11.96	11.97
1.07	11.98	11.99	12.00	12.01	12.02	12.04	12.05	12.06	12.07	12.08
1.08	12.09	12.10	12.11	12.13	12.14	12.15	12.16	12.17	12.18	12.19
1.09	12.20	12.21	12.23	12.24	12.25	12.26	12.27	12.28	12.29	12.30
1.10	12.32	12.33	12.34	12.35	12.36	12.37	12.38	12.39	12.41	12.42
1.11	12.43	12.44	12.45	12.46	12.47	12.48	12.49	12.51	12.52	12.53
1.12	12.54	12.55	12.56	12.57	12.58	12.60	12.61	12.62	12.63	12.64
1.13	12.65	12.66	12.67	12.69	12.70	12.71	12.72	12.73	12.74	12.75
1.14	12.76	12.77	12.79	12.80	12.81	12.82	12.83	12.84	12.85	12.86
1.15	12.88	12.89	12.90	12.91	12.92	12.93	12.94	12.95	12.96	12.98
1.16	12.99	13.00	13.01	13.02	13.03	13.04	13.05	13.07	13.08	13.09
1.17	13.10	13.11	13.12	13.13	13.14	13.16	13.17	13.18	13.19	13.20
1.18	13.21	13.22	13.23	13.24	13.26	13.27	13.28	13.29	13.30	13.31
1.19	13.32	13.33	13.35	13.36	13.37	13.38	13.39	13.40	13.41	13.42
1.20	13.44	13.45	13.46	13.47	13.48	13.49	13.50	13.51	13.52	13.54



TABLE 13 -Oxygen Conversions Continued  
 Conversion from milligrams per liter to milliliters per liter (NTP)  
 (1 mg/l = 0.6998 ml/l)

Milligrams per Liter of O <sub>2</sub>	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	0.00	0.01	0.01	0.02	0.03	0.03	0.04	0.05	0.06	0.06
0.1	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.13
0.2	0.14	0.15	0.15	0.16	0.17	0.17	0.18	0.19	0.20	0.20
0.3	0.21	0.22	0.22	0.23	0.24	0.24	0.25	0.26	0.27	0.27
0.4	0.28	0.29	0.29	0.30	0.31	0.31	0.32	0.33	0.34	0.34
0.5	0.35	0.36	0.36	0.37	0.38	0.38	0.39	0.40	0.41	0.41
0.6	0.42	0.43	0.43	0.44	0.45	0.45	0.46	0.47	0.48	0.48
0.7	0.49	0.50	0.50	0.51	0.52	0.52	0.53	0.54	0.55	0.55
0.8	0.56	0.57	0.57	0.58	0.59	0.59	0.60	0.61	0.62	0.62
0.9	0.63	0.64	0.64	0.65	0.66	0.66	0.67	0.68	0.69	0.69

milligrams/liter	milliliters/liter	milligrams/liter	milliliters/liter
1.0	0.70	12.0	8.40
2.0	1.40	13.0	9.10
3.0	2.10	14.0	9.80
4.0	2.80	15.0	10.50
5.0	3.50	16.0	11.20
6.0	4.20	17.0	11.90
7.0	4.90	18.0	12.60
8.0	5.60	19.0	13.30
9.0	6.30	20.0	14.00
10.0	7.00	21.0	14.70
11.0	7.70	22.0	15.40

Example: Convert 5.65 milligrams/liter of O<sub>2</sub> to milliliters/liter.

$$\begin{aligned}
 5.00 \text{ milligrams/liter} &= 3.50 \\
 0.65 \text{ milligrams/liter} &= 0.45 \\
 \hline
 &= 3.95 \text{ milliliters/liter (ans.)}
 \end{aligned}$$

TABLE 14 - Phosphorus Conversion

Conversion from micrograms per liter of inorganic P  
to microgram-atoms per liter of P

(1  $\mu\text{g}$  of P = 0.032285  $\mu\text{g-at}$  of P)

Micrograms per Liter of inorganic P	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03

Micrograms per Liter of in- organic P	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
00	0.00	0.03	0.06	0.10	0.13	0.16	0.19	0.23	0.26	0.29
10	0.32	0.36	0.39	0.42	0.45	0.48	0.52	0.55	0.58	0.61
20	0.65	0.68	0.71	0.74	0.77	0.81	0.84	0.87	0.90	0.94
30	0.97	1.00	1.03	1.07	1.10	1.13	1.16	1.19	1.23	1.26
40	1.29	1.32	1.36	1.39	1.42	1.45	1.49	1.52	1.55	1.58
50	1.61	1.65	1.68	1.71	1.74	1.78	1.81	1.84	1.87	1.90
60	1.94	1.97	2.00	2.03	2.07	2.10	2.13	2.16	2.20	2.23
70	2.26	2.29	2.32	2.36	2.39	2.42	2.45	2.49	2.52	2.55
80	2.58	2.62	2.65	2.68	2.71	2.74	2.78	2.81	2.84	2.87
90	2.91	2.94	2.97	3.00	3.03	3.07	3.10	3.13	3.16	3.20
100	3.23	3.26	3.29	3.33	3.36	3.39	3.42	3.45	3.49	3.52
110	3.55	3.58	3.62	3.65	3.68	3.71	3.75	3.78	3.81	3.84
120	3.87	3.91	3.94	3.97	4.00	4.04	4.07	4.10	4.13	4.16

(National Oceanographic Data Center, 1982)

TABLE 15 Phosphate Conversions

Conversion from micrograms per liter of  $PO_4$  to  
microgram-atoms per liter of  $PO_4-P$

(1 g of  $PO_4 = 0.010529$  g-at of  $PO_4-P$ )

Micrograms per Liter of $PO_4$	0 0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01

Micrograms per Liter of $PO_4$	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
00	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
10	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20
20	0.21	0.22	0.23	0.24	0.25	0.26	0.27	0.28	0.29	0.31
30	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41
40	0.42	0.43	0.44	0.45	0.46	0.47	0.48	0.49	0.51	0.52
50	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60	0.61	0.62
60	0.63	0.64	0.65	0.66	0.67	0.68	0.69	0.71	0.72	0.73
70	0.74	0.75	0.76	0.77	0.78	0.79	0.80	0.81	0.82	0.83
80	0.84	0.85	0.86	0.87	0.88	0.89	0.91	0.92	0.93	0.94
90	0.95	0.96	0.97	0.98	0.99	1.00	1.01	1.02	1.03	1.04
100	1.05	1.06	1.07	1.08	1.10	1.11	1.12	1.13	1.14	1.15
110	1.16	1.17	1.18	1.19	1.20	1.21	1.22	1.23	1.24	1.25
120	1.26	1.27	1.28	1.30	1.31	1.32	1.33	1.34	1.35	1.36
130	1.37	1.38	1.39	1.40	1.41	1.42	1.43	1.44	1.45	1.46
140	1.47	1.48	1.50	1.51	1.52	1.53	1.54	1.55	1.56	1.57
150	1.58	1.59	1.60	1.61	1.62	1.63	1.64	1.65	1.66	1.67
160	1.68	1.70	1.71	1.72	1.73	1.74	1.75	1.76	1.77	1.78
170	1.79	1.80	1.81	1.82	1.83	1.84	1.85	1.86	1.87	1.88
180	1.90	1.91	1.92	1.93	1.94	1.95	1.96	1.97	1.98	1.99
190	2.00	2.01	2.02	2.03	2.04	2.05	2.06	2.07	2.08	2.10
200	2.11	2.12	2.13	2.14	2.15	2.16	2.17	2.18	2.19	2.20
210	2.21	2.22	2.23	2.24	2.25	2.26	2.27	2.28	2.30	2.31
220	2.32	2.33	2.34	2.35	2.36	2.37	2.38	2.39	2.40	2.41
230	2.42	2.43	2.44	2.45	2.46	2.47	2.48	2.50	2.51	2.52
240	2.53	2.54	2.55	2.56	2.57	2.58	2.59	2.60	2.61	2.62
250	2.63	2.64	2.65	2.66	2.67	2.68	2.70	2.71	2.72	2.73
260	2.74	2.75	2.76	2.77	2.78	2.79	2.80	2.81	2.82	2.83
270	2.84	2.85	2.86	2.87	2.88	2.90	2.91	2.92	2.93	2.94
280	2.95	2.96	2.97	2.98	2.99	3.00	3.01	3.02	3.03	3.04
290	3.05	3.06	3.07	3.08	3.10	3.11	3.12	3.13	3.14	3.15
300	3.16	3.17	3.18	3.19	3.20	3.21	3.22	3.23	3.24	3.25
310	3.26	3.27	3.29	3.30	3.31	3.32	3.33	3.34	3.35	3.36
320	3.37	3.38	3.39	3.40	3.41	3.42	3.43	3.44	3.45	3.46
330	3.47	3.49	3.50	3.51	3.52	3.53	3.54	3.55	3.56	3.57
340	3.58	3.59	3.60	3.61	3.62	3.63	3.64	3.65	3.66	3.67
350	3.69	3.70	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.78

TABLE 16. Nitrite Conversions

Conversion from micrograms per liter of  $\text{NO}_2$  to microgram-atoms per liter of  $\text{NO}_2\text{-N}$   
 (1  $\mu\text{g}$  of  $\text{NO}_2$  = 0.0217365  $\mu\text{g}$  - at of  $\text{NO}_2\text{-N}$ )

Micrograms per liter of $\text{NO}_2$	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
00	0.00	0.02	0.04	0.07	0.09	0.11	0.13	0.15	0.17	0.20
10	0.22	0.24	0.26	0.28	0.30	0.33	0.35	0.37	0.39	0.41
20	0.43	0.46	0.48	0.50	0.52	0.54	0.57	0.59	0.61	0.63
30	0.65	0.67	0.70	0.72	0.74	0.76	0.78	0.80	0.83	0.85
40	0.87	0.89	0.91	0.93	0.96	0.98	1.00	1.02	1.04	1.07
50	1.09	1.11	1.13	1.15	1.17	1.20	1.22	1.24	1.26	1.28
60	1.30	1.33	1.35	1.37	1.39	1.41	1.43	1.46	1.48	1.50
70	1.52	1.54	1.57	1.59	1.61	1.63	1.65	1.67	1.70	1.72
80	1.74	1.76	1.78	1.80	1.83	1.85	1.87	1.89	1.91	1.93
90	1.96	1.98	2.00	2.02	2.04	2.06	2.09	2.11	2.13	2.15
100	2.17	2.20	2.22	2.24	2.26	2.28	2.30	2.33	2.35	2.37
110	2.39	2.41	2.43	2.46	2.48	2.50	2.52	2.54	2.56	2.59
120	2.61	2.63	2.65	2.67	2.70	2.72	2.74	2.76	2.78	2.80
130	2.83	2.85	2.87	2.89	2.91	2.93	2.96	2.98	3.00	3.02
140	3.04	3.06	3.09	3.11	3.13	3.15	3.17	3.20	3.22	3.24
150	3.26	3.28	3.30	3.33	3.35	3.37	3.39	3.41	3.43	3.46
160	3.48	3.50	3.52	3.54	3.56	3.59	3.61	3.63	3.65	3.67
170	3.70	3.72	3.74	3.76	3.78	3.80	3.83	3.85	3.87	3.89
180	3.91	3.93	3.96	3.98	4.00	4.02	4.04	4.06	4.09	4.11
190	4.13	4.15	4.17	4.20	4.22	4.24	4.26	4.28	4.30	4.33
200	4.35	4.37	4.39	4.41	4.43	4.46	4.48	4.50	4.52	4.54

(National Oceanographic Data Center, 1962)

TABLE 17. Nitrate Conversions

Conversion from micrograms per liter of  $\text{NO}_3$  to microgram-atoms per liter of  $\text{NO}_3\text{-N}$

Micrograms per liter of $\text{NO}_3$	00	01	02	03	04	05	06	07	08	09
00	00.0	00.0	00.0	00.0	00.1	00.1	00.1	00.1	00.1	00.1
10	00.2	00.2	00.2	00.2	00.2	00.2	00.3	00.3	00.3	00.3
20	00.3	00.3	00.4	00.4	00.4	00.4	00.4	00.4	00.5	00.5
30	00.5	00.5	00.5	00.5	00.5	00.6	00.6	00.6	00.6	00.6
40	00.6	00.7	00.7	00.7	00.7	00.7	00.7	00.8	00.8	00.8
50	00.8	00.8	00.8	00.9	00.9	00.9	00.9	00.9	00.9	01.0
60	01.0	01.0	01.0	01.0	01.0	01.0	01.1	01.1	01.1	01.1
70	01.1	01.1	01.2	01.2	01.2	01.2	01.2	01.2	01.3	01.3
80	01.3	01.3	01.3	01.3	01.4	01.4	01.4	01.4	01.4	01.4
90	01.5	01.5	01.5	01.5	01.5	01.5	01.5	01.6	01.6	01.6

Micrograms per liter of $\text{NO}_3$	00	10	20	30	40	50	60	70	80	90
100	01.6	01.8	01.9	02.1	02.3	02.4	02.6	02.7	02.9	03.1
200	03.2	03.4	03.5	03.7	03.9	04.0	04.2	04.4	04.5	04.7
300	04.8	05.0	05.2	05.3	05.5	05.6	05.8	06.0	06.1	06.3
400	06.5	06.6	06.8	06.9	07.1	07.3	07.4	07.6	07.7	07.9
500	08.1	08.2	08.4	08.5	08.7	08.9	09.0	09.2	09.4	09.5
600	09.7	09.8	10.0	10.2	10.3	10.5	10.6	10.8	11.0	11.1
700	11.3	11.5	11.6	11.8	11.9	12.1	12.3	12.4	12.6	12.7
800	12.9	13.1	13.2	13.4	13.5	13.7	13.9	14.0	14.2	14.4
900	14.5	14.7	14.8	15.0	15.2	15.3	15.5	15.6	15.8	16.0
1000	16.1	16.3	16.5	16.6	16.8	16.9	17.1	17.3	17.4	17.6
1100	17.7	17.9	18.1	18.2	18.4	18.5	18.7	18.9	19.0	19.2
1200	19.4	19.5	19.7	19.8	20.0	20.2	20.3	20.5	20.6	20.8
1300	21.0	21.1	21.3	21.4	21.6	21.8	21.9	22.1	22.3	22.4
1400	22.6	22.7	22.9	23.1	23.2	23.4	23.5	23.7	23.9	24.0
1500	24.2	24.4	24.5	24.7	24.8	25.0	25.2	25.3	25.5	25.6
1600	25.8	26.0	26.1	26.3	26.4	26.6	26.8	26.9	27.1	27.3
1700	27.4	27.6	27.7	27.9	28.1	28.2	28.4	28.5	28.7	28.9
1800	29.0	29.2	29.4	29.5	29.7	29.8	30.0	30.2	30.3	30.5
1900	30.6	30.8	31.0	31.1	31.3	31.4	31.6	31.8	31.9	32.1
2000	32.3	32.4	32.6	32.7	32.9	33.1	33.2	33.4	33.5	33.7
2100	33.9	34.0	34.2	34.4	34.5	34.7	34.8	35.0	35.2	35.3
2200	35.5	35.6	35.8	36.0	36.1	36.3	36.4	36.6	36.8	36.9
2300	37.1	37.3	37.4	37.6	37.7	37.9	38.1	38.2	38.4	38.5
2400	38.7	38.9	39.0	39.2	39.4	39.5	39.7	39.8	40.0	40.2
2500	40.3	40.5	40.6	40.8	41.0	41.1	41.3	41.4	41.6	41.8
2600	41.9	42.1	42.3	42.4	42.6	42.7	42.9	43.1	43.2	43.4
2700	43.5	43.7	43.9	44.0	44.2	44.4	44.5	44.7	44.8	45.0
2800	45.2	45.3	45.5	45.6	45.8	46.0	46.1	46.3	46.4	46.6
2900	46.8	46.9	47.1	47.3	47.4	47.6	47.7	47.9	48.1	48.2
3000	48.4	48.5	48.7	48.9	49.0	49.2	49.4	49.5	49.7	49.8

NOTE: Conversion of values not given directly in the tables are derived by addition.

(National Oceanographic Data Center, 1962)

TABLE 18. Silicon Conversions

Conversion from micrograms per liter of Si to microgram-atoms per liter of Si  
 ( $1 \mu\text{g}$  of Si =  $0.0356049 \mu\text{g-atom Si}$ )

Micrograms per Liter of Si	00	10	20	30	40	50	60	70	80	90
000	000	000	001	001	001	002	002	002	003	003
100	004	004	004	005	005	005	006	006	006	007
200	007	007	008	008	009	009	009	010	010	010
300	011	011	011	012	012	012	013	013	014	014
400	014	015	015	015	016	016	016	017	017	017
500	018	018	019	019	019	020	020	020	021	021
600	021	022	022	022	023	023	023	024	024	025
700	025	025	026	026	026	027	027	027	028	028
800	028	029	029	030	030	030	031	031	031	032
900	032	032	033	033	033	034	034	035	035	035

Micrograms per Liter of Si	000	100	200	300	400	500	600	700	800	900
1000	036	039	043	046	050	053	057	061	064	068
2000	071	075	078	082	085	089	093	096	100	103
3000	107	110	114	117	121	125	128	132	135	139
4000	142	146	150	153	157	160	164	167	171	174
5000	178	182	185	189	192	196	199	203	207	210
6000	214	217	221	224	228	231	235	239	242	246
7000	249	253	256	260	263	267	271	274	278	281
8000	285	288	292	296	299	303	306	310	313	317

**EXAMPLE I:**

Assume an initial value of 4200. Since this value lies within the range 1000 - 8900, use lower portion of above table. Enter left hand column at 4000, proceed horizontally to the right to column headed 200, and read 150.

**EXAMPLE II:**

Assume an initial value of 4180. Since this value is not recorded explicitly in the table, the conversion can be made by one of two methods:

(1) Interpolation between 4100 and 4200 to nearest whole number, 149:

or (2) Since  $4180 = 4100 + 80$ , find 146 corresponding to 4100 and 003 corresponding to 80.

Add 146 and 003 to get 149.



TABLE 19. Silicon Dioxide Conversions

Conversion from micrograms per liter of SiO<sub>2</sub> to microgram-atoms per liter of SiO<sub>2</sub>-Si  
(1 μg of SiO<sub>2</sub> = 0.016643 μg-atom of Si)

Micrograms per Liter of SiO <sub>2</sub>	00	10	20	30	40	50	60	70	80	90
000	000	000	000	000	001	001	001	001	001	001
100	002	002	002	002	002	002	003	003	003	003
200	003	003	004	004	004	004	004	004	005	005
300	005	005	005	005	006	006	006	006	006	006
400	007	007	007	007	007	007	008	008	008	008
500	008	008	009	009	009	009	009	009	010	010
600	010	010	010	010	011	011	011	011	011	011
700	012	012	012	012	012	012	013	013	013	013
800	013	013	014	014	014	014	014	014	015	015
900	015	015	015	015	016	016	016	016	016	016

Micrograms per Liter of SiO <sub>2</sub>	000	100	200	300	400	500	600	700	800	900
1000	017	018	020	022	023	025	027	028	030	032
2000	033	035	037	038	040	042	043	045	047	048
3000	050	052	053	055	057	058	060	062	063	065
4000	067	068	070	072	073	075	077	078	080	082
5000	083	085	087	088	090	092	093	095	097	098
6000	100	102	103	105	107	108	110	112	113	115
7000	117	118	120	121	123	125	126	128	130	131
8000	133	135	136	138	140	141	143	145	146	148
9000	150	151	153	155	156	158	160	161	163	165
10000	166	168	170	171	173	175	176	178	180	181
11000	183	185	186	188	190	191	193	195	196	198
12000	200	201	203	205	206	208	210	211	213	215

(National Oceanographic Data Center, 1962)

TABLE 20. Silicate Conversions

Conversion from milligrams per liter of  $\text{SiO}_3$  to microgram-atoms per liter of  $\text{SiO}_3\text{-Si}$  (1 milligram of  $\text{SiO}_3$  = 13.1433 microgram-atoms of  $\text{SiO}_3\text{-Si}$ )

Milligrams per Liter of $\text{SiO}_3$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
00	000	001	003	004	005	007	008	009	011	012
01	013	014	016	017	018	020	021	022	024	025
02	026	028	029	030	032	033	034	035	037	038
03	039	041	042	043	045	046	047	049	050	051
04	053	054	055	057	058	059	060	062	063	064
05	066	067	068	070	071	072	074	075	076	078
06	079	080	081	083	084	085	087	088	089	091
07	092	093	095	096	097	099	100	101	103	104
08	105	106	108	109	110	112	113	114	116	117
09	118	120	121	122	124	125	126	127	129	130
10	131	133	134	135	137	138	139	141	142	143
11	145	146	147	149	150	151	152	154	155	156
12	158	159	160	162	163	164	166	167	168	170
13	171	172	173	175	176	177	179	180	181	183
14	184	185	187	188	189	191	192	193	195	196
15	197	198	200	201	202	204	205	206	208	209
16	210	212	213	214	216	217	218	219	221	222
17	223	225	226	227	229	230	231	233	234	235
18	237	238	239	241	242	243	244	246	247	248
19	250	251	252	254	255	256	258	259	260	262
20	263	264	265	267	268	269	271	272	273	275

(National Oceanographic Data Center, 1962)

TABLE 21.—Water Content and Porosity of Freshly Settled Sediments

<i>Size group, microns</i>	<i>Water content volume percent</i>
250-500	45.0
125-250	45.4
64-125	46.9
16- 64	51.6
+ 16	66.2
1- 4	85.8
<1	98.2

(Trask, 1932)

Table 22 Conversion Chart For Diameter Expressed In Phi, Millimeters, And Microns

$$[\phi = -\log_2 \text{diameter (millimeters)}]$$

ASTM or U.S. STANDARD SIEVE SIZES	IMM SIEVE SIZES	PHI	MILLIMETER (DECIMAL)	MILLIMETER (FRACTION)	MICRONS	GEOLOGICAL CLASSIFICATION
		-12	4096.0	- - - -	$4.096 \times 10^6$	BOULDER
		-11	2048.0	- - - -	$2.048 \times 10^6$	
		-10	1024.0	- - - -	$1.024 \times 10^6$	
		-9	512.0	- - - -	$5.12 \times 10^5$	
		-8	256.0	- - - -	$2.56 \times 10^5$	COBBLE
		-7	128.0	- - - -	$1.28 \times 10^5$	
		-6	64.0	- - - -	$6.4 \times 10^4$	PEBBLE
		-5	32.0	- - - -	$3.2 \times 10^4$	
		-4	16.0	- - - -	$1.6 \times 10^4$	
		-3	8.0	- - - -	$8.0 \times 10^3$	
5		-2	4.0	- - - -	$4.0 \times 10^3$	GRANULE
10		-1	2.0	- - - -	$2.0 \times 10^3$	VERY COARSE SAND
18	12	0	1.0	- - - -	$1.0 \times 10^3$	COARSE SAND
35		+1	0.50	1/2	500	MEDIUM SAND
60	50	+2	0.25	1/4	250	FINE SAND
120	100	+3	0.125	1/8	125	VERY FINE SAND
230	200	+4	0.0625	1/16	62.5	COARSE SILT
		+5	0.0313	1/32	31.3	MEDIUM SILT
		+6	0.0156	1/64	15.6	FINE SILT
		+7	0.0078	1/128	7.8	VERY FINE SILT
		+8	0.0039	1/256	3.9	COARSE CLAY
		+9	0.00195	1/512	1.95	MEDIUM CLAY
		+10	0.00098	1/1024	0.98	FINE CLAY
		+11	0.00049	1/2048	0.49	VERY FINE CLAY
		+12	0.00024	1/4096	0.24	COLLOIDS

TABLE 23.--Formulas for Artificial Sea Water

Chlorinity = 19.00 0/00  
ARTIFICIAL SEA WATER

For experimental work where the physical properties of sea water, such as osmotic pressure or electrical conductivity, are at issue a 3.4% solution of sodium chloride may be used. Where the action of the water to be examined is of a chemical nature a more exact reproduction of sea water is desirable, depending upon the nature of the problem. Formulas for artificial sea water are given in Table 24. Preparations of natural sea salt may also be employed.

Naval Aircraft Factory Process Specification PS-1 for synthetic sea water, for use in testing corrosion-resisting steel tubing (Navy Department Specification 44T27b, dated July 1, 1940), is as follows:

Stock Solution

Potassium chloride	10 grams
Potassium bromide	45 grams
Magnesium chloride	550 grams
Calcium chloride	110 grams
Sterile distilled water to make 1 liter	

This stock solution is used with other chemicals to make the synthetic sea water as follows:

Sodium chloride — NaCl	23 grams
Sodium sulfate — Na <sub>2</sub> SO <sub>4</sub> · 10H <sub>2</sub> O	8 grams
Stock solution	20 ml
Sterile distilled water to make 1 liter	

Other recommended compositions are as follows:

McClendon <i>et al</i> (1917)*		Brujewics (Subow, 1931)†		Lyman and Fleming (1940)‡	
Salt	grams/kg	Salt	grams/kg	Salt	grams/kg
NaCl	26.726	NaCl	26.518	NaCl	23.476
MgCl <sub>2</sub>	2.260	MgCl <sub>2</sub>	2.447	MgCl <sub>2</sub>	4.981
MgSO <sub>4</sub>	3.248	MgSO <sub>4</sub>	3.305	Na <sub>2</sub> SO <sub>4</sub>	3.917
CaCl <sub>2</sub>	1.153	CaCl <sub>2</sub>	1.141	CaCl <sub>2</sub>	1.102
KCl	0.721	KCl	0.725	KCl	0.664
NaHCO <sub>3</sub>	0.198	NaHCO <sub>3</sub>	0.202	NaHCO <sub>3</sub>	0.192
NaBr	0.058	NaBr	0.083	KBr	0.096
H <sub>3</sub> BO <sub>3</sub>	0.058			H <sub>3</sub> BO <sub>3</sub>	0.026
Na <sub>2</sub> SiO <sub>3</sub>	0.0024			BrCl <sub>3</sub>	0.024
Na <sub>2</sub> Si <sub>2</sub> O <sub>7</sub>	0.0015			NaF	0.003
H <sub>3</sub> PO <sub>4</sub>	0.0002				
Al <sub>2</sub> Cl <sub>3</sub>	0.013				
NH <sub>3</sub>	0.002				
LiNO <sub>3</sub>	0.0013				
Total:	34.4406		34.421		34.481
Water to:	1,000.0000		1,000.000		1,000.000

\* J. F. McClendon, C. C. Gault, and S. Mulholland, Carnegie Institution of Washington, Publication 251 (Papers from Dept. of Marine Biology), pp. 21-69 (1917).

† N. N. Subow, *Oceanographical Tables*, U. S. S. R. Oceanographic Institute Hydro-Meteorol Com. 208 pp. Moscow, 1931.

‡ J. Lyman and R. H. Fleming, *J. Marine Research*, 3, 134-146 (1940).

**TABLE 24. -- Depth Conversions****Table A -- Fathoms to Meters**

1 fathom = 1.8287 meters

Example :

Given, depth = 195 fathoms.

From table            depth = 356.6 meters.

**Table B -- Meters to Fathoms**

1 meter = 0.54081 fathoms

Example :

Given, depth = 800 meters.

From table            depth = 437 fathoms.

**Table C -- Feet to Meters**

1 foot = 0.30480 meters

Example :

Given, depth = 144 feet.

From table            depth = 43.9 meters.

**Table D -- Meters to Feet**

1 meter = 3.28083 feet

Example :

Given, depth = 94 meters.

From table            depth = 308.4 feet

(Lafouf, 1961)

TABLE 24A.—Fathoms to Meters

Fathoms	0	1	2	3	4	5	6	7	8	9
0.....	0.0	1.8	2.7	3.5	4.3	5.1	5.9	6.7	7.5	8.3
10.....	18.3	20.1	21.9	23.8	25.6	27.4	29.3	31.1	32.9	34.7
20.....	36.6	38.4	40.2	42.1	43.9	45.7	47.5	49.4	51.2	53.0
30.....	54.9	56.7	58.5	60.3	62.2	64.0	65.8	67.7	69.5	71.3
40.....	73.2	75.0	76.8	78.6	80.5	82.3	84.1	86.0	87.8	89.6
50.....	91.4	93.3	95.1	96.9	98.8	100.6	102.4	104.2	106.1	107.9
60.....	109.7	111.6	113.4	115.2	117.0	118.9	120.7	122.5	124.4	126.2
70.....	128.0	129.8	131.7	133.5	135.3	137.2	139.0	140.8	142.6	144.5
80.....	146.3	148.1	150.0	151.8	153.6	155.4	157.3	159.1	160.9	162.8
90.....	164.6	166.4	168.2	170.1	171.9	173.7	175.6	177.4	179.2	181.0
100.....	182.9	184.7	186.5	188.4	190.2	192.0	193.8	195.7	197.5	199.3
110.....	201.2	203.0	204.8	206.7	208.5	210.3	212.1	214.0	215.8	217.6
120.....	219.5	221.3	223.1	224.9	226.8	228.6	230.4	232.2	234.1	235.9
130.....	237.7	239.6	241.4	243.2	245.1	246.9	248.7	250.5	252.4	254.2
140.....	256.0	257.9	259.7	261.5	263.3	265.2	267.0	268.8	270.7	272.5
150.....	274.3	276.1	278.0	279.8	281.6	283.5	285.3	287.1	288.9	290.8
160.....	292.6	294.4	296.2	298.1	299.9	301.7	303.6	305.4	307.2	309.1
170.....	310.9	312.7	314.5	316.4	318.2	320.0	321.9	323.7	325.5	327.3
180.....	329.2	331.0	332.8	334.7	336.5	338.3	340.2	342.0	343.8	345.6
190.....	347.5	349.3	351.1	353.0	354.8	356.6	358.4	360.3	362.1	363.9
200.....	365.8	367.6	369.4	371.2	373.1	374.9	376.7	378.6	380.4	382.2
210.....	384.0	385.9	387.7	389.5	391.4	393.2	395.0	396.8	398.7	400.5
220.....	402.3	404.2	406.0	407.8	409.6	411.5	413.3	415.1	417.0	418.8
230.....	420.6	422.4	424.3	426.1	427.9	429.8	431.6	433.4	435.2	437.1
240.....	438.9	440.7	442.6	444.4	446.2	448.0	449.9	451.7	453.5	455.4
250.....	457.2	459.0	460.9	462.7	464.5	466.3	468.2	470.0	471.8	473.7
260.....	475.5	477.3	479.1	481.0	482.7	484.6	486.5	488.3	490.1	491.9
270.....	493.8	495.6	497.4	499.3	501.1	502.9	504.7	506.6	508.4	510.2
280.....	512.1	513.9	515.7	517.5	519.4	521.2	523.0	524.9	526.7	528.5
290.....	530.3	532.2	534.0	535.8	537.7	539.5	541.3	543.1	545.0	546.8

Fathoms	0	10	20	30	40	50	60	70	80	90
300.....	549	567	585	603	622	640	658	677	695	713
400.....	723	739	758	776	795	813	831	850	868	886
500.....	914	933	951	969	988	1,006	1,024	1,042	1,061	1,079
600.....	1,097	1,116	1,134	1,152	1,170	1,189	1,207	1,225	1,244	1,262
700.....	1,300	1,318	1,337	1,355	1,373	1,392	1,410	1,428	1,446	1,465
800.....	1,483	1,481	1,500	1,518	1,536	1,554	1,573	1,591	1,609	1,628
900.....	1,646	1,664	1,682	1,701	1,719	1,737	1,756	1,774	1,792	1,810

Fathoms	0	100	200	300	400	500	600	700	800	900
1,000.....	1,829	2,012	2,195	2,377	2,560	2,743	2,926	3,109	3,292	3,475
2,000.....	3,658	3,840	4,023	4,206	4,389	4,572	4,755	4,938	5,121	5,303
3,000.....	5,486	5,669	5,852	6,035	6,218	6,401	6,584	6,767	6,950	7,132
4,000.....	7,315	7,498	7,681	7,864	8,047	8,230	8,413	8,596	8,778	8,961
5,000.....	9,144	9,327	9,510	9,693	9,875	10,058	10,241	10,424	10,607	10,790
6,000.....	10,973	11,155	11,338	11,521	11,704	11,887	12,070	12,253	12,436	12,618
7,000.....	12,801	12,984	13,167	13,350	13,533	13,716	13,899	14,082	14,264	14,447
8,000.....	14,630	14,813	14,996	15,179	15,362	15,545	15,727	15,910	16,093	16,276
9,000.....	16,459	16,642	16,825	17,008	17,190	17,373	17,556	17,739	17,922	18,105

TABLE 24B. Meters to Fathoms

Meters	0	1	2	3	4	5	6	7	8	9
0	0.0	0.5	1.1	1.6	2.2	2.7	3.3	3.8	4.4	4.9
10	5.5	6.0	6.6	7.1	7.7	8.2	8.7	9.3	9.8	10.4
20	10.9	11.5	12.0	12.6	13.1	13.7	14.2	14.8	15.3	15.9
30	16.4	17.0	17.5	18.0	18.6	19.1	19.7	20.2	20.8	21.3
40	21.9	22.4	23.0	23.5	24.1	24.6	25.2	25.7	26.2	26.8
50	27.3	27.9	28.4	29.0	29.5	30.1	30.6	31.2	31.7	32.3
60	32.8	33.4	33.9	34.4	35.0	35.5	36.1	36.6	37.2	37.7
70	38.3	38.8	39.4	39.9	40.5	41.0	41.6	42.1	42.7	43.2
80	43.7	44.3	44.8	45.4	45.9	46.5	47.0	47.6	48.1	48.7
90	49.2	49.8	50.3	50.9	51.4	51.9	52.5	53.0	53.6	54.1
100	54.7	55.2	55.8	56.3	56.9	57.4	58.0	58.5	59.1	59.6
110	60.1	60.7	61.2	61.8	62.3	62.9	63.4	64.0	64.5	65.1
120	65.6	66.2	66.7	67.3	67.8	68.4	68.9	69.4	70.0	70.5
130	71.1	71.6	72.2	72.7	73.3	73.8	74.4	74.9	75.5	76.0
140	76.6	77.1	77.6	78.2	78.7	79.3	79.8	80.4	80.9	81.5
150	82.0	82.6	83.1	83.7	84.2	84.8	85.3	85.9	86.4	86.9
160	87.5	88.0	88.6	89.1	89.7	90.2	90.8	91.3	91.9	92.4
170	93.0	93.5	94.1	94.6	95.1	95.7	96.2	96.8	97.3	97.9
180	98.4	99.0	99.5	100.1	100.6	101.2	101.7	102.3	102.8	103.3
190	103.9	104.4	105.0	105.5	106.1	106.6	107.2	107.7	108.3	108.8
200	109.4	109.9	110.5	111.0	111.6	112.1	112.6	113.2	113.7	114.3
210	114.8	115.4	115.9	116.5	117.0	117.6	118.1	118.7	119.2	119.8
220	120.3	120.8	121.4	121.9	122.5	123.0	123.6	124.1	124.7	125.2
230	125.8	126.3	126.9	127.4	128.0	128.5	129.0	129.6	130.1	130.7
240	131.2	131.8	132.3	132.9	133.4	134.0	134.5	135.1	135.6	136.2
250	136.7	137.3	137.8	138.3	138.9	139.4	140.0	140.5	141.1	141.6
260	142.2	142.7	143.3	143.8	144.4	144.9	145.5	146.0	146.5	147.1
270	147.6	148.2	148.7	149.3	149.8	150.4	150.9	151.5	152.0	152.6
280	153.1	153.7	154.2	154.7	155.3	155.8	156.4	156.9	157.5	158.0
290	158.6	159.1	159.7	160.2	160.8	161.3	161.9	162.4	163.0	163.5

Meters	0	10	20	30	40	50	60	70	80	90
300	164	170	175	180	186	191	197	202	208	213
400	219	224	230	235	241	246	252	257	262	268
500	273	279	284	290	295	301	306	312	317	323
600	328	334	339	344	350	355	361	366	372	377
700	383	388	394	399	405	410	416	421	427	432
800	437	443	448	454	459	465	470	476	481	487
900	492	498	503	509	514	519	525	530	536	541

Meters	0	100	200	300	400	500	600	700	800	900
1,000	547	601	656	711	766	820	875	930	984	1,039
2,000	1,094	1,148	1,203	1,258	1,312	1,367	1,422	1,476	1,531	1,586
3,000	1,640	1,695	1,750	1,804	1,859	1,914	1,969	2,023	2,078	2,133
4,000	2,187	2,242	2,297	2,351	2,406	2,461	2,515	2,570	2,625	2,679
5,000	2,734	2,789	2,843	2,898	2,953	3,007	3,062	3,117	3,172	3,226
6,000	3,281	3,336	3,390	3,445	3,500	3,554	3,609	3,664	3,718	3,773
7,000	3,828	3,882	3,937	3,992	4,046	4,101	4,156	4,210	4,265	4,320
8,000	4,375	4,429	4,484	4,539	4,593	4,648	4,703	4,757	4,812	4,867
9,000	4,921	4,976	5,031	5,085	5,140	5,195	5,249	5,304	5,359	5,413



TABLE 24C—Feet to Meters

Feet	0	1	2	3	4	5	6	7	8	9
0	0.0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7
10	3.0	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5	5.8
20	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8
30	9.1	9.4	9.8	10.1	10.4	10.7	11.0	11.3	11.6	11.9
40	12.2	12.5	12.8	13.1	13.4	13.7	14.0	14.3	14.6	14.9
50	15.2	15.5	15.8	16.1	16.5	16.8	17.1	17.4	17.7	18.0
60	18.3	18.6	18.9	19.2	19.5	19.8	20.1	20.4	20.7	21.0
70	21.3	21.6	21.9	22.3	22.6	22.9	23.2	23.5	23.8	24.1
80	24.4	24.7	25.0	25.3	25.6	25.9	26.2	26.5	26.8	27.1
90	27.4	27.7	28.0	28.3	28.7	29.0	29.3	29.6	29.9	30.2
100	30.5	30.8	31.1	31.4	31.7	32.0	32.3	32.6	32.9	33.2
110	33.5	33.8	34.1	34.4	34.7	35.1	35.4	35.7	36.0	36.3
120	36.6	36.9	37.2	37.5	37.8	38.1	38.4	38.7	39.0	39.3
130	39.6	39.9	40.2	40.5	40.8	41.1	41.5	41.8	42.1	42.4
140	42.7	43.0	43.3	43.6	43.9	44.2	44.5	44.8	45.1	45.4
150	45.7	46.0	46.3	46.6	46.9	47.2	47.5	47.9	48.2	48.5
160	48.8	49.1	49.4	49.7	50.0	50.3	50.6	50.9	51.2	51.5
170	51.8	52.1	52.4	52.7	53.0	53.3	53.6	53.9	54.3	54.6
180	54.9	55.2	55.5	55.8	56.1	56.4	56.7	57.0	57.3	57.6
190	57.9	58.2	58.5	58.8	59.1	59.4	59.7	60.0	60.4	60.7
200	61.0	61.3	61.6	61.9	62.2	62.5	62.8	63.1	63.4	63.7
210	64.0	64.3	64.6	64.9	65.2	65.5	65.8	66.1	66.4	66.7
220	67.1	67.4	67.7	68.0	68.3	68.6	68.9	69.2	69.5	69.8
230	70.1	70.4	70.7	71.0	71.3	71.6	71.9	72.2	72.5	72.8
240	73.2	73.5	73.8	74.1	74.4	74.7	75.0	75.3	75.6	75.9
250	76.2	76.5	76.8	77.1	77.4	77.7	78.0	78.3	78.6	78.9
260	79.2	79.5	79.8	80.1	80.4	80.7	81.0	81.3	81.6	81.9
270	82.3	82.6	82.9	83.2	83.5	83.8	84.1	84.4	84.7	85.0
280	85.3	85.6	85.9	86.2	86.5	86.8	87.1	87.4	87.7	88.0
290	88.4	88.7	89.0	89.3	89.6	89.9	90.2	90.5	90.8	91.1

Feet	00	10	20	30	40	50	60	70	80	90
300	91.4	94.5	97.5	100.6	103.6	106.7	109.7	112.8	115.8	118.9
400	121.9	125.0	128.0	131.1	134.1	137.2	140.2	143.3	146.3	149.4
500	152.4	155.4	158.5	161.5	164.6	167.7	170.7	173.7	176.8	179.8
600	182.9	185.9	189.0	192.0	195.1	198.1	201.2	204.2	207.3	210.3
700	213.4	216.4	219.5	222.5	225.6	228.6	231.6	234.7	237.7	240.8
800	243.8	246.9	249.9	253.0	256.0	259.1	262.1	265.2	268.2	271.3
900	274.3	277.4	280.4	283.5	286.5	289.6	292.6	295.7	298.7	301.8

Feet	000	100	200	300	400	500	600	700	800	900
1,000	305	335	365	395	427	457	488	518	549	579
2,000	610	640	671	701	732	762	792	823	853	884
3,000	914	945	975	1,006	1,036	1,067	1,097	1,128	1,158	1,189
4,000	1,219	1,250	1,280	1,311	1,341	1,372	1,402	1,433	1,463	1,494
5,000	1,524	1,554	1,585	1,615	1,646	1,676	1,707	1,737	1,768	1,798
6,000	1,829	1,859	1,890	1,920	1,951	1,981	2,012	2,042	2,073	2,103
7,000	2,134	2,164	2,195	2,225	2,256	2,286	2,316	2,347	2,377	2,408
8,000	2,438	2,469	2,499	2,530	2,560	2,591	2,621	2,652	2,682	2,713
9,000	2,743	2,774	2,804	2,835	2,865	2,896	2,926	2,957	2,987	3,018

TABLE 24D.—Meters to Feet

Meters	0	1	2	3	4	5	6	7	8	9
0	0.0	3.3	6.6	9.8	13.1	16.4	19.7	23.0	26.2	29.5
10	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3
20	65.6	68.9	72.2	75.5	78.7	82.0	85.3	88.6	91.9	95.1
30	98.4	101.7	105.0	108.3	111.5	114.8	118.1	121.4	124.7	128.0
40	131.2	134.5	137.8	141.1	144.4	147.6	150.9	154.2	157.5	160.8
50	164.0	167.3	170.6	173.9	177.2	180.4	183.7	187.0	190.3	193.6
60	196.8	200.1	203.4	206.7	210.0	213.3	216.5	219.8	223.1	226.4
70	229.7	232.9	236.2	239.5	242.8	246.1	249.3	252.6	255.9	259.2
80	262.5	265.7	269.0	272.3	275.6	278.9	282.2	285.4	288.7	292.0
90	295.3	298.6	301.8	305.1	308.4	311.7	315.0	318.2	321.5	324.8
100	328.1	331.4	334.6	337.9	341.2	344.5	347.8	351.0	354.3	357.6
110	360.9	364.2	367.5	370.7	374.0	377.3	380.6	383.9	387.1	390.4
120	393.7	397.0	400.3	403.5	406.8	410.1	413.4	416.7	419.9	423.2
130	428.5	429.8	433.1	436.4	439.6	442.9	446.2	449.5	452.8	456.0
140	459.3	462.6	465.9	469.2	472.4	475.7	479.0	482.3	485.6	488.8
150	492.1	495.4	498.7	502.0	505.2	508.5	511.8	515.1	518.4	521.7
160	524.9	528.2	531.5	534.8	538.1	541.3	544.6	547.9	551.2	554.5
170	557.7	561.0	564.3	567.6	570.9	574.1	577.4	580.7	584.0	587.3
180	590.5	593.8	597.1	600.4	603.7	607.0	610.3	613.5	616.8	620.1
190	623.4	626.7	629.9	633.2	636.5	639.8	643.0	646.3	649.6	652.9
200	656.2	659.4	662.7	666.0	669.3	672.6	675.9	679.1	682.4	685.7
210	689.0	692.3	695.5	698.8	702.1	705.4	708.7	711.9	715.2	718.5
220	721.8	725.1	728.3	731.6	734.9	738.2	741.5	744.7	748.0	751.3
230	754.6	757.9	761.2	764.4	767.7	771.0	774.3	777.6	780.8	784.1
240	787.4	790.7	794.0	797.2	800.5	803.8	807.1	810.4	813.6	816.9
250	820.2	823.5	826.8	830.1	833.3	836.6	839.9	843.2	846.5	849.7
260	853.0	856.3	859.6	862.9	866.1	869.4	872.7	876.0	879.3	882.5
270	885.8	889.1	892.4	895.7	898.9	902.2	905.5	908.8	912.1	915.4
280	918.6	921.9	925.2	928.5	931.8	935.0	938.3	941.6	944.9	948.2
290	951.4	954.7	958.0	961.3	964.6	967.8	971.1	974.4	977.7	981.0

Meters	00	10	20	30	40	50	60	70	80	90
300	984.2	1,017.1	1,049.9	1,082.7	1,115.5	1,148.3	1,181.1	1,213.9	1,246.7	1,279.5
400	1,312.3	1,345.1	1,377.9	1,410.8	1,443.6	1,476.4	1,509.2	1,542.0	1,574.8	1,607.6
500	1,640.4	1,673.2	1,706.0	1,738.8	1,771.6	1,804.5	1,837.3	1,870.1	1,902.9	1,935.7
600	1,968.5	2,001.3	2,034.1	2,066.9	2,099.7	2,132.5	2,165.3	2,198.2	2,231.0	2,263.8
700	2,296.6	2,329.4	2,362.2	2,395.0	2,427.8	2,460.6	2,493.4	2,526.2	2,559.0	2,591.8
800	2,624.7	2,657.5	2,690.3	2,723.1	2,755.9	2,788.7	2,821.5	2,854.3	2,887.1	2,919.9
900	2,952.7	2,985.6	3,018.4	3,051.2	3,084.0	3,116.8	3,149.6	3,182.4	3,215.2	3,248.0

Meters	000	100	200	300	400	500	600	700	800	900
1,000	3,281	3,609	3,937	4,265	4,593	4,921	5,249	5,577	5,905	6,234
2,000	6,562	6,890	7,218	7,546	7,874	8,202	8,530	8,858	9,186	9,514
3,000	9,842	10,171	10,499	10,827	11,155	11,483	11,811	12,139	12,467	12,795
4,000	13,123	13,451	13,779	14,108	14,436	14,764	15,092	15,420	15,748	16,076
5,000	16,404	16,732	17,060	17,388	17,716	18,045	18,373	18,701	19,028	19,357
6,000	19,685	20,013	20,341	20,669	20,997	21,325	21,653	21,982	22,310	22,638
7,000	22,966	23,294	23,622	23,950	24,278	24,606	24,934	25,262	25,590	25,919
8,000	26,247	26,575	26,903	27,231	27,559	27,887	28,215	28,543	28,871	29,199
9,000	29,527	29,856	30,184	30,512	30,840	31,168	31,496	31,824	32,152	32,480

TABLE 25.—Depth Conversion Factors

National Oceanographic Data Center Standard Depths

METERS	FEET	FATHOMS
0	0	0
10	33	5
20	66	11
30	98	16
50	164	27
75	246	41
100	328	55
150	492	82
200	656	109
250	820	137
300	984	164
400	1312	219
500	1640	273
600	1968	328
800	2625	437
1000	3281	547
1200	3937	656
1250	4101	684
1500	4921	820
1750	5740	957
2000	6562	1094
2500	8202	1367
3000	9842	1640
4000	13123	2187
5000	16404	2734
6000	19685	3281
7000	22966	3828
8000	26247	4375
9000	29527	4921
10000	32808	5468

TABLE 26.—Velocity Conversions—Knots to Centimeters per Second

Example:  
 Given, velocity 1.5 knots.  
 From Table A, velocity 77.2 cm./sec.

VELOCITY CONVERSION--KNOTS TO CENTIMETERS PER SECOND

Knots	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0	0.0	5.1	10.3	15.4	20.6	25.7	30.9	36.0	41.2	46.3
1	51.5	56.6	61.8	66.9	72.1	77.2	82.4	87.5	92.7	97.8
2	103.0	108.1	113.3	118.4	123.5	128.7	133.8	139.0	144.1	149.3
3	154.4	159.6	164.7	169.9	175.0	180.2	185.3	190.5	195.6	200.8
4	205.9	211.1	216.2	221.4	226.5	231.7	236.8	242.0	247.1	252.2
5	257.4	262.5	267.7	272.8	278.0	283.1	288.3	293.4	298.6	303.7
6	308.9	314.0	319.2	324.3	329.5	334.6	339.8	344.9	350.1	355.2
7	360.4	365.5	370.6	375.8	380.9	386.1	391.2	396.4	401.5	406.7
8	411.8	417.0	422.1	427.3	432.4	437.6	442.7	447.9	453.0	458.2
9	463.3	468.5	473.6	478.8	483.9	489.1	494.2	499.3	504.5	509.6

(Lafond, 1851)

TABLE 27.—Velocity Conversions—Centimeters per Second to Knots

Example:

Given, velocity 84 cm./sec.

From table velocity 1.63 knots.

cm./sec.	0	1	2	3	4	5	6	7	8	9
0	0.0	0.02	0.04	0.06	0.08	0.10	0.12	0.14	0.16	0.17
10	.19	.21	.23	.25	.27	.29	.31	.33	.35	.37
20	.39	.41	.43	.45	.47	.49	.51	.52	.54	.56
30	.58	.60	.62	.64	.66	.68	.70	.72	.74	.76
40	.78	.80	.82	.84	.85	.87	.89	.91	.93	.95
50	.97	.99	1.01	1.03	1.05	1.07	1.09	1.11	1.13	1.15
60	1.17	1.18	1.20	1.22	1.24	1.26	1.28	1.30	1.32	1.34
70	1.36	1.38	1.40	1.42	1.44	1.46	1.48	1.50	1.52	1.53
80	1.55	1.57	1.59	1.61	1.63	1.65	1.67	1.69	1.71	1.73
90	1.75	1.77	1.79	1.81	1.83	1.85	1.86	1.88	1.90	1.92
100	1.94	1.96	1.98	2.00	2.02	2.04	2.06	2.08	2.10	2.12
110	2.14	2.16	2.18	2.20	2.21	2.23	2.25	2.27	2.29	2.31
120	2.33	2.35	2.37	2.39	2.41	2.43	2.45	2.47	2.49	2.51
130	2.53	2.54	2.56	2.58	2.60	2.62	2.64	2.66	2.68	2.70
140	2.72	2.74	2.76	2.78	2.80	2.82	2.84	2.86	2.87	2.89
150	2.91	2.93	2.95	2.97	2.99	3.01	3.03	3.05	3.07	3.09
160	3.11	3.13	3.15	3.17	3.19	3.21	3.22	3.24	3.26	3.28
170	3.30	3.32	3.34	3.36	3.38	3.40	3.42	3.44	3.46	3.48
180	3.50	3.52	3.54	3.55	3.57	3.59	3.61	3.63	3.65	3.67
190	3.69	3.71	3.73	3.75	3.77	3.79	3.81	3.83	3.85	3.87
200	3.89	3.90	3.92	3.94	3.96	3.98	4.00	4.02	4.04	4.06
210	4.08	4.10	4.12	4.14	4.16	4.18	4.20	4.22	4.23	4.25
220	4.27	4.29	4.31	4.33	4.35	4.37	4.39	4.41	4.43	4.45
230	4.47	4.49	4.51	4.53	4.55	4.56	4.58	4.60	4.62	4.64
240	4.66	4.68	4.70	4.72	4.74	4.76	4.78	4.80	4.82	4.84
250	4.86	4.88	4.90	4.91	4.93	4.95	4.97	4.99	5.01	5.03
260	5.05	5.07	5.09	5.11	5.13	5.15	5.17	5.19	5.21	5.23
270	5.24	5.26	5.28	5.30	5.32	5.34	5.36	5.38	5.40	5.42
280	5.44	5.46	5.48	5.50	5.52	5.54	5.56	5.58	5.59	5.61
290	5.63	5.65	5.67	5.69	5.71	5.73	5.75	5.77	5.79	5.81

(Lafond, 1951)

TABLE 28

## Conversion Factors

Multiply	By	To Obtain
ATMOSPHERES.....	76.0.....	Cms. of mercury
Atmospheres.....	29.92.....	Inches of mercury
Atmospheres.....	33.90.....	Feet of Water
Atmospheres.....	1.0333.....	Kgs./sq.cm.
Atmospheres.....	14.70.....	Lbs./sq.inch
Atmospheres.....	1.058.....	Tons/sq.ft.
<b>BARRELS-OIL.....</b>	<b>42.....</b>	<b>Gallons-Oil</b>
BRITISH THERMAL UNITS....	0.2520.....	Kilogram-calories
British Thermal Units...	777.6.....	Foot-lbs
British Thermal Units...	$3.967 \times 10^{-4}$ .....	Horse-power-hrs.
British Thermal Units...	107.6.....	Kilogram-meters
British Thermal Units...	$2.928 \times 10^{-4}$ .....	Kilowatt-hrs
B.T.U./MIN.....	14.96.....	Foot-lbs/sec.
B.T.U./min.....	0.02356.....	Horse-power
B.T.U./min.....	0.0175.....	Kilowatts
B.T.U./min.....	17.57.....	Watts
CENTARES (CENTIARES).....	1.....	Square meters
CENTIGRAMS.....	0.01.....	Grams
CENTILITERS.....	0.01.....	Liters
CENTIMETERS.....	0.3937.....	Inches
Centimeters.....	0.01.....	Meters
Centimeters.....	10.....	Millimeters
CENTIMETERS OF MERCURY ..	0.01316.....	Atmospheres
Centimeters of mercury..	0.4461.....	Feet of water
Centimeters of mercury..	136.0.....	Kgs/sq.meter
Centimeters of mercury..	27.85.....	Lbs/sq.ft.
Centimeters of mercury..	0.1934.....	Lbs/sq.inch
CENTIMETERS/SECOND.....	1.969.....	Feet/min.
Centimeters/second.....	0.03281.....	Feet/sec.
Centimeters/second.....	0.036.....	Kilometers/hr.
Centimeters/second.....	0.6.....	Meters/min.
Centimeters/second.....	0.02237.....	Miles/hr.
Centimeters/second.....	$3.728 \times 10^{-4}$ .....	Miles, min.

TABLE 28  
Conversion Factors (Continued)

Multiply	By	To Obtain
C.M.S./SEC./SEC.....	0.03281.....	Feet/sec./sec.
CUBIC CENTIMETERS.....	$3.531 \times 10^{-5}$ .....	Cubic feet
Cubic centimeters.....	$6.102 \times 10^{-2}$ .....	Cubic inches
Cubic centimeters.....	$10^{-6}$ .....	Cubic meters
Cubic centimeters.....	$1.308 \times 10^{-6}$ .....	Cubic yards
Cubic centimeters.....	$2.642 \times 10^{-4}$ .....	Gallons
Cubic centimeters.....	$10^{-3}$ .....	Liters
Cubic centimeters.....	$2.113 \times 10^{-3}$ .....	Pints(liq)
Cubic centimeters.....	$1.057 \times 10^{-3}$ .....	Quarts(liq)
CUBIC FEET.....	$2.832 \times 10^4$ .....	Cubic cms.
Cubic feet.....	1728.....	Cubic inches
Cubic feet.....	0.02832.....	Cubic meters
Cubic feet.....	0.03704.....	Cubic yards
Cubic feet.....	7.48052.....	Gallons
Cubic feet.....	28.32.....	Liters
Cubic feet.....	59.84.....	Pints(liq)
Cubic feet.....	29.92.....	Quarts(liq)
CUBIC FEET/MINUTE.....	472.0.....	Cubic cms./sec.
Cubic feet/minute.....	0.1247.....	Gallons/sec.
Cubic feet/minute.....	0.4720.....	Liters/sec.
Cubic feet/minute.....	62.43.....	Pounds of water/min.
CUBIC FEET/SECOND.....	0.646317.....	Million gals./day
Cubic feet/second.....	448.831.....	Gallons/min.
CUBIC INCHES.....	16.39.....	Cubic centimeters
Cubic inches.....	$5.787 \times 10^{-4}$ .....	Cubic feet
Cubic inches.....	$1.639 \times 10^{-5}$ .....	Cubic meters
Cubic inches.....	$2.143 \times 10^{-5}$ .....	Cubic yards
Cubic inches.....	$4.329 \times 10^{-3}$ .....	Gallons
Cubic inches.....	$1.639 \times 10^{-2}$ .....	Liters
Cubic inches.....	0.03463.....	Pints(liq)
Cubic inches.....	0.01732.....	Quarts(liq)

TABLE 28

## Conversion Factors (Continued)

Multiply	By	To Obtain
CUBIC METERS.....	$10^6$ .....	Cubic centimeters
Cubic meters.....	35.31.....	Cubic feet
Cubic meters.....	61,023.....	Cubic inches
Cubic meters.....	1.308.....	Cubic yards
Cubic meters.....	264.2.....	Gallons
Cubic meters.....	$10^3$ .....	Liters
Cubic meters.....	211.3.....	Pints(liq)
Cubic meters.....	1057.....	Quarts(liq)
CUBIC YARDS.....	$7.646 \times 10^5$ .....	Cubic centimeters
Cubic yards.....	27.....	Cubic feet
Cubic yards.....	46,656.....	Cubic inches
Cubic yards.....	0.7646.....	Cubic meters
Cubic yards.....	202.0.....	Gallons
Cubic yards.....	764.6.....	Liters
Cubic yards.....	1616.....	Pints(liq)
Cubic yards.....	807.9.....	Quarts(liq)
CUBIC YARDS/MIN.....	0.47.....	Cubic feet/sec.
Cubic yards/min.....	3.367.....	Gallons/sec.
Cubic yards/min.....	12.74.....	Liters/sec.
DECIGRAMS.....	0.1.....	Grams
DECILITERS.....	0.1.....	Liters
DECIMETERS.....	0.1.....	Meters
DEGREES(ANGLE).....	60.....	Minutes
Degrees(angle).....	0.01745.....	Radians
Degrees(angle).....	3600.....	Seconds
DEGREES/SEC.....	0.01745.....	Radians/sec.
Degrees/sec.....	0.1667.....	Revolutions/min.
Degrees/sec.....	0.002778.....	Revolutions/sec.
DEKAGRAMS.....	10.....	Grams
DEKALITERS.....	10.....	Liters
DEKAMETERS.....	10.....	Meters



TABLE 28  
Conversion Factors (Continued)

Multiply	By	To Obtain
FATHOMS.....	6.....	Feet
FEET.....	30.48.....	Centimeters
Feet.....	1.....	Inches
Feet.....	0.3048.....	Meters
Feet.....	1/3.....	Yards
FEET OF WATER.....	0.02993.....	Atmospheres
Feet of water.....	0.8826.....	Inches of mercury
Feet of water.....	0.03048.....	Kgs./sq.cm.
Feet of water.....	62.43.....	Lbs./sq.ft.
Feet of water.....	0.433.....	Lbs./sq.inch
FEET/MIN.....	0.508.....	Centimeters/sec.
Feet/min.....	0.01667.....	Feet/sec.
Feet/min.....	0.01829.....	Kilometers/hr.
Feet/min.....	0.3048.....	Meters/min.
Feet/min.....	0.01130.....	Miles/hr.
FEET/SEC./SEC.....	30.48.....	Cms./sec./sec.
Feet/sec./sec.....	0.3048.....	Meters/sec./sec.
FOOT-POUNDS.....	$1.285 \times 10^{-3}$ .....	British Thermal Units
Foot-pounds.....	$5.050 \times 10^{-4}$ .....	Horse-power-hrs.
Foot-pounds.....	$3.241 \times 10^{-4}$ .....	Kilogram-calories
Foot-pounds.....	0.1383.....	Kilogram-meters
Foot-pounds.....	$3.766 \times 10^{-4}$ .....	Kilowatt-hrs
FOOT-POUNDS/MIN.....	$1.286 \times 10^{-3}$ .....	B. T. Units/min.
Foot-pounds/min.....	0.01667.....	Foot-pounds/sec.
Foot-pounds/min.....	$5.050 \times 10^{-4}$ .....	Horse-power
Foot-pounds/min.....	$3.241 \times 10^{-4}$ .....	Kg-calories/min.
Foot-pounds/min.....	$2.260 \times 10^{-5}$ .....	Kilowatts
FOOT-POUNDS/SEC.....	$7.717 \times 10^{-6}$ .....	B. T. Units/min.
Foot-pounds/sec.....	$1.818 \times 10^{-3}$ .....	Horse-power
Foot-pounds/sec.....	$1.905 \times 10^{-6}$ .....	Kg.calories/min.
Foot-pounds/sec.....	$1.356 \times 10^{-3}$ .....	kilowatts

TABLE 28  
Conversion Factors (Continued)

Multiply	By	To Obtain
GALLONS.....	3785.....	Cubic-centimeters
Gallons.....	0.1337.....	Cubic feet
Gallons.....	231.....	Cubic inches
Gallons.....	$3.785 \times 10^{-3}$ .....	Cubic meters
Gallons.....	$4.951 \times 10^{-3}$ .....	Cubic yards
Gallons.....	3.785.....	Liters
Gallons.....	8.....	Pints(liq)
Gallons.....	4.....	Quarts(liq)
GALLONS, IMPERIAL.....	1.20095.....	U.S. Gallons
Gallons, U.S.....	0.83267.....	Imperial gallons
GALLONS WATER.....	8.3453.....	Pounds of water
GALLONS/MIN.....	$2.228 \times 10^{-3}$ .....	Cubic feet/sec.
Gallons/min.....	0.06308.....	Liters/sec.
Gallons/min.....	8.0208.....	Cu.ft./hr.
GALLONS WATER/MIN.....	6.0086.....	Tons water/24 hrs.
GRAMS.....	980.7.....	Dynes
Grams.....	15.43.....	Grains
Grams.....	$10^{-3}$ .....	Kilograms
Grams.....	$10^{-3}$ .....	Milligrams
Grams.....	0.03527.....	Ounces
Grams.....	0.03215.....	Ounces (troy)
Grams.....	$2.205 \times 10^{-3}$ .....	Pounds
GRAMS/CM.....	$5.600 \times 10^{-3}$ .....	Pounds/inch
GRAMS/CU. FT.....	62.43.....	Pounds/cubic foot
Grams/cu.cm.....	0.03613.....	Pounds/cubic inch
GRAMS/LITER.....	8.417.....	Grains/gal.
Grams/liter.....	6.345.....	Pounds/1000 gals.
Grams/liter.....	0.062427.....	Pounds/cubic foot
Grams/liter.....	1000.....	Parts/million

TABLE 28  
Conversion Factors (Continued)

Multiply	By	To Obtain
HECTOGRAMS.....	100.....	Grams
HECTOLITERS.....	100.....	Liters
HECTOMETERS.....	100.....	Meters
HECTOWATTS.....	100.....	Watts
INCHES.....	2.540.....	Centimeters
INCHES OF MERCURY.....	0.03342.....	Atmospheres
Inches of mercury.....	1.133.....	Feet of water
Inches of mercury.....	0.03453.....	Kgs./sq. cm.
Inches of mercury.....	70.73.....	Lbs./sq. ft.
Inches of mercury.....	0.4912.....	Lbs./sq. inch
INCHES OF WATER.....	0.00248.....	Atmospheres
Inches of water.....	0.07375.....	Inches of mercury
Inches of water.....	0.00240.....	Kgs./sq. cm.
Inches of water.....	0.5781.....	Ounces/sq. inch
Inches of water.....	5.202.....	Lbs./sq. foot
Inches of water.....	0.03613.....	Lbs./sq. inch
JOULES (ABS).....	$9.480 \times 10^{-4}$ .....	BTU (mean)
Joules (abs).....	0.2389.....	Grain calories (mean)
Joules (abs).....	0.23918.....	Grain calories (20°C)
Joules (abs).....	$2.389 \times 10^{-4}$ .....	Kg. calories (mean)
Joules (abs).....	$1 \times 10^7$ .....	Ergs
Joules (abs).....	0.7376.....	Ft. lb.
Joules (abs).....	$1.0197 \times 10^{-7}$ .....	G. cm.
Joules (abs).....	$3.72508 \times 10^{-7}$ .....	Horse-power hr.
Joules (abs).....	0.999680.....	Joules (international)
Joules (abs).....	$2.7778 \times 10^{-7}$ .....	Kilowatt hr.
KILOGRAMS.....	980.66.....	Dynes
Kilograms.....	2.205.....	Lbs.
Kilograms.....	$1.102 \times 10^{-3}$ .....	Tons (short)
Kilograms.....	$10^3$ .....	Grams

i

TABLE 24

## Conversion Factors (Continued)

Multiply	By	To Obtain
KGS./METER.....	0.6720.....	Lbs./foot
KGS./SQ. CM.....	0.9678.....	Atmospheres
Kgs./sq. cm.....	32.81.....	Feet of water
Kgs./sq. cm.....	28.96.....	Inches of mercury
Kgs./sq. cm.....	2048.....	Lbs./sq. foot
Kgs./sq. cm.....	14.22.....	Lbs./sq. inch
KGS./SQ. MILLIMETER.....	$10^6$ .....	Kgs./sq. meter
KILOLITERS.....	$10^3$ .....	Liters
KILOMETERS.....	$10^3$ .....	Centimeters
Kilometers.....	3281.....	Feet
Kilometers.....	$10^3$ .....	Meters
Kilometers.....	0.6214.....	Miles
Kilometers.....	1094.....	Yards
KILOMETERS/HR.....	27.76.....	Centimeters/sec.
Kilometers/hr.....	94.68.....	Feet/min.
Kilometers/hr.....	0.9113.....	Feet/sec.
Kilometers/hr.....	0.5396.....	Knots
Kilometers/hr.....	16.67.....	Meters/min.
Kilometers/hr.....	0.6214.....	Miles/hr.
KMS./HR./SEC.....	27.73.....	Cms./sec./sec.
Kms./hr./sec.....	0.9113.....	Ft./sec./sec.
Kms./hr./sec.....	0.2776.....	Meters/sec./sec.
KILOWATTS.....	56.92.....	B. T. Units/min.
Kilowatts.....	$4.425 \times 10^4$ .....	Foot-lbs./min.
Kilowatts.....	737.6.....	Foot-lbs./sec.
Kilowatts.....	1.341.....	Horse-power
Kilowatts.....	14.34.....	Kg.-calories/min.
Kilowatts.....	$10^3$ .....	Watts
KILOWATT-HOURS.....	$3.015 \times 10^6$ .....	British Thermal Units
Kilo watt-hours.....	$1.699 \times 10^6$ .....	Foot-lbs.
Kilo watt-hours.....	1.341.....	Horse-power-hrs.
Kilo watt-hours.....	860.5.....	Kilogram-calories
Kilo watt-hours.....	$3.671 \times 10^6$ .....	Kilogram-meters

TABLE 28

Conversion Factors (Continued)

Multiply	By	To Obtain
LITERS.....	$10^3$ .....	Cubic centimeters
Liters.....	0.03531.....	Cubic feet
Liters.....	61.0.....	Cubic inches
Liters.....	$10^{-3}$ .....	Cubic meters
Liters.....	$1.356 \times 10^{-4}$ .....	Cubic yards
Liters.....	0.00264.....	Gallons
Liters.....	2.113.....	Pints(liq.)
Liters.....	1.057.....	Quarts(liq.)
LITERS/MIN.....	$5.886 \times 10^{-4}$ .....	Cubic ft./sec.
Liters/min.....	$4.403 \times 10^{-3}$ .....	Gals./sec.
METERS.....	100.....	Centimeters
Meters.....	3.281.....	Feet
Meters.....	39.37.....	Inches
Meters.....	$10^{-3}$ .....	Kilometers
Meters.....	$10^3$ .....	Millimeters
Meters.....	1.094.....	Yards
METERS/MIN.....	1.667.....	Centimeters/sec.
Meters/min.....	3.281.....	Feet/min.
Meters/min.....	0.0468.....	Feet/sec.
Meters/min.....	0.06.....	Kilometers/hr.
Meters/min.....	0.03728.....	Miles/hr.
METERS/SEC.....	166.8.....	Feet/min.
Meters/sec.....	3.281.....	Feet/sec.
Meters/sec.....	3.6.....	Kilometers/hr.
Meters/sec.....	0.06.....	Kilometers/min.
Meters/sec.....	2.237.....	Miles/hr.
Meters/sec.....	0.03728.....	Miles/min.
MICRONS .....	$10^{-6}$ .....	Meters
MILES.....	$1.609 \times 10^5$ .....	Centimeters
Miles.....	5280.....	Feet
Miles.....	1.609.....	Kilometers
Miles.....	1760.....	Yards

TABLE 24

## Conversion Factors (Continued)

Multiply	By	To Obtain
MILES/HR.....	44.70.....	Centimeters/sec.
Miles/hr.....	38.....	Feet/min.
Miles/hr.....	1.467.....	Feet/sec.
Miles/hr.....	1.609.....	Kilometers/hr.
Miles/hr.....	0.8684.....	Knots
Miles/hr.....	26.82.....	Meters/min.
MILES/MIN.....	2682.....	Centimeters/sec.
Miles/min.....	88.....	Feet/sec.
Miles/min.....	1.609.....	Kilometers/min.
Miles/min.....	60.....	Miles/hr.
MILLIERS.....	$10^3$ .....	Kilograms
MILLIGRAMS.....	$10^{-3}$ .....	Grams
MILLILITERS.....	$10^{-3}$ .....	Liters
MILLIMETERS.....	0.1.....	Centimeters
Millimeters.....	0.03937.....	Inches
MILLIGRAMS/LITER.....	1.....	Parts/million
MILLION GALS./DAY.....	1.54723.....	Cubic ft./sec.
MINUTES (ANGLE).....	$2.909 \times 10^{-4}$ .....	Radians
OUNCES.....	16.....	Drams
Ounces.....	137.5.....	Grains
Ounces.....	0.0625.....	Pounds
Ounces.....	28.349527.....	Grams
Ounces.....	0.9115.....	Ounces (troy)
Ounces.....	$2.790 \times 10^{-2}$ .....	Tons (long)
Ounces.....	$2.835 \times 10^{-2}$ .....	Tons (metric)
OUNCES (FLUID).....	1.805.....	Cubic inches
Ounces (fluid).....	0.02957.....	Liters
OUNCES/SQ. INCH.....	0.0625.....	Lbs/sq. inch

TABLE 24  
Conversion Factors (Continued)

Multiply	By	To Obtain
PARTS/MILLION.....	0.0784.....	Grains/U.S. gal.
Parts/million.....	0.07016.....	Grains/Imp. gal.
Parts/million.....	8.34.....	Lbs./million gal.
POUNDS.....	16.....	Ounces
Pounds.....	2.6.....	Drams
Pounds.....	7000.....	Grains
Pounds.....	0.0005.....	Tons (short)
Pounds.....	453.5924.....	Grams
Pounds.....	1.21528.....	Pounds (troy)
Pounds.....	14.5833.....	Ounces (troy)
POUNDS OF WATER.....	0.01602.....	Cubic feet
Pounds of water.....	27.68.....	Cubic inches
Pounds of water.....	0.1198.....	Gallons
POUNDS OF WATER/MIN.....	$2.670 \times 10^{-4}$ .....	Cubic ft./sec.
POUNDS/CUBIC FOOT.....	0.01602.....	Grams/cubic cm.
Pounds/cubic foot.....	16.02.....	Kgs./cubic meter
Pounds/cubic foot.....	$5.787 \times 10^{-4}$ .....	Lbs./cubic inch
POUNDS/CUBIC INCH.....	27.68.....	Grams/cubic cm.
Pounds/cubic inch.....	$2.768 \times 10^4$ .....	Kgs/cubic meter
Pounds/cubic inch.....	1728.....	Lbs./cubic foot
POUNDS/FOOT.....	1.488.....	Kgs./meter
Pounds/inch.....	178.6.....	Grams/cm.
POUNDS/SQ. FOOT.....	0.01602.....	Feet of water
Pounds/sq. foot.....	$4.883 \times 10^{-4}$ .....	Kgs./sq. cm.
Pounds/sq. foot.....	$6.945 \times 10^{-3}$ .....	Pounds/sq. inch
POUNDS/SQ. INCH.....	0.06804.....	Atmospheres
Pounds/sq. inch.....	2.307.....	Feet of water
Pounds/sq. inch.....	2.036.....	Inches of mercury
Pounds/sq. inch.....	0.07031.....	Kgs./sq. cm.
QUARTS (DRY).....	67.20.....	Cubic inches
QUARTS (LIQ.).....	57.75.....	Cubic inches
$\frac{1}{\text{SQ. FT./GAL./MIN.}}$ .....	8.0208.....	Overflow rate (ft./hr.)

TABLE 28  
Conversion Factors (Continued)

Multiply	By	To Obtain
TEMP. ( $^{\circ}\text{C.}$ ) 273.15	1	Abs. temp. ( $^{\circ}\text{C.}$ )
Temp. ( $^{\circ}\text{C.}$ ) 1.8	1.8	Temp. ( $^{\circ}\text{F.}$ )
Temp. ( $^{\circ}\text{F.}$ ) 460	1	Abs. temp. ( $^{\circ}\text{F.}$ )
Temp. ( $^{\circ}\text{F.}$ ) -32	1/9	Temp. ( $^{\circ}\text{C.}$ )
TONS (LONG)	1016	Kilograms
Tons (long)	2240	Pounds
Tons (long)	1.1000	Tons (short)
TONS (METRIC)	$10^3$	Kilograms
Tons (metric)	2204.62	Pounds
TONS (SHORT)	2000	Pounds
Tons (short)	32000	Ounces
Tons (short)	907.18486	Kilograms
Tons (short)	1430.6	Pounds (troy)
Tons (short)	0.39 87	Tons (long)
Tons (short)	9166.66	Ounces (troy)
Tons (short)	0.90718	Tons (metric)
TONS OF WATER/24 HRS.	83.333	Pounds water/hour
Tons of water/24 hrs.	0.16643	Gallons/min.
Tons of water/24 hrs.	1.3349	Cu. ft./hr.
VOLTS (ABS.)	$1 \times 10^8$	Abvolts
Volts/ $^{\circ}\text{C.}$	1.0000	Joules/coulomb/ $^{\circ}\text{C.}$
Volts (abs)	0.002536	Statvolts
Volts (abs)	0.99966	Volts (international)
WATTS	0.0152	B. T. Units/min.
Watts	1.3558	Foot-pounds/min.
Watts	0.7376	Foot-pounds/sec.
Watts	$1.351 \times 10^{-4}$	Horse-power
Watts	0.0239	kg.-calories/min.
Watts	$10^{-3}$	Kilowatts
WATT-HOURS	3.6	British Thermal Units
Watt-hours	3.6	Foot-pounds
Watt-hours	$3.6 \times 10^{-3}$	Horse-power-hours
Watt-hours	0.86	Kilogram-calories
Watt-hours	367.2	Kilogram-meters
Watt-hours	$10^{-3}$	Kilowatt-hours



TABLE 29 Miscellaneous Data

Exact relationships shown by asterisk (\*)

**Area**

1 square inch.....	= 6.45162581 square centimeters
1 square foot.....	= 144 square inches*
	= 0.09290341 square meter
	= 0.00002298 acre
1 square yard.....	= 9 square feet*
	= 0.83613070 square meter
1 square (statute) mile.....	= 27,878,400 square feet*
	= 640 acres*
	= 2.58998847 square kilometers
1 square centimeter.....	= 0.15499069 square inch*
	= 0.00107639 square foot
1 square meter.....	= 10.76386736 square feet
	= 1.19598528 square yards
1 square kilometer.....	= 247.1043930 acres
	= 0.38610061 square statute mile
	= 0.29155335 square nautical mile

**Earth**

Acceleration due to gravity (standard).....	= 980.665 centimeters per second per second
	= 32.1740 feet per second per second
Mass.....	= 5,980,000,000,000,000,000,000,000 grams
	= 6,600,000,000,000,000,000,000 short tons
	= 5,900,000,000,000,000,000,000 long tons
Mean density.....	= 5.517 grams per cubic centimeter
Velocity of escape.....	= 6.94 statute miles per second
Curvature of surface.....	= 0.8 foot per nautical mile

**Clarke spheroid of 1866**

Equatorial radius (a).....	= 20,925,832.16 feet
	= 6,975,277.39 yards
	= 6,378,206.100 meters
	= 3,963.226 statute miles
	= 3,443.956 nautical miles
Polar radius (b).....	= 20,854,892.02 feet
	= 6,951,630.67 yards
	= 6,356,583.800 meters
	= 3,949.790 statute miles
	= 3,432.281 nautical miles
Mean radius $\left(\frac{2a+b}{3}\right)$ .....	= 20,902,185.45 feet
	= 6,967,395.15 yards
	= 6,370,998.867 meters
	= 3,958.747 statute miles
	= 3,440.064 nautical miles
1' of equator.....	= 6,087.078 feet
	= 2,029.026 yards
	= 1,855.345 meters
	= 1.153 statute miles
	= 1.002 nautical miles
1' of latitude at equator.....	= 6,045.877 feet
	= 2,015.292 yards
	= 1,842.787 meters
	= 1.145 statute miles
	= 0.995 nautical mile
1' of latitude at pole.....	= 6,107.783 feet
	= 2,035.928 yards
	= 1,861.656 meters
	= 1.157 statute miles
	= 1.005 nautical miles
Flattening or ellipticity $\left(f = \frac{a-b}{a}\right)$ .....	= $\frac{1}{294.98}$
	= 0.00339006034
Eccentricity $\left(e = \sqrt{2f-f^2}\right)$ .....	= 0.08227185422
Eccentricity squared ( $e^2$ ).....	= 0.00676865800

TABLE 20 MISCELLANEOUS DATA (CONTINUED)

Earth Continued

Clarke spheroid of 1880

Equatorial radius (a).....	= 20,925,972.40 feet = 6,975,324.13 yards = 6,378,249.145 meters = 3,963,252 statute miles = 3,443.979 nautical miles
Polar radius (b).....	= 20,854,665.87 feet = 6,951,555.29 yards = 6,356,514.869 meters = 3,949.747 statute miles = 3,432.243 nautical miles
Mean radius $\left(\frac{2a+b}{3}\right)$ .....	= 20,902,203.55 feet = 6,967,401.18 yards = 6,371,004.386 meters = 3,958.751 statute miles = 3,440.067 nautical miles
1' of equator.....	= 6,087.117 feet = 2,029.039 yards = 1,855.357 meters = 1.153 statute miles = 1.002 nautical miles
1' of latitude at equator.....	= 6,045.706 feet = 2,015.235 yards = 1,842.735 meters = 1.145 statute miles = 0.995 nautical mile
1' of latitude at pole.....	= 6,107.931 feet = 2,035.977 yards = 1,861.701 meters = 1.157 statute miles = 1.005 nautical miles
Flattening or ellipticity $\left(f = \frac{a-b}{a}\right)$ .....	= $\frac{1}{293.465}$ = 0.00340756138
Eccentricity $(e = \sqrt{2f - f^2})$ .....	= 0.08248340004
Eccentricity squared ( $e^2$ ).....	= 0.00680351128

International spheroid

Equatorial radius (a).....	= 20,926,427.96 feet = 6,975,475.99 yards = 6,378,388.000 meters = 3,963.339 statute miles = 3,444.054 nautical miles
Polar radius (b).....	= 20,855,968.51 feet = 6,951,989.54 yards = 6,356,911.946 meters = 3,949.994 statute miles = 3,432.458 nautical miles
Mean radius $\left(\frac{2a+b}{3}\right)$ .....	= 20,902,941.51 feet = 6,967,647.17 yards = 6,371,229.315 meters = 3,958.890 statute miles = 3,440.189 nautical miles
1' of equator.....	= 6,087.252 feet = 2,029.084 yards = 1,855.308 meters = 1.153 statute miles = 1.002 nautical miles
1' of latitude at equator.....	= 6,046.330 feet = 2,015.443 yards = 1,842.925 meters = 1.145 statute miles = 0.995 nautical mile

## PART 29 — Miscellaneous Data — Continued

## Earth—Continued

## International spheroid—Continued

1' of latitude at pole	= 6,107.816 feet
	= 2,035.939 yards
	= 1,861.666 meters
	= 1.157 statute miles
	= 1.006 nautical miles
Flattening or ellipticity ( $f = \frac{a-b}{a}$ )	= $\frac{1}{297}$
Eccentricity ( $e = \sqrt{2f - f^2}$ )	= 0.00336700337
Eccentricity squared ( $e^2$ )	= 0.0011337998

## Length

1 inch	= 25.4000608 millimeters
	= 2.54000608 centimeters
1 foot (U. S.)	= 12 inches*
	= 1.00000373 British feet
	= $\frac{1}{3}$ yard*
	= 0.30480061 meter
	= $\frac{1}{6}$ fathom*
1 yard	= 36 inches*
	= 3 feet*
	= 0.91440183 meter
1 fathom	= 6 feet*
	= 2 yards*
	= 1.82880366 meters
1 cable	= 720 feet*
	= 240 yards*
	= 219.45643891 meters
1 statute mile	= 5,280 feet*
	= 1,760 yards*
	= 1,609.34721869 meters
	= 1.60934722 kilometers
	= 0.86897798 nautical mile
1 nautical mile	= 6,076.10333333 feet
	= 2,025.36777777 yards
	= 1,852 meters*
	= 1.852 kilometers*
	= 1.15077715 statute miles
1 meter	= 100 centimeters*
	= 39.37 inches*
	= 3.28083333 feet
	= 1.09361111 yards
	= 0.54680556 fathom
	= 0.00062137 statute mile
	= 0.00053996 nautical mile
1 kilometer	= 3,280.83333333 feet
	= 1,093.61111111 yards
	= 1,000 meters*
	= 0.62136995 statute mile
	= 0.53995680 nautical mile

## Mass

1 ounce	= 437.5 grains*
	= 28.34952673 grams
	= 0.0625 pound*
	= 0.02834953 kilogram
1 pound	= 7,000 grains*
	= 16 ounces*
	= 0.45359243 kilogram
1 short ton	= 2,000 pounds*
	= 907.184854 kilograms
	= 0.90718486 metric ton
	= 0.89285714 long ton

TABLE 29. Miscellaneous Data—Continued.

**Mass—Continued**

1 long ton.....	= 2,240 pounds*
	= 1,016.047038 kilograms
	= 1.12 short tons*
	= 1.01604704 metric tons
1 kilogram.....	= 2.20462234 pounds
	= 0.00110231 short ton
	= 0.00098421 long ton
1 metric ton.....	= 2,204.622341 pounds
	= 1,000 kilograms*
	= 1.10231117 short tons
	= 0.98420640 long ton

**Mathematics**

$\pi$ .....	= 3.1415926535897932384626433832765028841971
$\pi^2$ .....	= 9.8696044011
$\sqrt{\pi}$ .....	= 1.7724538509
Base of Napierian logarithms (e).....	= 2.718281828459
Modulus of common logarithms ( $\log_{10} e$ ).....	= 0.4342944819032518
1 radian.....	= 206,264.80625
	= 3,437.7467707849
	= 57°29'57.795131
	= 57°17'44".80625
1 circle.....	= 1,296,000°*
	= 21,600'
	= 360°*
	= 2 $\pi$ radians*
180°.....	= $\pi$ radians*
1°.....	= 3600'
	= 60'
	= 0.0174532925199432957666 radian
1'.....	= 60°*
	= 0.000290888208665721596 radian
1°.....	= 0.00004848136811095359933 radian
Sine of 1'.....	= 0.00029088820456342460
Sine of 1°.....	= 0.0000484813681107637

**Meteorology**

Atmosphere (dry air)	
Nitrogen.....	= 78.09%
Oxygen.....	= 20.95%
Argon.....	= 0.93%
Carbon dioxide.....	= 0.03%
Neon.....	= 0.0018%
Helium.....	= 0.000524%
Krypton.....	= 0.0001%
Hydrogen.....	= 0.00005%
Xenon.....	= 0.000008%
Ozone.....	= 0.000001% (increasing with altitude)
Radon.....	= 0.000000000000000006% (decreasing with altitude)
Standard atmospheric pressure at sea level.....	= 1,013,250 dynes per square centimeter*
	= 1,033.227 grams per square centimeter
	= 1,033.227 centimeters of water
	= 1,013.250 millibars*
	= 760 millimeters of mercury*
	= 76 centimeters of mercury*
	= 33.8985 feet of water
	= 29.9212 inches of mercury
	= 14.6960 pounds per square inch
	= 1.033227 kilograms per square centimeter
	= 1.013250 bars*
Absolute zero.....	= (-) 273°16 C
	= (-) 459°69 F

TABLE 20. Miscellaneous Data (Continued)

**Pressure**

1 dyne per square centimeter.....	= 0.001 millibar*
	= 0.00001 bar*
1 gram per square centimeter.....	= 1 centimeter of water
	= 0.980665 millibar*
	= 0.07355596 centimeter of mercury
	= 0.0289590 inch of mercury
	= 0.0142234 pound per square inch
	= 0.001 kilogram per square centimeter*
	= 0.000987841 atmosphere
1 millibar.....	= 1,000 dynes per square centimeter*
	= 1.0197162 <sup>1</sup> grams per square centimeter
	= 0.75006158 millimeter of mercury
	= 0.03345519 foot of water
	= 0.02952993 inch of mercury
	= 0.01450383 pound per square inch
	= 0.001 bar*
	= 0.00098692 atmosphere
1 millimeter of mercury.....	= 1.35951 grams per square centimeter*
	= 1.333223874 millibars
	= 0.1 centimeter of mercury*
	= 0.04473257 foot of water
	= 0.03937 inch of mercury*
	= 0.019336852 pound per square inch
	= 0.001315790 atmosphere
1 centimeter of mercury.....	= 10 millimeters of mercury*
1 inch of mercury.....	= 34.53160301 grams per square centimeter
	= 33.86394931 millibars
	= 25.40065080 millimeters of mercury
	= 1.13292434 feet of water
	= 0.49115675 pound per square inch
	= 0.03342112 atmosphere
1 centimeter of water.....	= 1 gram per square centimeter*
	= 0.001 kilogram per square centimeter*
1 foot of water.....	= 30.48006096 grams per square centimeter
	= 29.89072898 millibars
	= 2.24199003 centimeters of mercury
	= 0.88267147 inch of mercury
	= 0.43353005 pound per square inch
	= 0.02949987 atmosphere
1 pound per square inch.....	= 68,947.3301 dynes per square centimeter
	= 70.3066857 grams per square centimeter
	= 70.3066857 centimeters of water
	= 68.9473361 millibars
	= 51.71475495 millimeters of mercury
	= 5.171475495 centimeters of mercury
	= 2.3084518 feet of water
	= 2.03500990 inches of mercury
	= 0.07030669 kilogram per square centimeter*
	= 0.06894734 bar
	= 0.06804573 atmosphere
1 kilogram per square centimeter.....	= 1,000 grams per square centimeter*
	= 1,000 centimeters of water*
1 bar.....	= 1,000,000 dynes per square centimeter*
	= 1,000 millibars*

**Speed**

1 foot per minute.....	= 0.01666667 foot per second
	= 0.00508001 meter per second

TABLE 29. Miscellaneous Data—Continued

**Speed—Continued**

1 yard per minute.....	= 3 feet per minute*
	= 0.05 foot per second*
	= 0.03409091 statute mile per hour
	= 0.02962425 knot
	= 0.01524003 meter per second
1 foot per second.....	= 60 feet per minute*
	= 20 yards per minute*
	= 1.09728220 kilometers per hour
	= 0.68181818 statute mile per hour
	= 0.59248499 knot
	= 0.30480061 meter per second
1 statute mile per hour.....	= 88 feet per minute*
	= 29.33333333 yards per minute
	= 1.60934722 kilometers per hour
	= 1.46666667 feet per second
	= 0.86897798 knot
	= 0.44704090 meter per second
1 knot.....	= 101.26838879 feet per minute
	= 33.76612960 yards per minute
	= 1.852 kilometers per hour*
	= 1.68780648 feet per second
	= 1.15077715 statute miles per hour
	= 0.51444444 meter per second
1 kilometer per hour.....	= 0.62136995 statute mile per hour
	= 0.53995680 knot
1 meter per second.....	= 186.85 feet per minute*
	= 65.61666667 yards per minute
	= 3.6 kilometers per hour*
	= 3.28083333 feet per second
	= 2.23693182 statute miles per hour
	= 1.94384449 knots
Light in vacuo.....	= 299,792 kilometers per second
	= 186,282 statute miles per second
	= 161,875 nautical miles per second
	= 983.567 feet per microsecond
Light in air.....	= 299,708 kilometers per second
	= 186,230 statute miles per second
	= 161,829 nautical miles per second
	= 983.292 feet per microsecond
Sound in dry air at 60° F and standard sea level pressure.....	= 1,117.00 feet per second
	= 761.59 statute miles per hour
	= 661.81 knots
	= 240.66 meters per second
Sound in 3.488 percent salt water at 60° F.....	= 4,945.37 feet per second
	= 3,371.84 statute miles per hour
	= 2,930.06 knots
	= 1,607.35 meters per second

**Volume**

1 cubic inch.....	= 16.38716333 cubic centimeters
	= 0.01638670 liter
	= 0.00432900 gallon
1 cubic foot.....	= 1,728 cubic inches*
	= 28.31684659 liters
	= 7.48051948 U. S. gallons
	= 6.22883273 Imperial (British) gallons
	= 0.02831703 cubic meter

TABLE 29. Miscellaneous Data—Continued

**Volume—Continued**

1 cubic yard.....	= 46,656 cubic inches <sup>o</sup> = 764.53863813 liters = 201.97402897 U. S. gallons = 168.17821364 imperial (British) gallons = 27 cubic feet <sup>o</sup> = 0.76455948 cubic meter
1 cubic centimeter.....	= 0.06102338 cubic inch = 0.00026417 U. S. gallon = 0.00021997 imperial (British) gallon
1 cubic meter.....	= 264.17046733 U. S. gallons = 219.96747874 imperial (British) gallons = 35.31445483 cubic feet = 1.30794276 cubic yards
1 quart (U. S.).....	= 57.75 cubic inches <sup>o</sup> = 32 fluid ounces <sup>o</sup> = 2 pints <sup>o</sup> = 0.94633213 liter = 0.25 gallon <sup>o</sup>
1 gallon (U. S.).....	= 3,785.13449592 cubic centimeters = 231 cubic inches <sup>o</sup> = 0.13368056 cubic foot = 4 quarts <sup>o</sup> = 3.78532831 liters = 0.83267246 imperial (British) gallon
1 liter.....	= 1,000.028 cubic centimeters = 61.02508662 cubic inches = 1.05671146 quarts = 0.26417786 gallon
1 register ton.....	= 100 cubic feet <sup>o</sup> = 2.83170165 cubic meters
1 measurement ton.....	= 40 cubic feet <sup>o</sup> = 1 freight ton <sup>o</sup>
1 freight ton.....	= 40 cubic feet <sup>o</sup> = 1 measurement ton <sup>o</sup>

**Volume-mass**

1 cubic foot of sea water.....	= 64 pounds
1 cubic foot of fresh water.....	= 62.428 pounds at temperature of maximum density (4° C = 39° 2 F)
1 cubic foot of ice.....	= 56 pounds
1 displacement ton.....	= 35 cubic feet of sea water <sup>o</sup> = 1 long ton

TABLE 30.—Comparison of Units for Underwater Sound Measurements

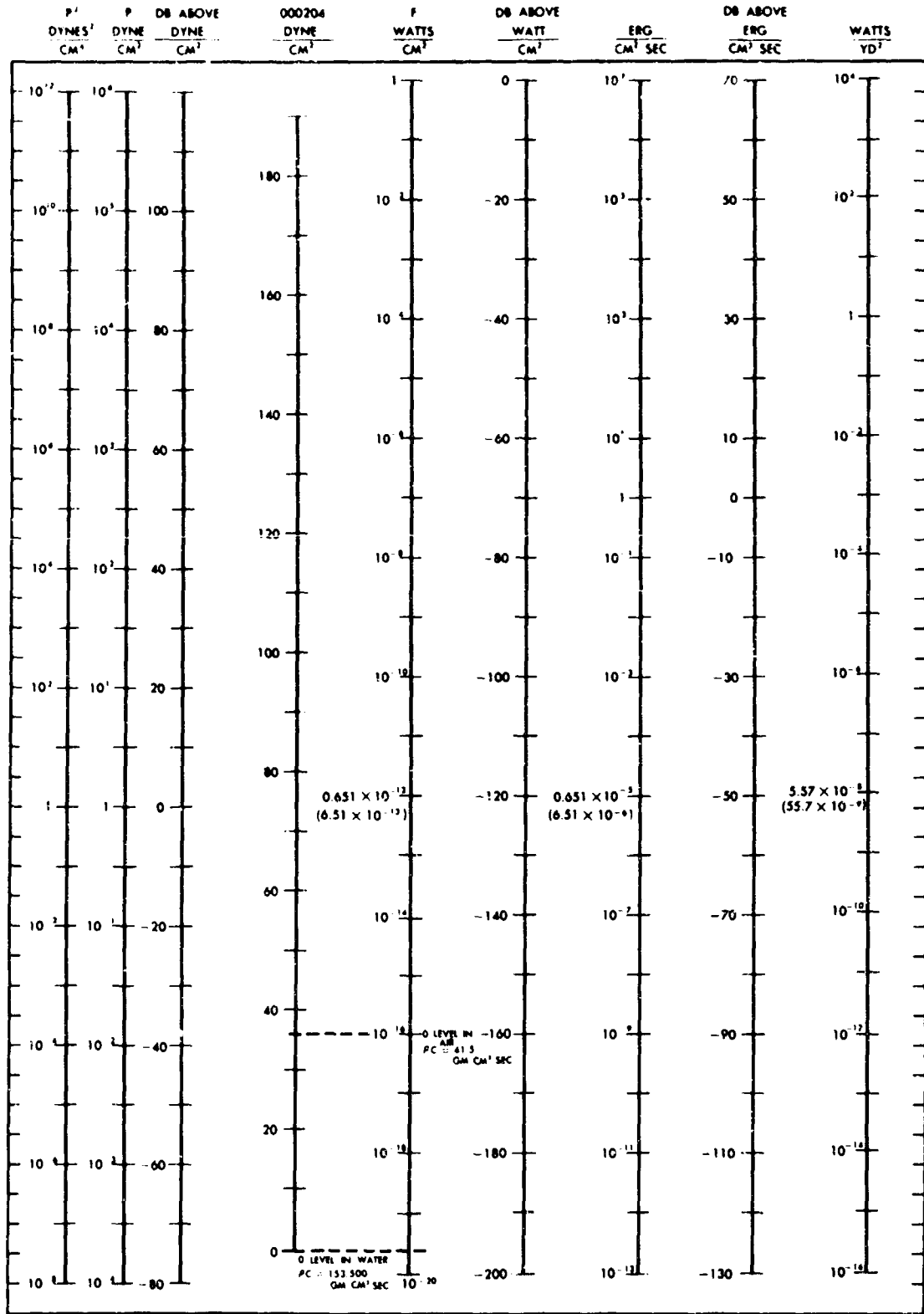




TABLE 31.—Distance Conversions—Nautical Miles to Kilometers—Kilometers to Nautical Miles

Nautical Miles to Kilometers  
 1 nautical mile=1.8532 kilometers

Example:  
 Given, distance 34 nautical miles.  
 From table distance=63.0 kilometers.

Kilometers to Nautical Miles  
 1 kilometer=0.53959 nautical mile

Example:  
 Given, distance 105 kilometers.  
 From table distance=56.7 nautical miles

--DISTANCE CONVERSION--NAUTICAL MILES TO KILOMETERS

Nautical miles	0	1	2	3	4	5	6	7	8	9
0	0.0	1.8	3.7	5.6	7.4	9.3	11.1	13.0	14.8	16.7
10	18.5	20.4	22.2	24.1	25.9	27.8	29.7	31.5	33.4	35.2
20	37.1	38.9	40.8	42.6	44.5	46.3	48.2	50.0	51.9	53.7
30	55.6	57.5	59.3	61.2	63.0	64.9	66.7	68.6	70.4	72.3
40	74.1	76.0	77.8	79.7	81.5	83.4	85.2	87.1	89.0	90.8
50	92.7	94.5	96.4	98.2	100.1	101.9	103.8	105.6	107.5	109.3
60	111.2	113.0	114.9	116.8	118.6	120.5	122.3	124.2	126.0	127.9
70	129.7	131.6	133.4	135.3	137.1	139.0	140.8	142.7	144.6	146.4
80	148.3	150.1	152.0	153.8	155.7	157.5	159.4	161.2	163.1	164.9
90	166.8	168.6	170.5	172.4	174.2	176.1	177.9	179.8	181.6	183.5

(LaFond, 1951)

TABLE 31.—Distance Conversions—Kilometers to Nautical Miles—Continued

Kilometers	0	1	2	3	4	5	6	7	8	9
0	0.0	0.5	1.1	1.6	2.2	2.7	3.2	3.8	4.3	4.9
10	5.4	5.9	6.5	7.0	7.6	8.1	8.6	9.2	9.7	10.3
20	10.8	11.3	11.9	12.4	13.0	13.5	14.0	14.6	15.1	15.6
30	16.2	16.7	17.3	17.8	18.3	18.9	19.4	20.0	20.5	21.0
40	21.6	22.1	22.7	23.2	23.7	24.3	24.8	25.4	25.9	26.4
50	27.0	27.5	28.1	28.6	29.1	29.7	30.2	30.8	31.3	31.8
60	32.4	32.9	33.5	34.0	34.5	35.1	35.6	36.2	36.7	37.2
70	37.8	38.3	38.9	39.4	39.9	40.5	41.0	41.5	42.1	42.6
80	43.2	43.7	44.2	44.8	45.3	45.9	46.4	46.9	47.4	48.0
90	48.6	49.1	49.6	50.2	50.7	51.3	51.8	52.3	52.8	53.4
100	54.0	54.5	55.0	55.6	56.1	56.7	57.2	57.7	58.3	58.8
110	59.4	59.9	60.4	61.0	61.5	62.1	62.6	63.1	63.7	64.2
120	64.8	65.3	65.8	66.4	66.9	67.4	68.0	68.5	69.1	69.6
130	70.1	70.7	71.2	71.8	72.3	72.8	73.4	73.9	74.4	74.9
140	75.5	76.1	76.6	77.2	77.7	78.2	78.8	79.3	79.9	80.4
150	80.9	81.5	82.0	82.6	83.1	83.6	84.2	84.7	85.3	85.8
160	86.3	86.9	87.4	88.0	88.5	89.0	89.6	90.1	90.7	91.2
170	91.7	92.3	92.8	93.3	93.9	94.4	95.0	95.5	96.0	96.6
180	97.1	97.7	98.2	98.7	99.3	99.8	100.4	100.9	101.4	102.0
190	102.5	103.1	103.6	104.1	104.7	105.2	105.8	106.3	106.8	107.3
200	107.9	108.5	109.0	109.5	110.1	110.6	111.2	111.7	112.2	112.8

TABLE 32.—Conversion of Chlorosity to Salinity

Conversion of 20° C chlorosity,  $C/l_{(m)}$ , to salinity,  $S^o_{(m)}$ , from the expression  
 $S^o_{(m)} = 0.03 + [1.8050 \times C/l_{(m)} \times 1/\rho_{(m)}]$   
 where  $\rho_{(m)}$  is the density of sea water at chlorosity  $C/l_{(m)}$ .

$C/l_{(m)}$	$S^o_{(m)}$	$C/l_{(m)}$	$S^o_{(m)}$	$C/l_{(m)}$	$S^o_{(m)}$	$C/l_{(m)}$	$S^o_{(m)}$
2.00	3.64	2.50	4.54	3.00	5.43	3.50	6.33
.01	.66	.51	.55	.01	.45	.51	.34
.02	.68	.52	.57	.02	.47	.52	.36
.03	.69	.53	.59	.03	.48	.53	.38
.04	.71	.54	.61	.04	.50	.54	.40
.05	.73	.55	.63	.05	.52	.55	.42
.06	.75	.56	.64	.06	.54	.56	.43
.07	.77	.57	.66	.07	.56	.57	.45
.08	.78	.58	.68	.08	.57	.58	.47
.09	.80	.59	.70	.09	.59	.59	.49
2.10	3.82	2.60	4.71	3.10	5.61	3.60	6.50
.11	.84	.61	.73	.11	.63	.61	.52
.12	.86	.62	.75	.12	.65	.62	.54
.13	.87	.63	.77	.13	.66	.63	.56
.14	.89	.64	.79	.14	.68	.64	.58
.15	.91	.65	.80	.15	.70	.65	.59
.16	.93	.66	.82	.16	.72	.66	.61
.17	.95	.67	.84	.17	.74	.67	.63
.18	.96	.68	.86	.18	.75	.68	.65
.19	3.95	.69	.88	.19	.77	.69	.67
2.20	4.00	2.70	4.89	3.20	5.79	3.70	6.68
.21	.02	.71	.91	.21	.81	.71	.70
.22	.03	.72	.93	.22	.82	.72	.72
.23	.05	.73	.95	.23	.84	.73	.74
.24	.07	.74	.97	.24	.86	.74	.76
.25	.09	.75	4.98	.25	.88	.75	.77
.26	.11	.76	5.00	.26	.90	.76	.79
.27	.12	.77	.02	.27	.91	.77	.81
.28	.14	.78	.04	.28	.93	.78	.83
.29	.16	.79	.06	.29	.95	.79	.84
2.30	4.18	2.80	5.07	3.30	5.97	3.80	6.86
.31	.20	.81	.09	.31	5.99	.81	.88
.32	.21	.82	.11	.32	6.00	.82	.90
.33	.23	.83	.13	.33	.02	.83	.92
.34	.25	.84	.14	.34	.04	.84	.93
.35	.27	.85	.16	.35	.06	.85	.95
.36	.29	.86	.18	.36	.08	.86	.97
.37	.30	.87	.20	.37	.09	.87	6.98
.38	.32	.88	.22	.38	.11	.88	7.01
.39	.34	.89	.24	.39	.13	.89	.02
2.40	4.36	2.90	5.25	3.40	6.15	3.90	7.04
.41	.37	.91	.27	.41	.16	.91	.06
.42	.39	.92	.29	.42	.18	.92	.08
.43	.41	.93	.31	.43	.20	.93	.10
.44	.43	.94	.32	.44	.22	.94	.11
.45	.45	.95	.34	.45	.24	.95	.13
.46	.46	.96	.36	.46	.25	.96	.15
.47	.48	.97	.38	.47	.27	.97	.17
.48	.50	.98	.40	.48	.29	.98	.18
.49	.52	.99	.41	.49	.31	.99	.20

TABLE 32. Conversion of Chlorosity to Salinity - Continued

$Cl/_{(‰)}$	$S/_{(‰)}$	$Cl/_{(‰)}$	$S/_{(‰)}$	$Cl/_{(‰)}$	$S/_{(‰)}$	$Cl/_{(‰)}$	$S/_{(‰)}$
4.00	7.22	4.50	8.11	5.00	9.01	5.50	9.90
.01	.24	.51	.13	.01	.02	.51	.91
.02	.26	.52	.15	.02	.04	.52	.93
.03	.27	.53	.17	.03	.06	.53	.95
.04	.29	.54	.18	.04	.08	.54	.97
.05	.31	.55	.20	.05	.10	.55	.99
.06	.33	.56	.22	.06	.11	.56	10.00
.07	.35	.57	.24	.07	.13	.57	.02
.08	.36	.58	.26	.08	.15	.58	.04
.09	.38	.59	.27	.09	.17	.59	.06
4.10	7.40	4.60	8.29	5.10	9.18	5.60	10.07
.11	.42	.61	.31	.11	.20	.61	.09
.12	.43	.62	.33	.12	.22	.62	.11
.13	.45	.63	.35	.13	.24	.63	.13
.14	.47	.64	.36	.14	.26	.64	.15
.15	.49	.65	.38	.15	.27	.65	.16
.16	.51	.66	.40	.16	.29	.66	.18
.17	.52	.67	.42	.17	.31	.67	.20
.18	.54	.68	.44	.18	.33	.68	.22
.19	.56	.69	.45	.19	.34	.69	.24
4.20	7.58	4.70	8.47	5.20	9.36	5.70	10.25
.21	.60	.71	.49	.21	.38	.71	.27
.22	.61	.72	.51	.22	.40	.72	.29
.23	.63	.73	.52	.23	.42	.73	.31
.24	.65	.74	.54	.24	.43	.74	.32
.25	.67	.75	.56	.25	.45	.75	.34
.26	.68	.76	.58	.26	.47	.76	.36
.27	.70	.77	.60	.27	.49	.77	.38
.28	.72	.78	.61	.28	.50	.78	.40
.29	.74	.79	.63	.29	.52	.79	.41
4.30	7.76	4.80	8.65	5.30	9.54	5.80	10.43
.31	.77	.81	.67	.31	.56	.81	.45
.32	.79	.82	.69	.32	.58	.82	.47
.33	.81	.83	.70	.33	.59	.83	.48
.34	.83	.84	.72	.34	.61	.84	.50
.35	.85	.85	.74	.35	.63	.85	.52
.36	.86	.86	.76	.36	.65	.86	.54
.37	.88	.87	.77	.37	.67	.87	.56
.38	.90	.88	.79	.38	.68	.88	.57
.39	.92	.89	.81	.39	.70	.89	.59
4.40	7.93	4.90	8.83	5.40	9.72	5.90	10.61
.41	.95	.91	.85	.41	.74	.91	.63
.42	.97	.92	.86	.42	.75	.92	.64
.43	7.99	.93	.88	.43	.77	.93	.66
.44	8.01	.94	.90	.44	.79	.94	.68
.45	.02	.95	.92	.45	.81	.95	.70
.46	.04	.96	.94	.46	.83	.96	.72
.47	.06	.97	.95	.47	.84	.97	.73
.48	.08	.98	.97	.48	.86	.98	.75
.49	.10	.99	.99	.49	.88	.99	.77

TABLE 32.—Conversion of Chlorosity to Salinity—Continued

$\text{Cl}/_{(m)}$	$\text{S}/_{\text{‰}}$	$\text{Cl}/_{(m)}$	$\text{S}/_{\text{‰}}$	$\text{Cl}/_{(m)}$	$\text{S}/_{\text{‰}}$	$\text{Cl}/_{(m)}$	$\text{S}/_{\text{‰}}$
6.00	10.79	6.50	11.68	7.00	12.56	7.50	13.45
.01	.81	.51	.69	.01	.58	.51	.47
.02	.82	.52	.71	.02	.60	.52	.49
.03	.84	.53	.73	.03	.62	.53	.50
.04	.86	.54	.75	.04	.63	.54	.52
.05	.88	.55	.76	.05	.65	.55	.54
.06	.89	.56	.78	.06	.67	.56	.56
.07	.91	.57	.80	.07	.69	.57	.57
.08	.93	.58	.82	.08	.71	.58	.59
.09	.95	.59	.84	.09	.72	.59	.61
6.10	10.97	6.60	11.85	7.10	12.74	7.60	13.63
.11	10.98	.61	.87	.11	.76	.61	.65
.12	11.00	.62	.89	.12	.78	.62	.66
.13	.02	.63	.91	.13	.79	.63	.68
.14	.04	.64	.92	.14	.81	.64	.70
.15	.05	.65	.94	.15	.83	.65	.72
.16	.07	.66	.96	.16	.85	.66	.73
.17	.09	.67	11.98	.17	.86	.67	.75
.18	.11	.68	12.00	.18	.88	.68	.77
.19	.12	.69	.01	.19	.90	.69	.79
6.20	11.14	6.70	12.03	7.20	12.92	7.70	13.80
.21	.16	.71	.03	.21	.94	.71	.82
.22	.18	.72	.07	.22	.95	.72	.84
.23	.20	.73	.08	.23	.97	.73	.86
.24	.21	.74	.10	.24	12.99	.74	.88
.25	.23	.75	.12	.25	13.01	.75	.89
.26	.25	.76	.14	.26	.02	.76	.91
.27	.27	.77	.16	.27	.04	.77	.93
.28	.28	.78	.17	.28	.06	.78	.95
.29	.30	.79	.19	.29	.08	.79	.96
6.30	11.32	6.80	12.21	7.30	13.10	7.80	13.98
.31	.34	.81	.23	.31	.11	.81	14.00
.32	.36	.82	.24	.32	.13	.82	.02
.33	.37	.83	.26	.33	.15	.83	.03
.34	.39	.84	.28	.34	.17	.84	.05
.35	.41	.85	.30	.35	.18	.85	.07
.36	.43	.86	.31	.36	.20	.86	.09
.37	.44	.87	.33	.37	.22	.87	.11
.38	.46	.88	.35	.38	.24	.88	.12
.39	.48	.89	.37	.39	.25	.89	.14
6.40	11.50	6.90	12.39	7.40	13.27	7.90	14.16
.41	.52	.91	.40	.41	.29	.91	.18
.42	.53	.92	.42	.42	.31	.92	.19
.43	.55	.93	.44	.43	.33	.93	.21
.44	.57	.94	.46	.44	.34	.94	.23
.45	.59	.95	.47	.45	.36	.95	.25
.46	.60	.96	.49	.46	.38	.96	.27
.47	.62	.97	.51	.47	.40	.97	.28
.48	.64	.98	.53	.48	.41	.98	.30
.49	.66	.99	.55	.49	.43	.99	.32

TABLE 32.—Conversion of Chlorosity to Salinity—Continued

$\sigma_t/\text{cm}$	$S\text{‰}$	$\sigma_t/\text{cm}$	$S\text{‰}$	$\sigma_t/\text{cm}$	$S\text{‰}$	$\sigma_t/\text{cm}$	$S\text{‰}$
8.00	14.34	8.50	15.22	9.00	16.10	9.50	16.98
.01	.35	.51	.24	.01	.12	.51	17.00
.02	.37	.52	.25	.02	.14	.52	.02
.03	.39	.53	.27	.03	.16	.53	.03
.04	.41	.54	.29	.04	.17	.54	.05
.05	.42	.55	.31	.05	.19	.55	.07
.06	.44	.56	.33	.06	.21	.56	.09
.07	.46	.57	.34	.07	.23	.57	.11
.08	.48	.58	.36	.08	.24	.58	.12
.09	.50	.59	.38	.09	.26	.59	.14
8.10	14.51	8.60	15.40	9.10	16.29	9.60	17.16
.11	.53	.61	.41	.11	.30	.61	.18
.12	.55	.62	.43	.12	.31	.62	.19
.13	.57	.63	.45	.13	.33	.63	.21
.14	.58	.64	.47	.14	.35	.64	.23
.15	.60	.65	.48	.15	.37	.65	.25
.16	.62	.66	.50	.16	.38	.66	.26
.17	.64	.67	.52	.17	.40	.67	.28
.18	.65	.68	.54	.18	.42	.68	.30
.19	.67	.69	.56	.19	.44	.69	.32
8.20	14.69	8.70	15.57	9.20	16.45	9.70	17.33
.21	.71	.71	.59	.21	.47	.71	.35
.22	.72	.72	.61	.22	.49	.72	.37
.23	.74	.73	.63	.23	.51	.73	.39
.24	.76	.74	.64	.24	.53	.74	.40
.25	.78	.75	.66	.25	.54	.75	.42
.26	.80	.76	.68	.26	.56	.76	.44
.27	.81	.77	.70	.27	.58	.77	.46
.28	.83	.78	.71	.28	.60	.78	.47
.29	.85	.79	.73	.29	.61	.79	.49
8.30	14.87	8.80	15.75	9.30	16.63	9.80	17.51
.31	.88	.81	.77	.31	.65	.81	.53
.32	.90	.82	.79	.32	.67	.82	.54
.33	.92	.83	.80	.33	.68	.83	.56
.34	.94	.84	.82	.34	.70	.84	.58
.35	.95	.85	.84	.35	.72	.85	.60
.36	.97	.86	.86	.36	.74	.86	.62
.37	14.99	.87	.87	.37	.75	.87	.63
.38	15.01	.88	.89	.38	.77	.88	.65
.39	.03	.89	.91	.39	.79	.89	.67
8.40	15.04	8.90	15.93	9.40	16.81	9.90	17.69
.41	.06	.91	.94	.41	.82	.91	.70
.42	.08	.92	.96	.42	.84	.92	.72
.43	.10	.93	15.98	.43	.86	.93	.74
.44	.11	.94	16.00	.44	.88	.94	.76
.45	.13	.95	.01	.45	.89	.95	.77
.46	.15	.96	.03	.46	.91	.96	.79
.47	.17	.97	.05	.47	.93	.97	.81
.48	.18	.98	.07	.48	.95	.98	.83
.49	.20	.99	.09	.49	.96	.99	.85

TABLE 32.—Conversion of Chlorosity to Salinity—Continued

Cl/(‰)	S/‰	Cl/(‰)	S/‰	Cl/(‰)	S/‰	Cl/(‰)	S/‰
10.00	17.87	10.50	18.74	11.00	19.62	11.50	20.50
.01	.88	.51	.76	.01	.64	.51	.52
.02	.90	.52	.78	.02	.66	.52	.54
.03	.92	.53	.80	.03	.68	.53	.55
.04	.94	.54	.81	.04	.69	.54	.57
.05	.95	.55	.83	.05	.71	.55	.59
.06	.97	.56	.85	.06	.73	.56	.61
.07	17.99	.77	.87	.07	.75	.57	.62
.08	18.01	.58	.88	.08	.76	.58	.64
.09	.02	.59	.90	.09	.78	.59	.66
10.10	18.04	10.60	18.92	11.10	19.80	11.60	20.68
.11	.06	.61	.94	.11	.82	.61	.69
.12	.08	.62	.96	.12	.83	.62	.71
.13	.09	.63	.97	.13	.85	.63	.73
.14	.11	.64	18.99	.14	.87	.64	.75
.15	.13	.65	19.01	.15	.89	.65	.76
.16	.15	.66	.03	.16	.90	.66	.78
.17	.16	.67	.04	.17	.92	.67	.80
.18	.18	.68	.06	.18	.94	.68	.82
.19	.20	.69	.08	.19	.96	.69	.83
10.20	18.22	10.70	19.10	11.20	19.97	11.70	20.85
.21	.23	.71	.11	.21	19.99	.71	.87
.22	.25	.72	.13	.22	20.01	.72	.89
.23	.27	.73	.15	.23	.03	.73	.90
.24	.29	.74	.17	.24	.04	.74	.92
.25	.30	.75	.18	.25	.06	.75	.94
.26	.32	.76	.20	.26	.08	.76	.96
.27	.34	.77	.22	.27	.10	.77	.97
.28	.36	.78	.24	.28	.11	.78	20.99
.29	.38	.79	.25	.29	.13	.79	21.01
10.30	18.39	10.80	19.27	11.30	20.15	11.80	21.03
.31	.41	.81	.29	.31	.17	.81	.04
.32	.43	.82	.31	.32	.18	.82	.06
.33	.45	.83	.32	.33	.20	.83	.08
.34	.46	.84	.34	.34	.22	.84	.10
.35	.48	.85	.36	.35	.24	.85	.11
.36	.50	.86	.38	.36	.26	.86	.13
.37	.52	.87	.39	.37	.27	.87	.15
.38	.53	.88	.41	.38	.29	.88	.17
.39	.55	.89	.43	.39	.31	.89	.18
10.40	18.57	10.90	19.45	11.40	20.33	11.90	21.20
.41	.59	.91	.47	.41	.34	.91	.22
.42	.60	.92	.48	.42	.36	.92	.24
.43	.62	.93	.50	.43	.38	.93	.26
.44	.64	.94	.52	.44	.40	.94	.27
.45	.66	.95	.54	.45	.41	.95	.29
.46	.67	.96	.55	.46	.43	.96	.31
.47	.69	.97	.57	.47	.45	.97	.33
.48	.71	.98	.59	.48	.47	.98	.34
.49	.73	.99	.61	.49	.48	.99	.36

TABLE 32. - Conversion of Chlorosity to Salinity - Continued

$\text{Cl}/\text{‰}$	$\text{S}/\text{‰}$	$\text{Cl}/\text{‰}$	$\text{S}/\text{‰}$	$\text{Cl}/\text{‰}$	$\text{S}/\text{‰}$	$\text{Cl}/\text{‰}$	$\text{S}/\text{‰}$
12.00	21.38	12.50	22.25	13.00	23.13	13.50	24.00
.01	.40	.51	.27	.01	.14	.51	.02
.02	.41	.52	.29	.02	.16	.52	.03
.03	.43	.53	.30	.03	.18	.53	.05
.04	.45	.54	.32	.04	.20	.54	.07
.05	.47	.55	.34	.05	.21	.55	.09
.06	.48	.56	.36	.06	.23	.56	.10
.07	.50	.57	.37	.07	.25	.57	.12
.08	.52	.58	.39	.08	.27	.58	.14
.09	.54	.59	.41	.09	.28	.59	.16
12.10	21.55	12.60	22.43	13.10	23.30	13.60	24.17
.11	.57	.61	.44	.11	.32	.61	.19
.12	.59	.62	.46	.12	.34	.62	.21
.13	.61	.63	.48	.13	.35	.63	.23
.14	.62	.64	.50	.14	.37	.64	.24
.15	.64	.65	.51	.15	.39	.65	.26
.16	.66	.66	.53	.16	.41	.66	.28
.17	.68	.67	.55	.17	.42	.67	.30
.18	.69	.68	.57	.18	.44	.68	.31
.19	.71	.69	.58	.19	.46	.69	.33
12.20	21.73	12.70	22.60	13.20	23.48	13.70	24.35
.21	.75	.71	.62	.21	.49	.71	.37
.22	.76	.72	.64	.22	.51	.72	.38
.23	.78	.73	.65	.23	.53	.73	.40
.24	.80	.74	.67	.24	.55	.74	.42
.25	.82	.75	.69	.25	.56	.75	.44
.26	.83	.76	.71	.26	.58	.76	.45
.27	.85	.77	.72	.27	.60	.77	.47
.28	.87	.78	.74	.28	.62	.78	.49
.29	.89	.79	.76	.29	.63	.79	.51
12.30	21.90	12.80	22.78	13.30	23.65	13.80	24.52
.31	.92	.81	.79	.31	.67	.81	.54
.32	.94	.82	.81	.32	.69	.82	.56
.33	.96	.83	.83	.33	.70	.83	.58
.34	.97	.84	.85	.34	.72	.84	.59
.35	21.99	.85	.86	.35	.74	.85	.61
.36	22.01	.86	.88	.36	.76	.86	.63
.37	.03	.87	.90	.37	.77	.87	.65
.38	.04	.88	.92	.38	.79	.88	.66
.39	.06	.89	.93	.39	.81	.89	.68
12.40	22.08	12.90	22.95	13.40	23.83	13.90	24.70
.41	.09	.91	.97	.41	.84	.91	.72
.42	.11	.92	22.99	.42	.86	.92	.73
.43	.13	.93	23.00	.43	.88	.93	.75
.44	.15	.94	.02	.44	.89	.94	.77
.45	.16	.95	.04	.45	.91	.95	.79
.46	.18	.96	.06	.46	.93	.96	.80
.47	.20	.97	.07	.47	.95	.97	.82
.48	.22	.98	.09	.48	.96	.98	.84
.49	.24	.99	.11	.49	.98	.99	.85



TABLE 32. -Conversion of Chlorosity to Salinity - Continued

$C/\text{cm}$	$S/\text{‰}$	$C/\text{cm}$	$S/\text{‰}$	$C/\text{cm}$	$S/\text{‰}$	$C/\text{cm}$	$S/\text{‰}$
14.00	24.87	14.50	25.74	15.00	26.61	15.50	27.48
.01	.89	.51	.76	.01	.63	.51	.50
.02	.91	.52	.78	.02	.65	.52	.51
.03	.92	.53	.79	.03	.66	.53	.53
.04	.94	.54	.81	.04	.68	.54	.55
.05	.96	.55	.83	.05	.70	.55	.57
.06	.98	.56	.85	.06	.72	.56	.58
.07	24.99	.57	.86	.07	.73	.57	.60
.08	25.01	.58	.88	.08	.75	.58	.62
.09	.03	.59	.90	.09	.77	.59	.64
14.10	25.05	14.60	25.92	15.10	26.79	15.60	27.65
.11	.06	.61	.93	.11	.80	.61	.67
.12	.08	.62	.95	.12	.82	.62	.69
.13	.10	.63	.97	.13	.84	.63	.71
.14	.12	.64	25.99	.14	.86	.64	.72
.15	.13	.65	26.00	.15	.87	.65	.74
.16	.15	.66	.02	.16	.89	.66	.76
.17	.17	.67	.04	.17	.91	.67	.77
.18	.19	.68	.06	.18	.92	.68	.79
.19	.20	.69	.07	.19	.94	.69	.81
14.20	25.22	14.70	26.09	15.20	26.96	15.70	27.83
.21	.24	.71	.11	.21	.95	.71	.84
.22	.26	.72	.13	.22	26.99	.72	.86
.23	.27	.73	.14	.23	27.01	.73	.88
.24	.29	.74	.16	.24	.03	.74	.90
.25	.31	.75	.18	.25	.05	.75	.91
.26	.32	.76	.19	.26	.06	.76	.93
.27	.34	.77	.21	.27	.08	.77	.95
.28	.36	.78	.23	.28	.10	.78	.97
.29	.38	.79	.25	.29	.12	.79	.98
14.30	25.39	14.80	26.26	15.30	27.13	15.80	28.00
.31	.41	.81	.28	.31	.15	.81	.02
.32	.43	.82	.30	.32	.17	.82	.03
.33	.45	.83	.32	.33	.18	.83	.05
.34	.46	.84	.33	.34	.20	.84	.07
.35	.48	.85	.35	.35	.22	.85	.09
.36	.50	.86	.37	.36	.24	.86	.10
.37	.52	.87	.39	.37	.25	.87	.12
.38	.53	.88	.40	.38	.27	.88	.14
.39	.55	.89	.42	.39	.29	.89	.16
14.40	25.57	14.90	26.44	15.40	27.31	15.90	28.17
.41	.59	.91	.46	.41	.32	.91	.19
.42	.60	.92	.47	.42	.34	.92	.21
.43	.62	.93	.49	.43	.36	.93	.23
.44	.64	.94	.51	.44	.38	.94	.24
.45	.66	.95	.53	.45	.39	.95	.26
.46	.67	.96	.54	.46	.41	.96	.28
.47	.69	.97	.56	.47	.43	.97	.29
.48	.71	.98	.58	.48	.44	.98	.31
.49	.72	.99	.59	.49	.46	.99	.33

TABLE 32. Conversion of Chlorosity to Salinity—Continued

$\sigma_{\text{t}}/\text{cm}$	$S^{\text{‰}}$	$\sigma_{\text{t}}/\text{cm}$	$S^{\text{‰}}$	$\sigma_{\text{t}}/\text{cm}$	$S^{\text{‰}}$	$\sigma_{\text{t}}/\text{cm}$	$S^{\text{‰}}$
16.00	28.35	16.50	29.21	17.00	30.08	17.50	30.94
.01	.36	.51	.23	.01	.09	.51	.96
.02	.38	.52	.25	.02	.11	.52	.98
.03	.40	.53	.26	.03	.13	.53	30.99
.04	.42	.54	.28	.04	.15	.54	31.01
.05	.43	.55	.30	.05	.16	.55	.03
.06	.45	.56	.32	.06	.18	.56	.04
.07	.47	.57	.33	.07	.20	.57	.06
.08	.49	.58	.35	.08	.22	.58	.08
.09	.50	.59	.37	.09	.23	.59	.10
16.10	28.52	16.60	29.39	17.10	30.25	17.60	31.11
.11	.54	.61	.40	.11	.27	.61	.13
.12	.55	.62	.42	.12	.28	.62	.15
.13	.57	.63	.44	.13	.30	.63	.17
.14	.59	.64	.45	.14	.32	.64	.18
.15	.61	.65	.47	.15	.34	.65	.20
.16	.62	.66	.49	.16	.35	.66	.22
.17	.64	.67	.51	.17	.37	.67	.23
.18	.66	.68	.52	.18	.39	.68	.25
.19	.68	.69	.54	.19	.41	.69	.27
16.20	28.69	16.70	29.56	17.20	30.42	17.70	31.29
.21	.71	.71	.58	.21	.44	.71	.30
.22	.73	.72	.59	.22	.46	.72	.32
.23	.75	.73	.61	.23	.47	.73	.34
.24	.76	.74	.63	.24	.49	.74	.36
.25	.78	.75	.65	.25	.51	.75	.37
.26	.80	.76	.66	.26	.53	.76	.39
.27	.82	.77	.68	.27	.54	.77	.41
.28	.83	.78	.70	.28	.56	.78	.42
.29	.85	.79	.71	.29	.58	.79	.44
16.30	28.87	16.80	29.73	17.30	30.60	17.80	31.46
.31	.88	.81	.75	.31	.61	.81	.48
.32	.90	.82	.77	.32	.63	.82	.49
.33	.92	.83	.78	.33	.65	.83	.51
.34	.94	.84	.80	.34	.66	.84	.53
.35	.95	.85	.82	.35	.68	.85	.55
.36	.97	.86	.84	.36	.70	.86	.56
.37	28.99	.87	.85	.37	.72	.87	.58
.38	29.00	.88	.87	.38	.73	.88	.60
.39	.02	.89	.89	.39	.75	.89	.61
16.40	29.04	16.90	29.90	17.40	30.77	17.90	31.63
.41	.06	.91	.92	.41	.79	.91	.65
.42	.07	.92	.94	.42	.80	.92	.67
.43	.09	.93	.96	.43	.82	.93	.68
.44	.11	.94	.97	.44	.84	.94	.70
.45	.13	.95	29.99	.45	.85	.95	.72
.46	.14	.96	30.01	.46	.87	.96	.74
.47	.16	.97	.03	.47	.89	.97	.75
.48	.18	.98	.04	.48	.91	.98	.77
.49	.20	.99	.06	.49	.92	.99	.79

TABLE 32.—Conversion of Chlorosity to Salinity—Continued

$C/\text{cm}$	$S/\text{‰}$	$C/\text{cm}$	$S/\text{‰}$	$C/\text{cm}$	$S/\text{‰}$	$C/\text{cm}$	$S/\text{‰}$
18.00	31.80	18.50	32.67	19.00	33.53	19.50	34.39
.01	.82	.51	.68	.01	.54	.51	.40
.02	.84	.52	.70	.02	.56	.52	.42
.03	.86	.53	.72	.03	.58	.53	.44
.04	.87	.54	.73	.04	.60	.54	.46
.05	.89	.55	.75	.05	.61	.55	.47
.06	.91	.56	.77	.06	.63	.56	.49
.07	.92	.57	.79	.07	.65	.57	.51
.08	.94	.58	.80	.08	.67	.58	.52
.09	.96	.59	.82	.09	.68	.59	.54
18.10	31.98	18.60	32.84	19.10	33.70	19.60	34.56
.11	31.99	.61	.86	.11	.72	.61	.58
.12	32.01	.62	.87	.12	.73	.62	.59
.13	.03	.63	.89	.13	.75	.63	.61
.14	.05	.64	.91	.14	.77	.64	.63
.15	.06	.65	.92	.15	.79	.65	.64
.16	.08	.66	.94	.16	.80	.66	.66
.17	.10	.67	.96	.17	.82	.67	.68
.18	.11	.68	.98	.18	.84	.68	.70
.19	.13	.69	32.99	.19	.85	.69	.71
18.20	32.15	18.70	33.01	19.20	33.87	19.70	34.73
.21	.17	.71	.03	.21	.89	.71	.75
.22	.18	.72	.05	.22	.91	.72	.77
.23	.20	.73	.06	.23	.92	.73	.78
.24	.22	.74	.08	.24	.94	.74	.80
.25	.23	.75	.10	.25	.96	.75	.82
.26	.25	.76	.11	.26	.97	.75	.83
.27	.27	.77	.13	.27	33.99	.77	.85
.28	.29	.78	.15	.28	34.01	.78	.87
.29	.30	.79	.17	.29	.03	.79	.89
18.30	32.32	18.80	33.18	19.30	34.04	19.80	34.90
.31	.34	.81	.20	.31	.06	.81	.92
.32	.36	.82	.22	.32	.08	.82	.94
.33	.37	.83	.23	.33	.09	.83	.95
.34	.39	.84	.25	.34	.11	.84	.97
.35	.41	.85	.27	.35	.13	.85	34.99
.36	.42	.86	.29	.36	.15	.86	35.01
.37	.44	.87	.30	.37	.16	.87	.07
.38	.46	.88	.32	.38	.18	.88	.04
.39	.48	.89	.34	.39	.20	.89	.06
18.40	32.49	18.90	33.36	19.40	34.22	19.90	35.07
.41	.51	.91	.37	.41	.23	.91	.09
.42	.53	.92	.39	.42	.25	.92	.11
.43	.55	.93	.41	.43	.27	.93	.13
.44	.56	.94	.42	.44	.28	.94	.14
.45	.58	.95	.44	.45	.30	.95	.16
.46	.60	.96	.46	.46	.32	.96	.18
.47	.61	.97	.48	.47	.34	.97	.19
.48	.63	.98	.49	.48	.35	.98	.21
.49	.65	.99	.51	.49	.37	.99	.23

TABLE 32. Conversion of Chlorosity to Salinity—Continued

$C/\text{cm}$	$S/\text{‰}$	$C/\text{cm}$	$S/\text{‰}$	$C/\text{cm}$	$S/\text{‰}$	$C/\text{cm}$	$S/\text{‰}$
20.00	35.25	20.50	36.11	21.00	36.96	21.50	37.82
.01	.27	.51	.12	.01	36.98	.51	.83
.02	.28	.52	.14	.02	37.00	.52	.85
.03	.30	.53	.16	.03	.01	.53	.87
.04	.32	.54	.18	.04	.03	.54	.89
.05	.34	.55	.19	.05	.05	.55	.90
.06	.35	.56	.21	.06	.06	.56	.92
.07	.37	.57	.23	.07	.08	.57	.94
.08	.39	.58	.24	.08	.10	.58	.95
.09	.40	.59	.26	.09	.12	.59	.97
20.10	35.42	20.60	36.28	21.10	37.13	21.60	37.99
.11	.44	.61	.30	.11	.15	.61	38.00
.12	.46	.62	.31	.12	.17	.62	.02
.13	.47	.63	.33	.13	.18	.63	.04
.14	.50	.64	.35	.14	.20	.64	.06
.15	.51	.65	.36	.15	.22	.65	.07
.16	.52	.66	.38	.16	.24	.66	.09
.17	.54	.67	.40	.17	.25	.67	.11
.18	.56	.68	.41	.18	.27	.68	.12
.19	.58	.69	.43	.19	.29	.69	.14
20.20	35.59	20.70	36.45	21.20	37.30	21.70	38.16
.21	.61	.71	.47	.21	.32	.71	.17
.22	.63	.72	.48	.22	.34	.72	.19
.23	.64	.73	.50	.23	.36	.73	.21
.24	.66	.74	.52	.24	.37	.74	.23
.25	.68	.75	.53	.25	.39	.75	.24
.26	.70	.76	.55	.26	.40	.76	.26
.27	.71	.77	.57	.27	.42	.77	.28
.28	.73	.78	.59	.28	.44	.78	.29
.29	.74	.79	.60	.29	.46	.79	.31
20.30	35.76	20.80	36.62	21.30	37.47	21.80	38.33
.31	.78	.81	.64	.31	.49	.81	.34
.32	.80	.82	.65	.32	.51	.82	.36
.33	.82	.83	.67	.33	.53	.83	.38
.34	.83	.84	.69	.34	.54	.84	.40
.35	.85	.85	.71	.35	.56	.85	.41
.36	.87	.86	.72	.36	.58	.86	.43
.37	.88	.87	.74	.37	.59	.87	.45
.38	.90	.88	.76	.38	.61	.88	.46
.39	.92	.89	.77	.39	.63	.89	.48
20.40	35.93	20.90	36.79	21.40	37.65	21.90	38.50
.41	.95	.91	.81	.41	.66	.91	.51
.42	.97	.92	.83	.42	.68	.92	.53
.43	35.99	.93	.84	.43	.70	.93	.55
.44	36.00	.94	.86	.44	.71	.94	.57
.45	.02	.95	.88	.45	.73	.95	.58
.46	.04	.96	.89	.46	.75	.96	.60
.47	.06	.97	.91	.47	.77	.97	.62
.48	.07	.98	.93	.48	.78	.98	.63
.49	.09	.99	.94	.49	.80	.99	.65
						22.00	38.67

(Strickland and Parsons, 1960)

TABLE 33.—Temperature Conversions Centigrade to Fahrenheit—Fahrenheit to Centigrade

TABLE 33 A.—Centigrade to Fahrenheit  
 $y^{\circ}C = 5/9 (x^{\circ}F - 32^{\circ})$

Example:  
 Given, temperature = 4.55° C.  
 From table 33 A, temperature = 40.19° F.

TABLE 33 B.—Fahrenheit to Centigrade  
 $x^{\circ}F = 9/5 y^{\circ}C + 32^{\circ}$

Example:  
 Given, temperature = 44.4° F.  
 From table 33 B, temperature = 6.89° C.

TABLE 33 A.—Temperature Conversions - Centigrade to Fahrenheit

°C.	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
-2	28.40	28.22	28.04	27.86	27.68	27.50	27.32	27.14	26.96	26.78
-1	30.20	29.02	28.84	28.66	28.48	28.30	28.12	27.94	27.76	27.58
0	32.00	31.82	31.64	31.46	31.28	31.10	30.92	30.74	30.56	30.38
1	32.00	32.18	32.36	32.54	32.72	32.90	33.08	33.26	33.44	33.62
2	33.80	33.98	34.16	34.34	34.52	34.70	34.88	35.06	35.24	35.42
3	35.60	35.78	35.96	36.14	36.32	36.50	36.68	36.86	37.04	37.22
4	37.40	37.58	37.76	37.94	38.12	38.30	38.48	38.66	38.84	39.02
5	39.20	39.38	39.56	39.74	39.92	40.10	40.28	40.46	40.64	40.82
6	41.00	41.18	41.36	41.54	41.72	41.90	42.08	42.26	42.44	42.62
7	42.80	42.98	43.16	43.34	43.52	43.70	43.88	44.06	44.24	44.42
8	44.60	44.78	44.96	45.14	45.32	45.50	45.68	45.86	46.04	46.22
9	46.40	46.58	46.76	46.94	47.12	47.30	47.48	47.66	47.84	48.02
10	48.20	48.38	48.56	48.74	48.92	49.10	49.28	49.46	49.64	49.82
11	50.00	50.18	50.36	50.54	50.72	50.90	51.08	51.26	51.44	51.62
12	51.80	51.98	52.16	52.34	52.52	52.70	52.88	53.06	53.24	53.42
13	53.60	53.78	53.96	54.14	54.32	54.50	54.68	54.86	55.04	55.22
14	55.40	55.58	55.76	55.94	56.12	56.30	56.48	56.66	56.84	57.02
15	57.20	57.38	57.56	57.74	57.92	58.10	58.28	58.46	58.64	58.82
16	59.00	59.18	59.36	59.54	59.72	59.90	60.08	60.26	60.44	60.62
17	60.80	60.98	61.16	61.34	61.52	61.70	61.88	62.06	62.24	62.42
18	62.60	62.78	62.96	63.14	63.32	63.50	63.68	63.86	64.04	64.22
19	64.40	64.58	64.76	64.94	65.12	65.30	65.48	65.66	65.84	66.02
20	66.20	66.38	66.56	66.74	66.92	67.10	67.28	67.46	67.64	67.82
21	68.00	68.18	68.36	68.54	68.72	68.90	69.08	69.26	69.44	69.62
22	69.80	69.98	70.16	70.34	70.52	70.70	70.88	71.06	71.24	71.42
23	71.60	71.78	71.96	72.14	72.32	72.50	72.68	72.86	73.04	73.22
24	73.40	73.58	73.76	73.94	74.12	74.30	74.48	74.66	74.84	75.02
25	75.20	75.38	75.56	75.74	75.92	76.10	76.28	76.46	76.64	76.82
26	77.00	77.18	77.36	77.54	77.72	77.90	78.08	78.26	78.44	78.62
27	78.80	78.98	79.16	79.34	79.52	79.70	79.88	80.06	80.24	80.42
28	80.60	80.78	80.96	81.14	81.32	81.50	81.68	81.86	82.04	82.22
29	82.40	82.58	82.76	82.94	83.12	83.30	83.48	83.66	83.84	84.02
30	84.20	84.38	84.56	84.74	84.92	85.10	85.28	85.46	85.64	85.82
31	86.00	86.18	86.36	86.54	86.72	86.90	87.08	87.26	87.44	87.62
32	87.80	87.98	88.16	88.34	88.52	88.70	88.88	89.06	89.24	89.42
33	89.60	89.78	89.96	90.14	90.32	90.50	90.68	90.86	91.04	91.22
34	91.40	91.58	91.76	91.94	92.12	92.30	92.48	92.66	92.84	93.02
35	93.20	93.38	93.56	93.74	93.92	94.10	94.28	94.46	94.64	94.82
36	95.00	95.18	95.36	95.54	95.72	95.90	96.08	96.26	96.44	96.62
37	96.80	96.98	97.16	97.34	97.52	97.70	97.88	98.06	98.24	98.42
38	98.60	98.78	98.96	99.14	99.32	99.50	99.68	99.86	100.04	100.22
39	100.40	100.58	100.76	100.94	101.12	101.30	101.48	101.66	101.84	102.02
40	102.20	102.38	102.56	102.74	102.92	103.10	103.28	103.46	103.64	103.82
41	104.00	104.18	104.36	104.54	104.72	104.90	105.08	105.26	105.44	105.62
42	105.80	105.98	106.16	106.34	106.52	106.70	106.88	107.06	107.24	107.42
43	107.60	107.78	107.96	108.14	108.32	108.50	108.68	108.86	109.04	109.22
44	109.40	109.58	109.76	109.94	110.12	110.30	110.48	110.66	110.84	111.02
45	111.20	111.38	111.56	111.74	111.92	112.10	112.28	112.46	112.64	112.82
46	113.00	113.18	113.36	113.54	113.72	113.90	114.08	114.26	114.44	114.62
47	114.80	114.98	115.16	115.34	115.52	115.70	115.88	116.06	116.24	116.42
48	116.60	116.78	116.96	117.14	117.32	117.50	117.68	117.86	118.04	118.22
49	118.40	118.58	118.76	118.94	119.12	119.30	119.48	119.66	119.84	120.02
50	120.20	120.38	120.56	120.74	120.92	121.10	121.28	121.46	121.64	121.82

TABLE 33B. Temperature Conversions - Fahrenheit to Centigrade

°F.	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
30	-1.11	-1.06	-1.00	-0.94	-0.89	-0.83	-0.78	-0.72	-0.67	-0.61
31	-.56	-.50	-.44	-.39	-.33	-.28	-.22	-.17	-.11	-.06
32	.00	.06	.11	.17	.22	.28	.33	.39	.44	.50
33	.56	.61	.67	.72	.78	.83	.89	.94	1.00	1.06
34	1.11	1.17	1.22	1.28	1.33	1.39	1.44	1.50	1.56	1.61
35	1.67	1.72	1.78	1.83	1.89	1.94	2.00	2.06	2.11	2.17
36	2.22	2.28	2.33	2.39	2.44	2.50	2.56	2.61	2.67	2.72
37	2.78	2.83	2.89	2.94	3.00	3.06	3.11	3.17	3.22	3.28
38	3.33	3.39	3.44	3.50	3.56	3.61	3.67	3.72	3.78	3.83
39	3.89	3.94	4.00	4.06	4.11	4.17	4.22	4.28	4.33	4.39
40	4.44	4.50	4.56	4.61	4.67	4.72	4.78	4.83	4.89	4.94
41	5.00	5.06	5.11	5.17	5.22	5.28	5.33	5.39	5.44	5.50
42	5.56	5.61	5.67	5.72	5.78	5.83	5.89	5.94	6.00	6.06
43	6.11	6.17	6.22	6.28	6.33	6.39	6.44	6.50	6.56	6.61
44	6.67	6.72	6.78	6.83	6.89	6.94	7.00	7.06	7.11	7.17
45	7.22	7.28	7.33	7.39	7.44	7.50	7.56	7.61	7.67	7.72
46	7.78	7.83	7.89	7.94	8.00	8.06	8.11	8.17	8.22	8.28
47	8.33	8.39	8.44	8.50	8.56	8.61	8.67	8.72	8.78	8.83
48	8.89	8.94	9.00	9.06	9.11	9.17	9.22	9.28	9.33	9.39
49	9.44	9.50	9.56	9.61	9.67	9.72	9.78	9.83	9.89	9.94
50	10.00	10.06	10.11	10.17	10.22	10.28	10.33	10.39	10.44	10.50
51	10.56	10.61	10.67	10.72	10.78	10.83	10.89	10.94	11.00	11.06
52	11.11	11.17	11.22	11.28	11.33	11.39	11.44	11.50	11.56	11.61
53	11.67	11.72	11.78	11.83	11.89	11.94	12.00	12.06	12.11	12.17
54	12.22	12.28	12.33	12.39	12.44	12.50	12.56	12.61	12.67	12.72
55	12.78	12.83	12.89	12.94	13.00	13.06	13.11	13.17	13.22	13.28
56	13.33	13.39	13.44	13.50	13.56	13.61	13.67	13.72	13.78	13.83
57	13.89	13.94	14.00	14.06	14.11	14.17	14.22	14.28	14.33	14.39
58	14.44	14.50	14.56	14.61	14.67	14.72	14.78	14.83	14.89	14.94
59	15.00	15.06	15.11	15.17	15.22	15.28	15.33	15.39	15.44	15.50
60	15.56	15.61	15.67	15.72	15.78	15.83	15.89	15.94	16.00	16.06
61	16.11	16.17	16.22	16.28	16.33	16.39	16.44	16.50	16.56	16.61
62	16.67	16.72	16.78	16.83	16.89	16.94	17.00	17.06	17.11	17.17
63	17.22	17.28	17.33	17.39	17.44	17.50	17.56	17.61	17.67	17.72
64	17.78	17.83	17.89	17.94	18.00	18.06	18.11	18.17	18.22	18.28
65	18.33	18.39	18.44	18.50	18.56	18.61	18.67	18.72	18.78	18.83
66	18.89	18.94	19.00	19.06	19.11	19.17	19.22	19.28	19.33	19.39
67	19.44	19.50	19.56	19.61	19.67	19.72	19.78	19.83	19.89	19.94
68	20.00	20.06	20.11	20.17	20.22	20.28	20.33	20.39	20.44	20.50
69	20.56	20.61	20.67	20.72	20.78	20.83	20.89	20.94	21.00	21.06
70	21.11	21.17	21.22	21.28	21.33	21.39	21.44	21.50	21.56	21.61
71	21.67	21.72	21.78	21.83	21.89	21.94	22.00	22.06	22.11	22.17
72	22.22	22.28	22.33	22.39	22.44	22.50	22.56	22.61	22.67	22.72
73	22.78	22.83	22.89	22.94	23.00	23.06	23.11	23.17	23.22	23.28
74	23.33	23.39	23.44	23.50	23.56	23.61	23.67	23.72	23.78	23.83
75	23.89	23.94	24.00	24.06	24.11	24.17	24.22	24.28	24.33	24.39
76	24.44	24.50	24.56	24.61	24.67	24.72	24.78	24.83	24.89	24.94
77	25.00	25.06	25.11	25.17	25.22	25.28	25.33	25.39	25.44	25.50
78	25.56	25.61	25.67	25.72	25.78	25.83	25.89	25.94	26.00	26.06
79	26.11	26.17	26.22	26.28	26.33	26.39	26.44	26.50	26.56	26.61
80	26.67	26.72	26.78	26.83	26.89	26.94	27.00	27.06	27.11	27.17
81	27.22	27.28	27.33	27.39	27.44	27.50	27.56	27.61	27.67	27.72
82	27.78	27.83	27.89	27.94	28.00	28.06	28.11	28.17	28.22	28.28
83	28.33	28.39	28.44	28.50	28.56	28.61	28.67	28.72	28.78	28.83
84	28.89	28.94	29.00	29.06	29.11	29.17	29.22	29.28	29.33	29.39

TABLE 33B.—Temperature Conversions—Fahrenheit to Centigrade—Continued

°F.	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
85.....	29.44	29.50	29.56	29.61	29.67	29.72	29.78	29.83	29.89	29.94
86.....	30.00	30.06	30.11	30.17	30.22	30.28	30.33	30.39	30.44	30.50
87.....	30.56	30.61	30.67	30.72	30.78	30.83	30.89	30.94	31.00	31.06
88.....	31.11	31.17	31.22	31.28	31.33	31.39	31.44	31.50	31.56	31.61
89.....	31.67	31.72	31.78	31.83	31.89	31.94	32.00	32.06	32.11	32.17
90.....	32.22	32.28	32.33	32.39	32.44	32.50	32.56	32.61	32.67	32.72
91.....	32.78	32.83	32.89	32.94	33.00	33.06	33.11	33.17	33.22	33.28
92.....	33.33	33.39	33.44	33.50	33.56	33.61	33.67	33.72	33.78	33.83
93.....	33.89	33.94	34.00	34.06	34.11	34.17	34.22	34.28	34.33	34.39
94.....	34.44	34.50	34.56	34.61	34.67	34.72	34.78	34.83	34.89	34.94
95.....	35.00	35.06	35.11	35.17	35.22	35.28	35.33	35.39	35.44	35.50
96.....	35.56	35.61	35.67	35.72	35.78	35.83	35.89	35.94	36.00	36.06
97.....	36.11	36.17	36.22	36.28	36.33	36.39	36.44	36.50	36.56	36.61
98.....	36.67	36.72	36.78	36.83	36.89	36.94	37.00	37.06	37.11	37.17
99.....	37.22	37.28	37.33	37.39	37.44	37.50	37.56	37.61	37.67	37.72
100.....	37.78	37.83	37.89	37.94	38.00	38.06	38.11	38.17	38.22	38.28
101.....	38.33	38.39	38.44	38.50	38.56	38.61	38.67	38.72	38.78	38.83
102.....	38.89	38.94	39.00	39.06	39.11	39.17	39.22	39.28	39.33	39.39
103.....	39.44	39.50	39.56	39.61	39.67	39.72	39.78	39.83	39.89	39.94
104.....	40.00	40.06	40.11	40.17	40.22	40.28	40.33	40.39	40.44	40.50
105.....	40.56	40.61	40.67	40.72	40.78	40.83	40.89	40.94	41.00	41.06
106.....	41.11	41.17	41.22	41.28	41.33	41.39	41.44	41.50	41.56	41.61
107.....	41.67	41.72	41.78	41.83	41.89	41.94	42.00	42.06	42.11	42.17
108.....	42.22	42.28	42.33	42.39	42.44	42.50	42.56	42.61	42.67	42.72
109.....	42.78	42.83	42.89	42.94	43.00	43.06	43.11	43.17	43.22	43.28
110.....	43.33	43.39	43.44	43.50	43.56	43.61	43.67	43.72	43.78	43.83
111.....	43.89	43.94	44.00	44.06	44.11	44.17	44.22	44.28	44.33	44.39
112.....	44.44	44.50	44.56	44.61	44.67	44.72	44.78	44.83	44.89	44.94
113.....	45.00	45.06	45.11	45.17	45.22	45.28	45.33	45.39	45.44	45.50
114.....	45.56	45.61	45.67	45.72	45.78	45.83	45.89	45.94	46.00	46.06
115.....	46.11	46.17	46.22	46.28	46.33	46.39	46.44	46.50	46.56	46.61
116.....	46.67	46.72	46.78	46.83	46.89	46.94	47.00	47.06	47.11	47.17
117.....	47.22	47.28	47.33	47.39	47.44	47.50	47.56	47.61	47.67	47.72
118.....	47.78	47.83	47.89	47.94	48.00	48.06	48.11	48.17	48.22	48.28
119.....	48.33	48.39	48.44	48.50	48.56	48.61	48.67	48.72	48.78	48.83
120.....	48.89	48.94	49.00	49.06	49.11	49.17	49.22	49.28	49.33	49.39
121.....	49.44	49.50	49.56	49.61	49.67	49.72	49.78	49.83	49.89	49.94
122.....	50.00	50.06	50.11	50.17	50.22	50.28	50.33	50.39	50.44	50.50
123.....	50.56	50.61	50.67	50.72	50.78	50.83	50.89	50.94	51.00	51.06
124.....	51.11	51.17	51.22	51.28	51.33	51.39	51.44	51.50	51.56	51.61
125.....	51.67	51.72	51.78	51.83	51.89	51.94	52.00	52.06	52.11	52.17
126.....	52.22	52.28	52.33	52.39	52.44	52.50	52.56	52.61	52.67	52.72
127.....	52.78	52.83	52.89	52.94	53.00	53.06	53.11	53.17	53.22	53.28
128.....	53.33	53.39	53.44	53.50	53.56	53.61	53.67	53.72	53.78	53.83
129.....	53.89	53.94	54.00	54.06	54.11	54.17	54.22	54.28	54.33	54.39

**References**

- Table 1**  
 Bjerknes, V., and J. W. Sandstrom. *Dynamic Meteorology and Hydrography*, Pt. K, Statics, Carnegie Inst., Washington, D.C. Pub. No. 88, 1910.
- Tables 2, 3, 4, 5, 6, 7, and 8**  
 Adopted from  
 Sverdrup, H. V. *Vereinfachtes Verfahren zur Berechnung der Druck- und Massenverteilung im Meere*, Geofys. Pub., V. 10, No. 1, Oslo, 1933.
- Table 9**  
 Wüst, Georg. *Tables for Rapid Computation of Potential Temperature*, Technical Report CU-9-61 AT (30-1) 1908 Geol., Lamont Geological Observatory, Palisades, N.Y. 1961.
- Tables 10 and 11**  
 U.S. Navy Hydrographic Office. *Tables for the Rapid Computation of Density and Electrical Conductivity of Sea Water*. Special Publication—11, Washington, D.C. 1956.
- Table 12**  
 U.S. Naval Oceanographic Office. *Tables of Sound Speed in Sea Water*, Special Publication—58, Washington, D.C. 1962.
- Tables 13 through 20**  
 National Oceanographic Data Center. *Processing Physical and Chemical Data from Oceanographic Stations*. Publication M-2, Washington, D.C. 1962.
- Table 21**  
 Trask, Parker D. *Origin and Environment of Source Sediments of Petroleum*, American Petroleum Inst. Gulf Pub. Co., Houston, Tex. 1932.
- Table 22** ———
- Table 23** ———
- Tables 24, 25, 26, and 27**  
 Lafond, E. C. *Processing Oceanographic Data*, U.S. Navy Hydrographic Office, Pub. No. 614, Washington, D.C.
- Table 28** ———
- Table 29**  
 U.S. Navy Hydrographic Office. *American Practical Navigator (Bowditch)*, H.O. Pub. No. 9, Washington, D.C.
- Table 30**  
 National Defense Research Committee. *Principles and Applications of Underwater Sound*, Summary Technical Report of Division 6, Vol. 7, Washington, D.C. 1946.
- Table 31**  
 U.S. Navy Hydrographic Office. *Processing Oceanographic Data*, H.O. Pub. No. 614, Washington, D.C.
- Table 32**  
 Strickland, J. D. A., and T. R. Parsons. *A Manual of Sea Water Analysis*, Fisheries Research Board of Canada, Bulletin No. 125, Ottawa, 1960.
- Table 33**  
 U.S. Navy Hydrographic Office. *Processing Oceanographic Data*, H.O. Pub. No. 614, Washington, D.C.



# Alphabetical Index

Example: Acoustic Measurements, (Section) IV-T(able) 30... (Page) 406

	Page		Page
Acoustic Measurements, IV-T30.....	406	Density—Tables of Mean Density of Sea Water	
Ambient Noise Spectra, II-F10.....	27	Column Above Estimated Depth (North Atlantic, Northeast Pacific, Arctic, Antarctic, Mediterranean), III-T10.....	62
Animal Forms in Ocean, II-T13.....	38	Depth, Maximum (M)—Characteristics of the Oceans, III-T1.....	50
Area—Characteristics of Individual Seas, III-T2.....	51	Depth, Mean (M)—Characteristics of the Oceans, III-T1.....	50
Area (m <sup>2</sup> )—Characteristics of the Oceans, III-T1.....	50	Depth, Mean (m)—Characteristics of Individual Seas, III-T2.....	51
Area of Quadrangle:		Depth Conversion Tables (meters to fathoms, meters to feet), IV-T24.....	380
By 10° square, I-T1.....	3	Depth Corrections—Tables of the Velocity of Sound in Sea Water for the Use in Echo-Sounding and Sound Ranging, III-T11.....	63
By 1° square, I-T2.....	4	Depth—Distribution in Oceans (Atlantic, Arctic, Indian, Pacific, World), III-F2.....	43
By 10' square, I-T3.....	6	Echo Sounding Corrections—Tables of the Velocity of Sound in Sea Water for the Use in Echo-Sounding and Sound Ranging, III-T11.....	63
Artificial Sea Water, Formula of, IV-T23.....	379	Electro Magnetic Energy, II-F3.....	21
Bathymetric Curves of Oceans (Arctic, Atlantic, Indian, Pacific, World), III-F2.....	43	Attenuation of, II-F3.....	21
Beaufort Sea State Scale, II-T1.....	30	Light Extinction, II-F3.....	21
Biological:		Energy Distribution of Sunlight in Sea Water, II-T5.....	32
Enrichment factors of chemical elements in marine organisms over sea water, II-T8.....	34	Freezing Point Sea Water:	
Animal forms in oceans, II-T13.....	38	T and S (Density) Relationships to, II-F4....	22
Chemical:		Colligative Properties of Sea Water, II-F5....	22
Chemical abundances in sea water, II-T7....	33	Freezing Point of Sea Water for Values of Salinity, II-T11.....	37
Enrichment factors, II-T8.....	34	Geopotential Distance From Sea Surface to Stated Isobaric Surface, III-T13.....	97
Conversion tables:		Heat Budget of Oceans, III-T15.....	98
Oxygen, IV-T13.....	364	Ice—Relationship between accumulated frost degree days and ice growth rates of draft ice to the height of ice above water, II-F7 and II-F8.....	24, 25
Phosphorus, IV-T14.....	370	Kilometers, Conversion to Nautical Miles, IV-31..	407
Phosphate, IV-T15.....	371	Latitude and Longitude: Length of a Degree, I-T4.....	11
Nitrite, IV-T16.....	372	Light Extinction Values, II-T4.....	32
Nitrate, IV-T17.....	373	Energy Distribution of Sunlight in Sea Water, II-T5.....	32
Silicon, IV-T18.....	374	Marine Environments Classification, II-F9.....	26
Silicon dioxide, IV-T19.....	375	Maroon Square Chart, I-F1.....	1
Silicate, IV-T20.....	376	Nautical Miles, Conversion to Kilometers, IV-T31..	407
Chlorosity Conversion to Salinity, IV-T32.....	409	Miscellaneous Relationships, IV-T29.....	399
Colligative Properties of Sea Water (Osmotic Pressure, Vapor Pressure, Mean Density Terms, Freezing Point), II-F5.....	22	Nitrate—Conversion: from micrograms/liter of NO <sub>3</sub> to microgram-atoms/liter of NO <sub>3</sub> -N, IV-T17....	373
Conductivity, Tables of Electrical, IV-T11.....	319		
Compass Points: Conversion to Degrees, I-T5....	15		
Conversion Factors:			
Distance, IV-T31.....	407		
Depth, IV-T24.....	380		
Velocity, IV-T26 and T27.....	386, 387		
Cosmic Radiation Count Rate vs. Depth, II-F6 ..	23		
Current Factors for Values of Latitude, III-T12..	96		
Currents, Surface current of the Oceans, July, III-F6.....	Faces 246		
Density Variation With Latitude of Surface			
Density: Average for all Oceans, III-F1.....	42		
Density of Sea Water: Temperature of Maximum Density, II-F4.....	22		

ALPHABETICAL INDEX

	Page		Page
Nitrite—Conversion from micrograms/liter of NO <sub>2</sub> to microgram-atoms/liter of NO <sub>2</sub> , IV-T16.....	372	Sound Measurements—Units of Measurement, IV-T30.....	406
Osmotic Pressure of Sea Water at 0°, II-F5.....	22	Sound Speed in Sea Water, IV-T12.....	324
Oxygen—Conversion from milligrams/liter to milliliter/liter, milligram-atoms/liter to milliliter/liter, IV-T13.....	364	Specific Heat, II-F2.....	20
Oxygen in Sea Water: Saturation Values, II-T6.....	33	Specific Volume Anomaly: <ul style="list-style-type: none"> <li>Temperature-Salinity Term of Specific Volume Anomaly for Values of Sigma-T, IV-T8.....</li> <li>Sigma-T for Values of Temperature-Salinity of the Anomaly of Specific Volume, IV-T7.....</li> <li>Salinity-Depth Term of the Anomaly of Specific Volume, IV-T6.....</li> <li>Temperature-Depth Term of the Anomaly of Specific Volume, IV-T5.....</li> <li>Temperature-Salinity Term of the Anomaly of Specific Volume, IV-T2.....</li> <li>Temperature Interpolation for Temperature-Salinity Term of Anomaly, IV-T3.....</li> <li>Salinity Interpolation for Temperature-Salinity Term of Anomaly, IV-T4.....</li> </ul>	292 290 287 270 103 266 267
Pelagic Sediments, Areas covered by, III-T14.....	98	Specific Volume of Sea Water for Salinity 35%, Temp. 0° C. and at Stated Values of Pressure, IV-T1.....	102
pH range vs. Depth for World's Oceans, II-F12.....	29	Temperature Conversion Tables (F° to C°, C° to F°), IV-T33.....	419
Potential Temperatures, Tables of, IV-T9.....	295	Temperature—Mean Annual Sea-Surface Temperature for 10° Zones, III-T4.....	53
Phosphate—Conversion from micrograms/liter of PO <sub>4</sub> to microgram-atoms/liter of PO <sub>4</sub> -P, IV-T15.....	371	Annual Sea-Surface Temperature Variations, III-T5.....	53
Phosphorus—Conversion from microgram/liter of inorganic P to microgram-atoms/liter of P, IV-T14.....	370	Temperature—Mean Vertical Temperature Distribution in— <ul style="list-style-type: none"> <li>Atlantic, III-T7.....</li> <li>Indian, III-T7.....</li> <li>Pacific, III-T7.....</li> <li>Mean, III-T7.....</li> </ul>	60 60 60 60
Pressure—Pressure changes with depth for— <ul style="list-style-type: none"> <li>North Atlantic, III-F4.....</li> <li>Mediterranean, III-F4.....</li> <li>Arctic and Antarctic, III-F4.....</li> <li>Northeast Pacific, III-F4.....</li> </ul>	46 46 46 46	Temperature-Salinity Curves (TS) (Indian Ocean, Atlantic Ocean, South Pacific Ocean, North Pacific Ocean), III-F3.....	44
Radioactivity in Sea Water: <ul style="list-style-type: none"> <li>Natural Radioactivity, II-T9.....</li> <li>Cosmic Radiation Count Rate vs. Depth, II-F6.....</li> </ul>	35 23	Temperature—Surface Temperature Distribution of the— <ul style="list-style-type: none"> <li>World, III-T6.....</li> <li>Atlantic, III-T6.....</li> <li>Pacific, III-T6.....</li> <li>Indian, III-T6.....</li> <li>North Arctic Circle, III-T6.....</li> <li>Antarctic, III-T6.....</li> </ul>	54 54 54 54 54 54
Salinity Conversion to Chlorosity, IV-T32.....	409	Temperature—Variation With Latitude of Surface Temperature Average for all Oceans, III-F1.....	42
Salinity—Mean Annual Maximum Salinity, Chart of World, III-F5.....	Faces 46	Temperature—Water Masses of the— <ul style="list-style-type: none"> <li>World, III-T3.....</li> <li>Atlantic, III-T3.....</li> <li>Indian, III-T3.....</li> <li>Pacific, III-T3.....</li> </ul>	52 52 52 52
Salinity—Variation with Latitude of Surface Salinity Average for All Oceans, III-F1.....	42	Vapor Pressure Lowering of Sea Water, II-F5.....	22
Salinity—Water Masses of the— <ul style="list-style-type: none"> <li>World, III-T3.....</li> <li>Atlantic, III-T3.....</li> <li>Indian, III-T3.....</li> <li>Pacific, III-T3.....</li> </ul>	52 52 52 52	Velocity Conversions—Knots and Cm./sec., IV-T26 and IV-T27.....	386, 387
Sea State: Mean Time Wind Must Blow to Form Waves of Significant Height, II-T2.....	Faces 30	Volume (m <sup>3</sup> )—Characteristics of Individual Seas, III-T2.....	51
Sea State Codes (Related to Beaufort Scale), II-T1.....	30	Volume (m <sup>3</sup> )—Characteristics of the Oceans, III-T1.....	50
Sediments: <ul style="list-style-type: none"> <li>Physical Composition of Pelagic Sediments and Texture of Mineral Particles, II-T10.....</li> <li>Nomenclature of Sediment Types, II-F11.....</li> <li>Sediment Size Conversion Table, IV-T22.....</li> <li>Water Content and Porosity of Sediments, IV-T21.....</li> <li>Distribution of the Major Types of Deep-Sea Sediments, III-F9.....</li> </ul>	36 28 378 377 49		
Sigma-T: Temperature-Salinity Term of the Anomaly of Specific Volume for Values of Sigma-T, IV-T8.....	292		
Sigma-T for Values of Temperature-Salinity of the Anomaly of Specific Volume, IV-T7.....	290		
Silicate—Conversion from milligrams liter of SiO <sub>2</sub> to microgram-atoms liter of SiO <sub>2</sub> -Si, IV-T20.....	376		
Silicon—Conversion from microgram liter of Si to microgram-atoms liter Si, IV-T18.....	374		
Silicon Dioxide—Conversion from microgram/liter of SiO <sub>2</sub> to microgram-atoms liter of SiO <sub>2</sub> -Si, IV-T19.....	375		

ALPHABETICAL INDEX

	Page		Page
Water Masses of the—		Waves--Continued	
World Oceans, III-T3.....	52	Deep Ocean Surface Waves, II-T3.....	31
Atlantic, III-T3.....	52	Relative frequency of waves of different height	
Indian, III-T3.....	52	in different regions, III-T8.....	61
Pacific, III-T3.....	52	Time wind must blow to form waves of (H)	
Waves:		height and (P) period, II-T2.....	Faces 30
Length of Storm Waves in Various Oceans,		Wind Regimes—World Map, February and	
III-T9.....	61	August, III-F7 and III-F8.....	47, 48
Spectral Classification of, II-F1.....	20		