

UNIVERSITY OF CALIFORNIA    SCRIPPS INSTITUTION OF OCEANOGRAPHY

# data report

PHYSICAL AND CHEMICAL DATA

CCOFI Cruise 6001

8 January - 13 February 1960

SIO Reference 61-23

20 June 1961

UNIVERSITY OF CALIFORNIA  
SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL AND CHEMICAL DATA

CCOFI CRUISE 6001

8 January - 13 February 1960

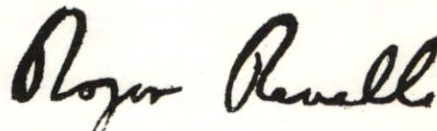
Sponsored by

Marine Research Committee

SIO Reference 61-23

20 June 1961

Approved for distribution:

A handwritten signature in black ink, reading "Roger Revelle". The signature is written in a cursive, flowing style. The first name "Roger" is written with a large, prominent "R". The last name "Revelle" is written in a similar cursive style. The signature is positioned above a horizontal line.

Roger Revelle, Director



## CONTENTS

|                             |     |
|-----------------------------|-----|
| List of Figures . . . . .   | ii  |
| Introduction . . . . .      | iii |
| Personnel . . . . .         | vii |
| Tabulated Data . . . . .    | 1   |
| Distribution List . . . . . | 91  |

## FIGURES

1. CCOFI Cruise 6001, station positions
2. Horizontal distribution of dynamic height anomaly (0 over 500 d-bar)
3. Horizontal distribution of temperature at 10 meters
4. Horizontal distribution of salinity at 10 meters
5. Horizontal distribution of temperature at 200 meters
6. Horizontal distribution of salinity at 200 meters



## INTRODUCTION

The data presented in this report were collected on the one hundred and twenty-eighth consecutive cruise of the California Cooperative Oceanic Fisheries Investigations program. The R/V Black Douglas of the U. S. Bureau of Commercial Fisheries and the R/V Horizon and R/V Orca of the Scripps Institution participated in this cruise.

The data are tabulated at observed depths; the interpolated and computed values are tabulated at standard depths and are accompanied by charts of horizontal distribution. The presentation of data in this report does not constitute publication; however, the data contained in this report have been carefully edited and no modifications should be necessary before final publication.

## STANDARD PROCEDURES

Processing of the data was carried out using the method described by Klein.<sup>1/</sup> Certain approximations have been introduced for the determination of the integrated pressure terms which may result in errors whose maximum values are less than 0.5 dynamic centimeter at 0 over 200 decibars, 1.0 dynamic centimeter at 0 over 500 decibars, and 2.0 dynamic centimeters at 0 over 1000 decibars. The 125-meter level was introduced into the integration to obtain greater accuracy in the determination of  $\Delta D$ .

To indicate degree of accuracy, temperatures are recorded in tenths of a degree when obtained by bucket thermometer, thermograph, or bathythermograph, while temperatures from reversing thermometers are recorded in hundredths of a degree. The salinity values obtained by salinometer are recorded to three decimal places, provided they meet accepted standards. The third decimal place has been offset to emphasize that the accuracy of the observations is not to one unit in that place, but that the values recorded "have a reproducibility of  $\pm 0.004\%$  salinity at the 95 percent probability level, and a probable accuracy of  $\pm 0.01\%$  salinity or better at the same level of probability."<sup>2/</sup> The values are recorded to two decimal places when obtained by chlorinity titration, or by salinometer where only one determination per sample was obtained, or where there is doubt concerning the accuracy of a particular sample, or of all samples on a station. The accuracy of all samples obtained by salinometer and recorded to two decimal places is believed to be equal to or better than those obtained by manual titration.

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<sup>1/</sup> Klein, Hans T. A new technique for processing physical oceanographic data. MS.

<sup>2/</sup> Quotation from Department of Oceanography, University of Washington, Tech. Rep. No. 66, UW Ref. 60-18, October 1960.



Extrapolated values and values interpolated between remote observations are entered within parentheses. A hyphen is used to indicate a missing observed value. The time is the time of messenger release. When more than one cast was made on a station, messenger times and wire angles are given in the order of increasing depth. A line is left blank between the observed data of each cast.

On stations where more than one cast is lowered, the various property curves may not agree perfectly. This discrepancy may be caused by changes in geographical position, real property changes with time, slight error in measurement, or a combination of these factors. Stations with overlapping casts have the following footnote: Overlapping casts; reconciliation of property curves when necessary.

#### FOOTNOTES

Laboratory personnel, before titrating the salinity samples, note any possible imperfections in the sealing of the bottles as follows:

Loose bottle cap: The cap is definitely loose so that it could be moved with very little applied pressure. The salinity values obtained from these samples may be usable depending on time and/or conditions of storage.

Possible evaporation: Either the cap was sealed with less than usual pressure, the bottle edge chipped, the rubber washer cracked, or the bale broke on opening, etc.

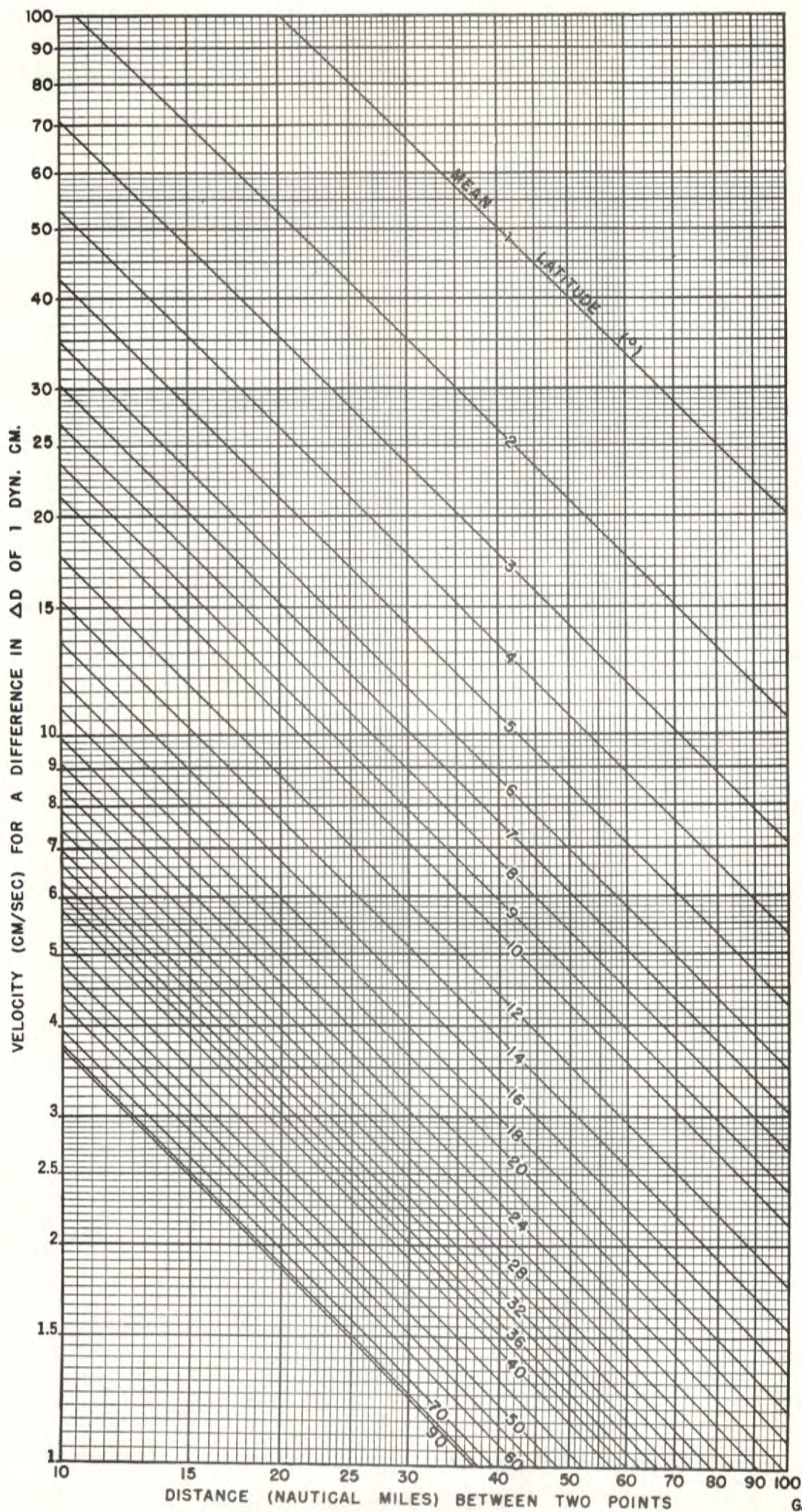
Use of the above values in interpolation depends upon consistency with other values of salinity and other properties, and these footnotes are supplemented with "falls on property curve" or "does not fall on property curve," depending upon whether the property curve was drawn through the value of not.

In addition to footnotes, three special notations are used without footnotes because their meaning is always the same.

To indicate a premature or a delayed reversal of the water-sampling device which results in certain depth and property errors, the following notation is used.

p: pretrip or posttrip.





VELOCITY OF GEOSTROPHIC FLOW



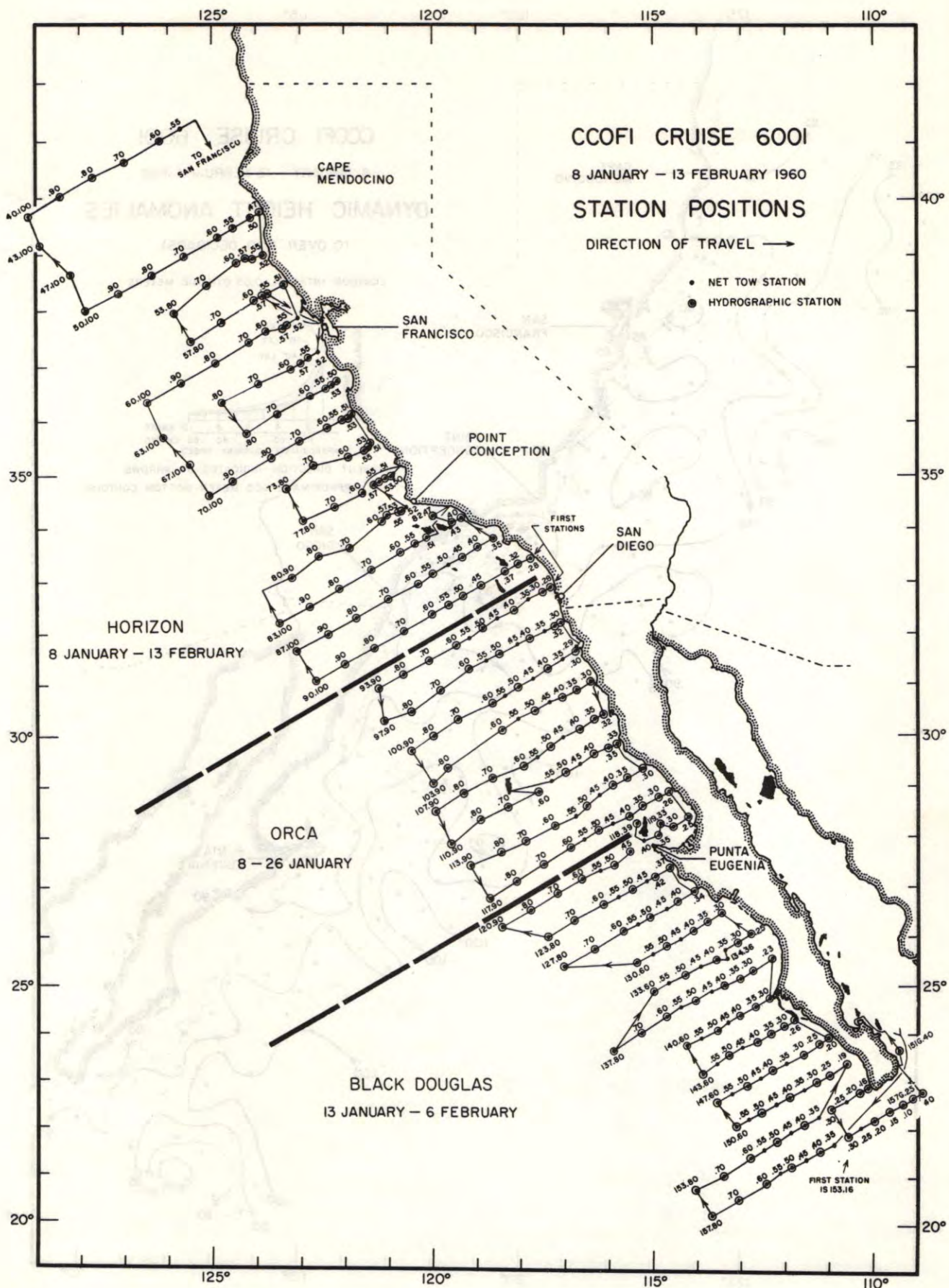


FIGURE 1



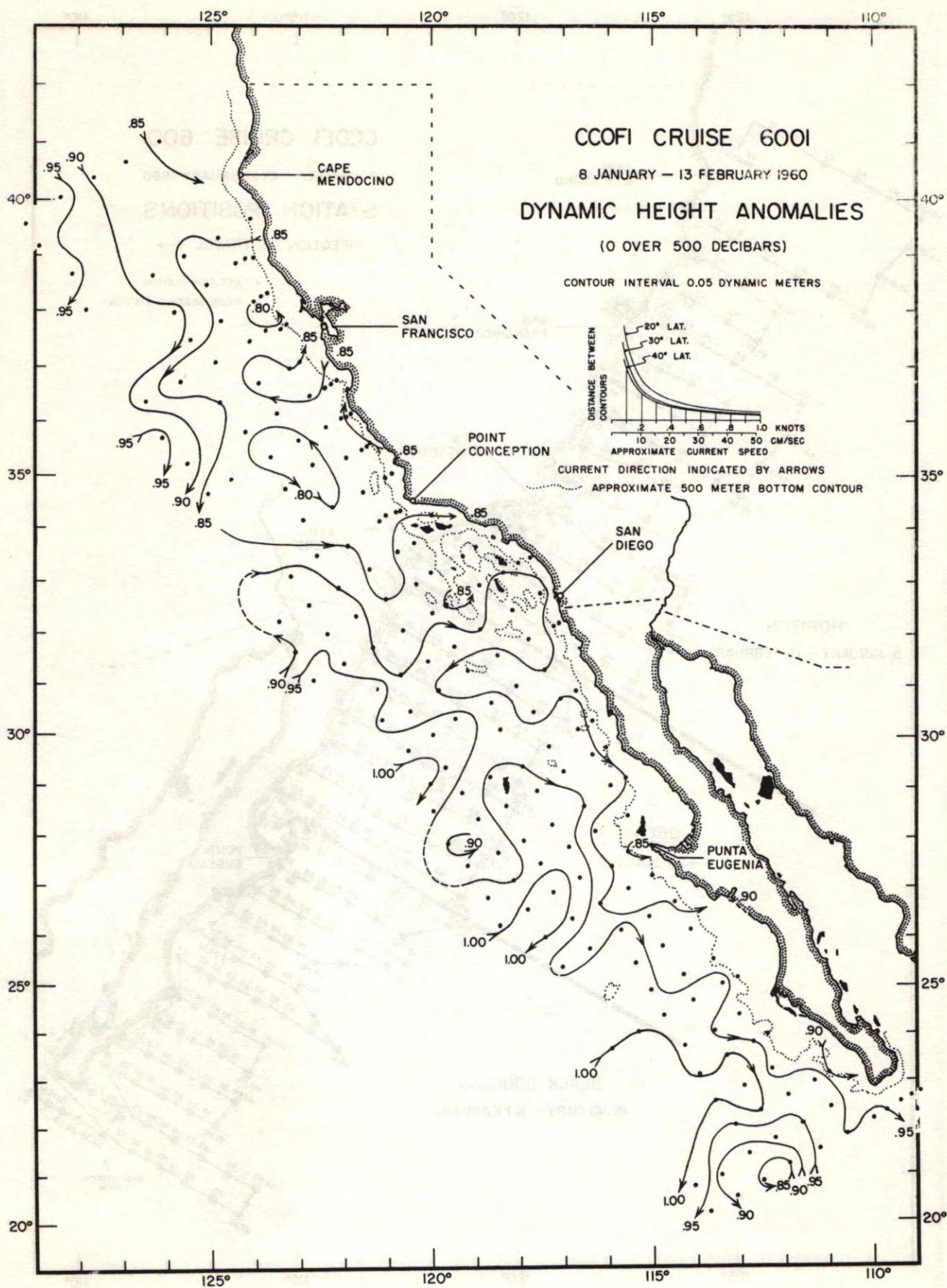


FIGURE 2



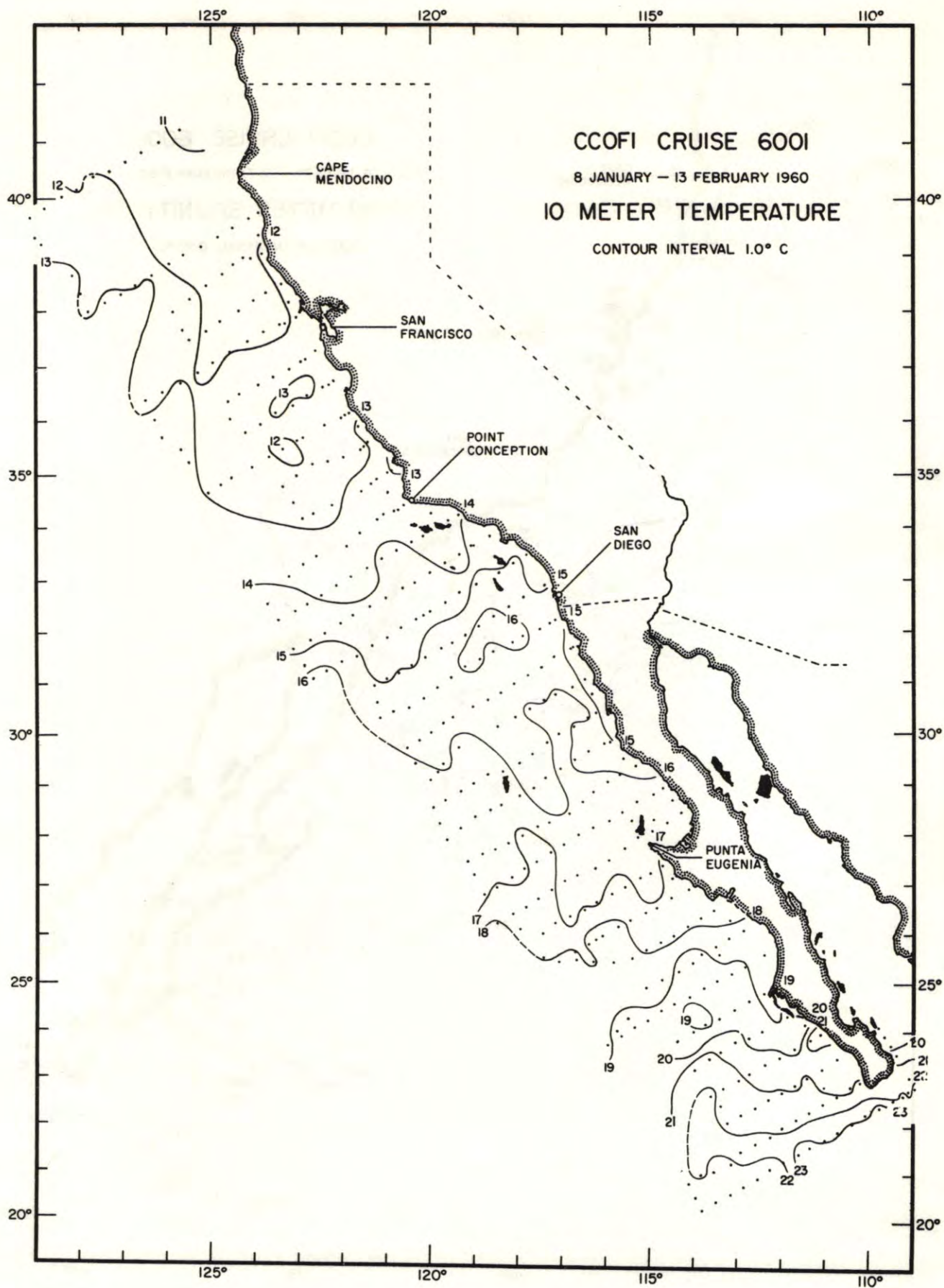


FIGURE 3



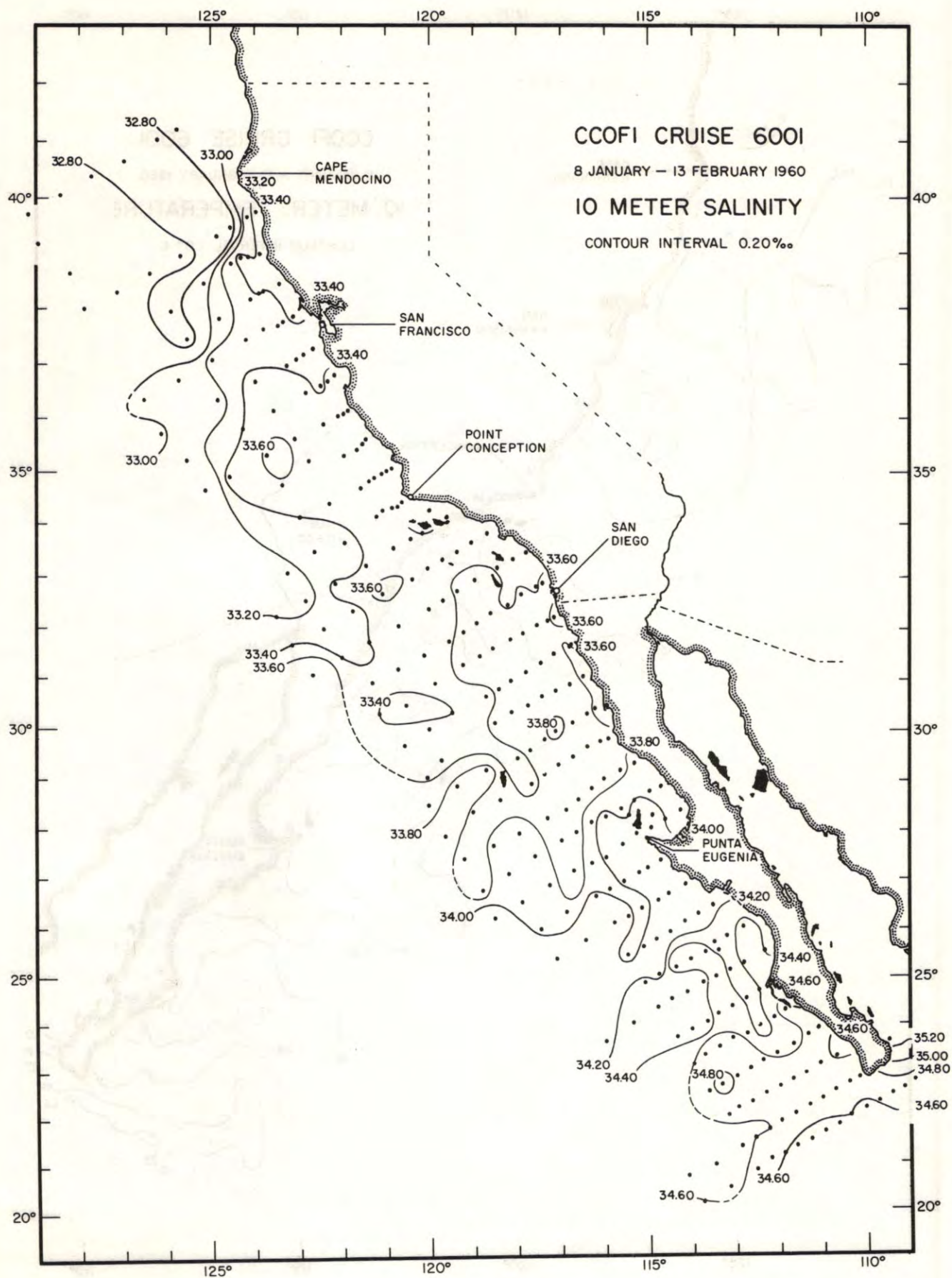


FIGURE 4



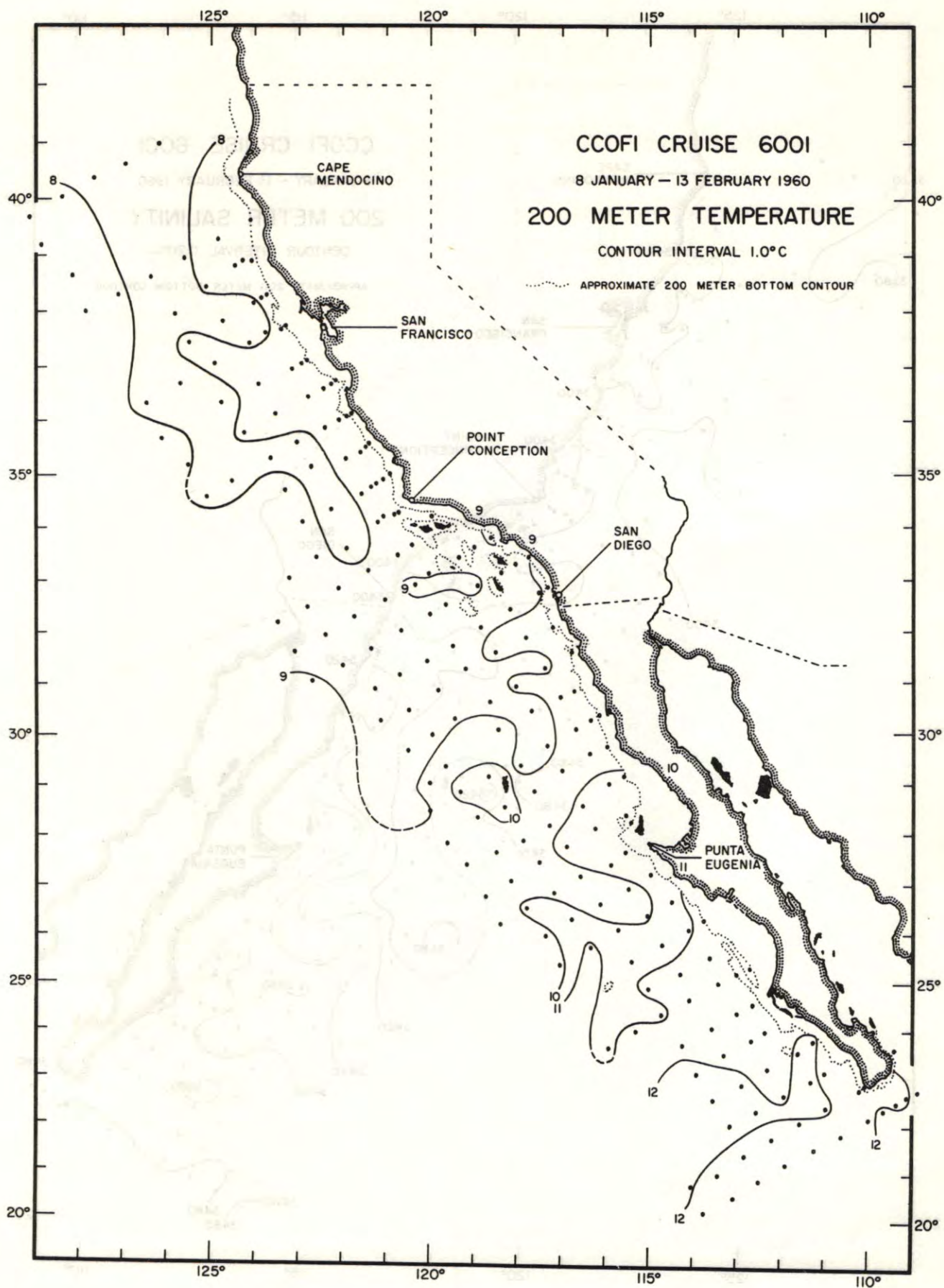


FIGURE 5



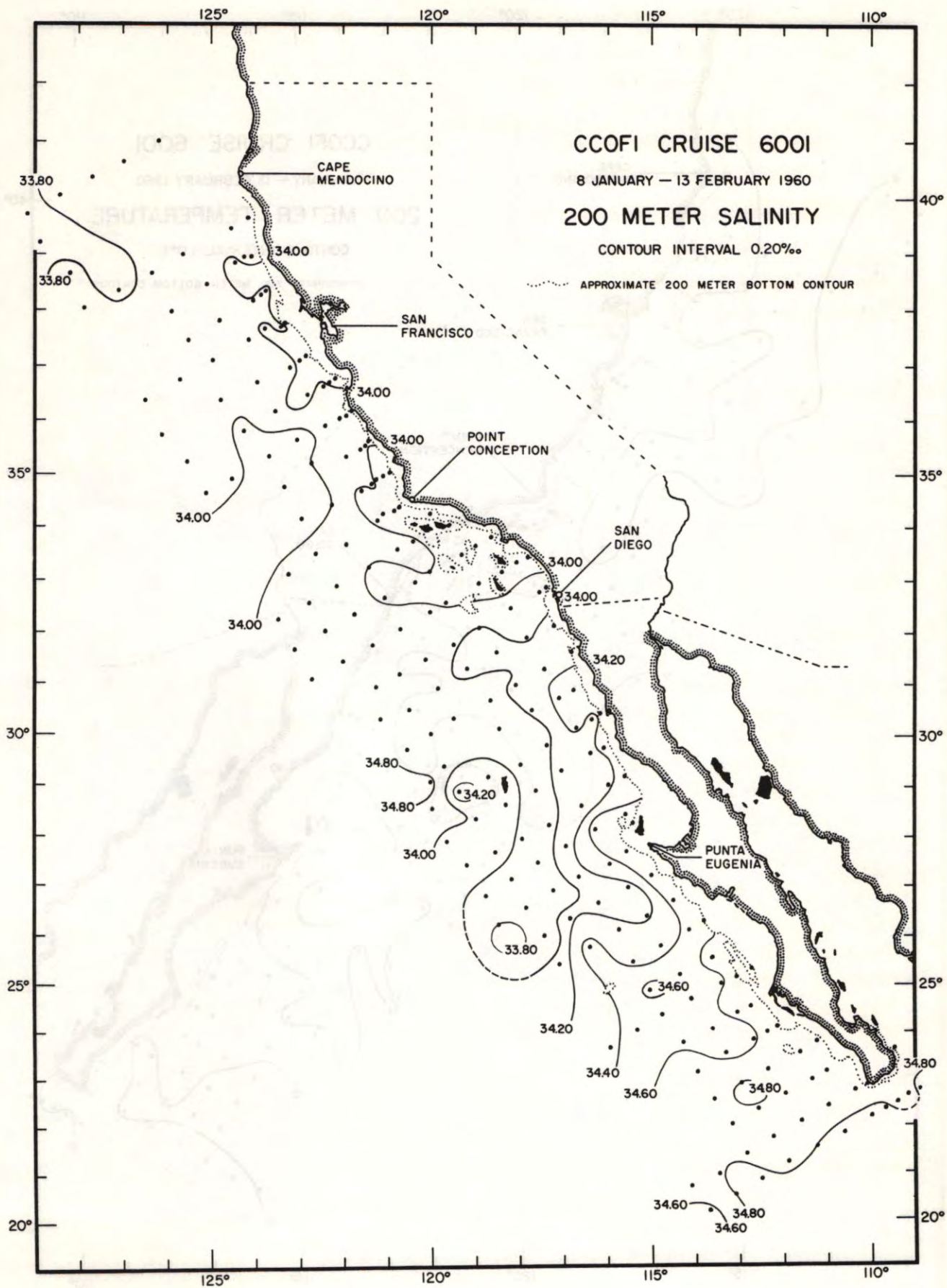


FIGURE 6



## PERSONNEL

### SHIPS' CAPTAINS

Collinson, Barnes, R/V Horizon  
Forster, Charles W., R/V Black Douglas  
Hopkins, Marvin F., R/V Orca

### PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

#### R/V Black Douglas

Farrar, Lloyd J., Fishery Aid, Bureau of Commercial Fisheries  
Bottom, Kenneth S., Marine Technician  
Hester, Arthur W., Marine Technician  
Metoyer, Jack D., Fishery Aid, Bureau of Commercial Fisheries

#### R/V Horizon

Anderson, Norman E., Senior Marine Technician  
\*Costello, James P., Laboratory Technician II  
Fisher, Oliver L., Marine Technician  
Justice, David K., Marine Technician  
Pine, James S., Marine Technician  
Tracy, Robert S., Marine Technician

#### R/V Orca

Lawson, Jan B., Senior Marine Technician  
Bassel, John B., Marine Technician  
Brennan, Robert E., Marine Technician  
Kimura, Makoto, Fishery Biologist, Bureau of Commercial Fisheries  
Mantyla, Arnold W., Marine Technician

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\*January 8-13 only.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

SIO  
CCOFI  
6001

HORIZON; February 4, 1960; 1100 GCT; 41°02'N, 126°10'W; sounding, 1700 fm; wind, 160°, force 4; weather, cloudy; sea, very rough; wire angle, 29°.

40.60

|     |       |         |      |     |     |       |       |      |       |     |      |
|-----|-------|---------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 11.22 | 32.77   | 6.09 | 294 | 0   | 11.22 | 32.77 | 6.09 | 25.03 | 294 | 0.00 |
| 9   | 11.23 | 32.77   | 6.14 | 294 | 10  | 11.23 | 32.77 | 6.14 | 25.03 | 294 | 0.03 |
| 30  | 11.24 | 32.75   | 6.13 | 296 | 20  | 11.24 | 32.76 | 6.13 | 25.01 | 296 | 0.06 |
| 56  | 11.14 | 32.77   | 6.04 | 293 | 30  | 11.24 | 32.75 | 6.13 | 25.00 | 296 | 0.09 |
| 65  | 10.72 | 32.90   | 5.84 | 276 | 50  | 11.19 | 32.76 | 6.11 | 25.02 | 295 | 0.15 |
| 82  | 9.02  | 33.25   | 4.58 | 224 | 75  | 9.75  | 33.11 | 5.23 | 25.54 | 246 | 0.22 |
| 95  | 8.82  | 33.43   | 4.20 | 207 | 100 | 8.80  | 33.45 | 4.05 | 25.96 | 206 | 0.27 |
| 108 | 8.80  | 33.46   | 3.97 | 205 | 125 | 8.69  | 33.56 | 3.69 | 26.06 | 196 | 0.32 |
| 133 | 8.60  | 33.66   | 3.44 | 187 | 150 | 8.28  | 33.73 | 3.39 | 26.26 | 177 | 0.37 |
| 150 | 8.28  | 33.73   | 3.39 | 177 | 200 | 7.60  | 33.90 | 2.90 | 26.49 | 155 | 0.46 |
| 174 | 7.90  | 33.84   | 3.13 | 164 | 250 | 6.85  | 33.98 | 2.49 | 26.66 | 139 | 0.53 |
| 203 | 7.56  | 33.91   | 2.88 | 154 | 300 | 6.29  | 33.99 | 1.99 | 26.74 | 131 | 0.60 |
| 226 | 7.10  | 33.97 3 | 2.78 | 143 | 400 | 5.48  | 34.07 | 1.18 | 26.90 | 116 | 0.73 |
| 268 | 6.70  | 33.98 8 | 2.29 | 136 | 500 | 5.13  | 34.16 | 0.66 | 27.02 | 105 | 0.84 |
| 320 | 6.03  | 34.00 0 | 1.78 | 128 |     |       |       |      |       |     |      |
| 405 | 5.46  | 34.07 2 | 1.15 | 115 |     |       |       |      |       |     |      |
| 482 | 5.27  | 34.15 0 | 0.73 | 107 |     |       |       |      |       |     |      |
| 549 | 4.78  | 34.19 2 | 0.44 | 99  |     |       |       |      |       |     |      |

HORIZON; February 4, 1960; 0523 GCT; 40°40'N, 126°56'W; sounding, 1600 fm; wind, 220°, force 3; weather, cloudy; sea, very rough; wire angle, 18°.

40.70

|     |       |         |        |     |     |         |         |        |         |       |        |
|-----|-------|---------|--------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 11.90 | 32.75   | 5.73   | 308 | 0   | (11.90) | (32.75) | (5.73) | (24.88) | (308) | (0.00) |
| 14  | 11.89 | 32.74   | 5.66   | 308 | 10  | 11.90   | 32.74   | 5.68   | 24.88   | 308   | 0.03   |
| 38  | 11.88 | 32.74   | 5.66   | 308 | 20  | 11.89   | 32.74   | 5.66   | 24.88   | 308   | 0.06   |
| 68  | 11.71 | 32.73   | 5.81a) | 306 | 30  | 11.89   | 32.74   | 5.66   | 24.88   | 308   | 0.09   |
| 78  | 10.36 | 32.77   | 5.52   | 280 | 50  | 11.85   | 32.74   | 5.68   | 24.88   | 308   | 0.15   |
| 97  | 8.78  | 33.22   | 4.64   | 222 | 75  | 11.10   | 32.74   | 5.70   | 25.02   | 295   | 0.23   |
| 110 | 8.60  | 33.37   | 4.11   | 208 | 100 | 8.72    | 33.28   | 4.45   | 25.86   | 216   | 0.29   |
| 127 | 8.10  | 33.62   | 3.49   | 183 | 125 | 8.17    | 33.59   | 3.57   | 26.17   | 186   | 0.34   |
| 154 | 7.77  | 33.77   | 3.19   | 167 | 150 | 7.82    | 33.75   | 3.25   | 26.34   | 169   | 0.39   |
| 173 | 7.71  | 33.84   | 3.10   | 161 | 200 | 7.45    | 33.91   | 2.83   | 26.52   | 152   | 0.47   |
| 201 | 7.44  | 33.91   | 2.82   | 152 | 250 | 6.97    | 33.95   | 2.53   | 26.62   | 143   | 0.55   |
| 233 | 7.14  | 33.93   | 2.57   | 146 | 300 | 6.51    | 33.99   | 2.08   | 26.71   | 134   | 0.62   |
| 266 | 6.82  | 33.97 6 | 2.48   | 139 | 400 | 5.58    | 34.01   | 1.53   | 26.85   | 121   | 0.75   |
| 308 | 6.45  | 33.99 1 | 2.01   | 133 | 500 | 4.84    | 34.14   | 0.68   | 27.03   | 104   | 0.87   |
| 370 | 5.84  | 33.99 4 | 1.77   | 126 | 600 | 4.47    | 34.23   | 0.36   | 27.15   | 93    | 0.97   |
| 463 | 5.05  | 34.09 5 | 0.88   | 109 |     |         |         |        |         |       |        |
| 549 | 4.66  | 34.19 2 | 0.48   | 98  |     |         |         |        |         |       |        |
| 622 | 4.40  | 34.25 0 | 0.32   | 90  |     |         |         |        |         |       |        |

HORIZON; February 3, 1960; 0752 GCT; 40°24'N, 127°40.5'W; sounding, 2000+ fm; wind, 190°, force 4; weather, overcast; sea, very rough; wire angle, 30°.

40.80

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.30 | 32.88   | 5.78 | 306 | 0   | (12.30) | (32.88) | (5.78) | (24.90) | (306) | (0.00) |
| 10  | 12.30 | 32.88   | 5.85 | 306 | 10  | 12.30   | 32.88   | 5.85   | 24.90   | 306   | 0.03   |
| 31  | 12.27 | 32.86   | 5.83 | 306 | 20  | 12.29   | 32.87   | 5.84   | 24.90   | 306   | 0.06   |
| 57  | 12.20 | 32.86   | 5.82 | 305 | 30  | 12.27   | 32.86   | 5.83   | 24.90   | 306   | 0.09   |
| 66  | 12.15 | 32.86   | 5.79 | 304 | 50  | 12.22   | 32.86   | 5.82   | 24.91   | 305   | 0.15   |
| 84  | 11.35 | 32.86   | 5.80 | 290 | 75  | 11.99   | 32.86   | 5.80   | 24.96   | 301   | 0.23   |
| 95  | 10.04 | 32.95   | 5.63 | 262 | 100 | 9.94    | 32.99   | 5.58   | 25.42   | 257   | 0.30   |
| 110 | 9.30  | 33.11   | 5.35 | 238 | 125 | 8.75    | 33.33   | 4.79   | 25.87   | 214   | 0.36   |
| 137 | 8.38  | 33.48   | 4.35 | 197 | 150 | 8.02    | 33.63   | 4.16   | 26.22   | 181   | 0.41   |
| 154 | 7.92  | 33.68   | 4.11 | 176 | 200 | 7.40    | 33.89   | 3.65   | 26.52   | 153   | 0.49   |
| 180 | 7.66  | 33.86   | 3.45 | 159 | 250 | 7.18    | 33.96   | 2.50   | 26.60   | 145   | 0.57   |
| 211 | 7.28  | 33.91   | 3.71 | 150 | 300 | 6.68    | 33.98   | 2.26   | 26.68   | 137   | 0.64   |
| 237 | 7.26  | 33.94 8 | 2.58 | 147 | 400 | 5.41    | 34.02   | 1.60   | 26.88   | 118   | 0.78   |
| 283 | 6.89  | 33.97 0 | 2.37 | 140 | 500 | 4.69    | 34.10   | 0.86   | 27.02   | 105   | 0.89   |
| 341 | 6.13  | 33.98 6 | 1.94 | 130 | 600 | (4.37)  | (34.16) |        | (27.10) | (97)  | (1.00) |
| 433 | 5.05  | 34.05 2 | 1.43 | 113 |     |         |         |        |         |       |        |
| 517 | 4.63  | 34.11 6 | 0.72 | 103 |     |         |         |        |         |       |        |
| 589 | 4.38  | 34.15 6 | 0.57 | 98  |     |         |         |        |         |       |        |

a) Alternate value, 5.91 ml/L, not used in interpolation.



SIO

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6001

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

40.90

HORIZON; February 2-3, 1960; 2243, 0151 GCT; 40°03'N, 128°24'W; sounding, 2395 fm; wind, 200°, force 4; weather, drizzle; sea, very rough; wire angle, 25°, 15°.

|       |       |         |      |     |      |         |         |        |         |       |        |
|-------|-------|---------|------|-----|------|---------|---------|--------|---------|-------|--------|
| 1     | 12.90 | 32.88   | 5.86 | 316 | 0    | (12.90) | (32.88) | (5.86) | (24.80) | (316) | (0.00) |
| 10    | 12.90 | 32.89   | 5.84 | 316 | 10   | 12.90   | 32.89   | 5.84   | 24.80   | 316   | 0.03   |
| 32    | 12.89 | 32.90   | 5.80 | 314 | 20   | 12.90   | 32.89   | 5.82   | 24.81   | 315   | 0.06   |
| 59    | 12.90 | 32.91   | 5.77 | 314 | 30   | 12.89   | 32.90   | 5.80   | 24.82   | 314   | 0.09   |
| 68    | 12.88 | 32.92   | 5.76 | 313 | 50   | 12.90   | 32.91   | 5.78   | 24.82   | 314   | 0.16   |
| 86    | 12.63 | 32.91   | 5.66 | 309 | 75   | 12.88   | 32.92   | 5.74   | 24.84   | 312   | 0.24   |
| 99    | 11.94 | 32.92   | 5.47 | 296 | 100  | 11.88   | 32.92   | 5.46   | 25.03   | 294   | 0.31   |
| 114   | 10.26 | 33.12   | 5.43 | 253 | 125  | 9.91    | 33.19   | 5.18   | 25.58   | 242   | 0.38   |
| 138   | 9.38  | 33.30   | 4.73 | 226 | 150  | 8.94    | 33.44   | 4.56   | 25.93   | 208   | 0.44   |
| 159   | 8.64  | 33.58   | 4.40 | 193 | 200  | 8.22    | 33.86   | 4.26   | 26.36   | 167   | 0.53   |
| 186   | 8.22  | 33.79   | 3.98 | 172 | 250  | 7.97    | 33.96   | 4.54   | 26.49   | 155   | 0.62   |
| 219   | 8.27  | 33.93   | 4.60 | 162 | 300  | 6.96    | 33.93   | 3.90   | 26.60   | 145   | 0.69   |
| 248   | 8.00  | 33.97 0 | 4.55 | 155 | 400  | 5.80    | 34.00   | 2.00   | 26.81   | 124   | 0.83   |
| 294   | 7.06  | 33.92 5 | 4.01 | 146 | 500  | 5.10    | 34.10   | 0.89   | 26.98   | 109   | 0.96   |
| 355   | 6.12  | 33.96 2 | 2.46 | 131 | 600  | 4.66    | 34.19   | 0.50   | 27.09   | 98    | 1.06   |
| 450   | 5.44  | 34.05 4 | 1.26 | 116 | 700  | 4.27    | 34.27   | 0.38   | 27.20   | 88    | 1.16   |
| 536   | 4.86  | 34.13 6 | 0.71 | 104 | 800  | 3.96    | 34.33   | 0.37   | 27.28   | 80    | 1.26   |
| 609   | 4.60  | 34.20 0 | 0.44 | 96  | 1000 | 3.45    | 34.44   | 0.45   | 27.42   | 67    | 1.42   |
|       |       |         |      |     | 1200 | 2.95    | 34.50   | 0.60   | 27.51   | 58    | 1.56   |
| 380a) | 5.94  | 33.97 8 | 2.29 | 128 | 1500 | 2.55    | 34.55   | 1.00   | 27.59   | 51    | 1.75   |
| 474   | 5.30  | 34.07 0 | 1.07 | 114 | 2000 | 2.03    | 34.60   | 1.48   | 27.67   | 43    | 2.03   |
| 617   | 4.67  | 34.19 0 | 0.49 | 98  | 2500 | 1.77    | 34.64   | 2.00   | 27.72   | 39    | 2.28   |
| 807   | 3.95  | 34.33 8 | 0.37 | 80  | 3000 | 1.63    | 34.66   | 2.44   | 27.76   | 35    | 2.52   |
| 998   | 3.46  | 34.43 8 | 0.44 | 67  | 4000 | 1.52    | 34.68   | 3.12   | 27.78   | 33    | 2.98   |
| 1237  | 2.88  | 34.50 7 | 0.64 | 57  |      |         |         |        |         |       |        |
| 1474  | 2.59  | 34.54 4 | 0.97 | 52  |      |         |         |        |         |       |        |
| 1713  | 2.17  | 34.57 8 | 1.23 | 46  |      |         |         |        |         |       |        |
| 1952  | 2.05  | 34.59 8 | 1.44 | 44  |      |         |         |        |         |       |        |
| 2193  | 1.88  | 34.62 4 | 1.73 | 40  |      |         |         |        |         |       |        |
| 2435  | 1.80  | 34.63 7 | 1.92 | 40  |      |         |         |        |         |       |        |
| 2676  | 1.72  | 34.64 8 | 2.16 | 38  |      |         |         |        |         |       |        |
| 2921  | 1.64  | 34.66 3 | 2.43 | 35  |      |         |         |        |         |       |        |
| 3162  | 1.60  | 34.66 4 | 2.53 | 35  |      |         |         |        |         |       |        |
| 3405  | 1.58  | 34.66 8 | 2.74 | 34  |      |         |         |        |         |       |        |
| 3694  | 1.52  | 34.67 8 | 2.93 | 34  |      |         |         |        |         |       |        |
| 3982  | 1.52  | 34.68 6 | 3.11 | 33  |      |         |         |        |         |       |        |
| 4271  | 1.54  | 34.68 2 | 3.20 | 33  |      |         |         |        |         |       |        |
| 4369  | 1.55  | 34.69 0 | 3.36 | 33  |      |         |         |        |         |       |        |

40.100

HORIZON; February 2, 1960; 1729 GCT; 39°43'N, 129°07.5'W; sounding, 2000+ fm; wind, 250°, force 4; weather, overcast; sea, very rough; wire angle, 18°.

|     |       |          |      |     |     |         |         |        |         |       |        |
|-----|-------|----------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.82 | 32.86 b) | 5.90 | 320 | 0   | (12.82) | (32.82) | (5.90) | (24.76) | (320) | (0.00) |
| 11  | 12.81 | 32.92 b) | 5.72 | 320 | 10  | 12.81   | (32.82) | 5.73   | (24.76) | (320) | (0.03) |
| 34  | 12.79 | 32.90 b) | 5.84 | 319 | 20  | 12.80   | (32.82) | 5.76   | (24.76) | (320) | (0.06) |
| 63  | 12.82 | 32.90 b) | 5.84 | 320 | 30  | 12.79   | (32.82) | 5.81   | (24.77) | (319) | (0.10) |
| 72  | 12.80 | 32.82    | 5.83 | 319 | 50  | 12.80   | (32.82) | 5.84   | (24.76) | (320) | (0.16) |
| 91  | 12.82 | 32.83    | 5.86 | 318 | 75  | 12.80   | 32.82   | 5.83   | 24.77   | 319   | (0.24) |
| 105 | 12.58 | 32.87    | 5.87 | 311 | 100 | 12.72   | 32.86   | 5.87   | 24.82   | 314   | (0.32) |
| 120 | 10.90 | 33.01    | 5.58 | 271 | 125 | 10.52   | 33.06   | 5.41   | 25.38   | 261   | (0.39) |
| 148 | 9.25  | 33.31    | 4.66 | 223 | 150 | 9.15    | 33.35   | 4.52   | 25.82   | 218   | (0.45) |
| 168 | 8.53  | 33.55    | 3.54 | 194 | 200 | 8.02    | 33.73   | 3.16   | 26.29   | 174   | (0.55) |
| 194 | 8.11  | 33.70    | 3.24 | 177 | 250 | 7.32    | 33.94   | 2.58   | 26.57   | 148   | (0.64) |
| 228 | 7.58  | 33.89    | 2.60 | 156 | 300 | 6.62    | 33.99   | 2.14   | 26.69   | 136   | (0.71) |
| 256 | 7.24  | 33.96 0  | 2.58 | 146 | 400 | 5.80    | 34.04   | 1.27   | 26.85   | 121   | (0.84) |
| 304 | 6.56  | 33.99 2  | 2.07 | 134 | 500 | 5.12    | 34.11   | 0.83   | 26.98   | 109   | (0.96) |
| 367 | 6.04  | 34.03 0  | 1.47 | 126 | 600 | 4.62    | 34.17   | 0.53   | 27.08   | 99    | (1.07) |
| 463 | 5.30  | 34.08 2  | 0.98 | 113 |     |         |         |        |         |       |        |
| 551 | 4.92  | 34.15 5  | 0.60 | 103 |     |         |         |        |         |       |        |
| 625 | 4.44  | 34.17 6  | 0.49 | 96  |     |         |         |        |         |       |        |

a) Overlapping casts; reconciliation of property curves when necessary.

b) These first four salinity values are very doubtful as the result of a poorly mixed solution of silver nitrate.



| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

SIO  
CCOFI  
600I

HORIZON; February 2, 1960; 1249 GCT; 39°12.5'N, 128°52.5'W; sounding, 2000+ fm; wind, 250°, force 3; weather, clear; sea, very rough; wire angle, 31°.

43100

|      |        |         |      |     |     |         |         |        |         |       |        |
|------|--------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1    | 12.72  | 32.86   | 5.47 | 314 | 0   | (12.72) | (32.86) | (5.47) | (24.82) | (314) | (0.00) |
| 10   | 12.70  | 32.85   | 5.65 | 314 | 10  | 12.70   | 32.85   | 5.65   | 24.81   | 314   | 0.03   |
| 31   | 12.68  | 32.87   | 5.52 | 313 | 20  | 12.69   | 32.86   | 5.58   | 24.82   | 314   | 0.06   |
| 56   | 12.72  | 32.86   | 5.66 | 314 | 30  | 12.68   | 32.87   | 5.53   | 24.83   | 313   | 0.09   |
| 65   | 12.70  | 32.85   | 5.58 | 314 | 50  | 12.70   | 32.86   | 5.61   | 24.82   | 314   | 0.16   |
| 81   | 12.70  | 32.89   | 5.58 | 312 | 75  | 12.70   | 32.86   | 5.58   | 24.82   | 314   | 0.24   |
| 92   | 12.48  | 32.91   | 5.59 | 306 | 100 | 11.60   | 32.94   | 5.47   | 25.08   | 289   | 0.31   |
| 105  | 11.08  | 32.95   | 5.38 | 279 | 125 | 10.08   | 33.16   | 4.92   | 25.52   | 247   | 0.38   |
| 129  | 9.90   | 33.19   | 4.81 | 242 | 150 | 9.30    | 33.30   | 4.43   | 25.76   | 225   | 0.44   |
| 145  | 9.44   | 33.26   | 4.51 | 229 | 200 | 8.14    | 33.73   | 3.51   | 26.29   | 175   | 0.54   |
| 170  | 8.76   | 33.48   | 4.09 | 203 | 250 | 7.42    | 33.86   | 3.37   | 26.48   | 156   | 0.63   |
| 199  | 8.15   | 33.73   | 3.52 | 175 | 300 | 6.64    | 33.94   | 2.90   | 26.66   | 139   | 0.70   |
| 222  | 7.71   | 33.76 7 | 3.26 | 166 | 400 | 5.83    | 34.02   | 1.52   | 26.83   | 123   | 0.84   |
| 265  | 7.28   | 33.91 2 | 3.43 | 150 | 500 | 5.01    | 34.06   | 1.03   | 26.95   | 112   | 0.96   |
| 300p | 6.64   | 33.94 2 | 2.90 | 139 |     |         |         |        |         |       |        |
| 381p | 6.02a) | 33.99 9 | 1.76 | 127 |     |         |         |        |         |       |        |
| 459p | 5.22   | 34.03 0 | 1.24 | 116 |     |         |         |        |         |       |        |
| 526p | 4.95   | 34.09 0 | 0.82 | 108 |     |         |         |        |         |       |        |

HORIZON; February 1, 1960; 0557 GCT; 38°39'N, 128°09.5'W; sounding, 2000+ fm; wind, 150°, force 5; weather, partly cloudy; sea, very rough; wire angle, 35°.

47100

|     |       |         |        |     |     |         |         |        |         |       |        |
|-----|-------|---------|--------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.18 | 32.94   | 5.77   | 317 | 0   | (13.18) | (32.94) | (5.77) | (24.78) | (317) | (0.00) |
| 10  | 13.18 | 32.92   | 5.69   | 319 | 10  | 13.18   | 32.92   | 5.69   | 24.77   | 319   | 0.03   |
| 30  | 13.18 | 32.91   | 5.67   | 320 | 20  | 13.18   | 32.92   | 5.68   | 24.77   | 319   | 0.06   |
| 54  | 13.14 | 32.94   | 5.71   | 317 | 30  | 13.18   | 32.91   | 5.67   | 24.76   | 320   | 0.10   |
| 63  | 13.10 | 32.94   | 5.54b) | 316 | 50  | 13.15   | 32.93   | 5.69   | 24.79   | 317   | 0.16   |
| 79  | 13.03 | 32.95   | 5.82   | 314 | 75  | 13.06   | 32.95   | 5.70   | 24.82   | 314   | 0.24   |
| 90  | 11.82 | 33.01   | 5.73   | 287 | 100 | 11.28   | 33.12   | 5.60   | 25.28   | 270   | 0.31   |
| 103 | 11.16 | 33.15   | 5.55   | 265 | 125 | 10.14   | 33.21   | 5.15   | 25.55   | 244   | 0.38   |
| 128 | 10.03 | 33.21   | 5.10   | 242 | 150 | 9.23    | 33.40   | 4.44   | 25.85   | 216   | 0.44   |
| 144 | 9.34  | 33.35   | 4.53   | 221 | 200 | 8.55    | 33.86   | 3.28   | 26.32   | 172   | 0.53   |
| 167 | 8.94  | 33.66   | 4.21   | 192 | 250 | 7.82    | 33.96   | 4.13   | 26.51   | 153   | 0.62   |
| 197 | 8.59  | 33.84   | 3.21   | 174 | 300 | 7.06    | 33.97   | 3.37   | 26.62   | 143   | 0.69   |
| 222 | 8.32  | 33.93 2 | 3.85   | 162 | 400 | 5.82    | 33.99   | 2.06   | 26.80   | 126   | 0.84   |
| 263 | 7.57  | 33.96 6 | 4.20   | 150 | 500 | 5.04    | 34.06   | 1.18   | 26.94   | 112   | 0.96   |
| 318 | 6.84  | 33.96 7 | 3.09   | 140 |     |         |         |        |         |       |        |
| 403 | 5.78  | 33.98 9 | 2.01   | 125 |     |         |         |        |         |       |        |
| 482 | 5.16  | 34.03 6 | 1.33   | 114 |     |         |         |        |         |       |        |
| 550 | 4.68  | 34.09 7 | 0.87   | 105 |     |         |         |        |         |       |        |

HORIZON; January 28, 1960; 1517 GCT; 39°46'N, 123°54.5'W; sounding, 60 fm; wind, 140°, force 5; weather, overcast; sea, moderate; wire angle, 15°.

5047

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 2  | 11.58 | 33.44 | 5.85 | 251 | 0  | (11.58) | (33.44) | (5.85) | (25.48) | (251) | (0.00) |
| 12 | 11.62 | 33.43 | 5.82 | 252 | 10 | 11.61   | 33.43   | 5.83   | 25.47   | 252   | 0.03   |
| 31 | 11.60 | 33.44 | 5.81 | 252 | 20 | 11.60   | 33.43   | 5.82   | 25.47   | 252   | 0.05   |
| 50 | 11.58 | 33.44 | 5.74 | 251 | 30 | 11.60   | 33.44   | 5.81   | 25.47   | 252   | 0.08   |
| 73 | 11.62 | 33.44 | 5.73 | 252 | 50 | 11.58   | 33.44   | 5.74   | 25.48   | 251   | 0.13   |
|    |       |       |      |     | 75 | (11.62) | (33.44) | (5.73) | (25.47) | (252) | (0.19) |

a) Alternate value, 5.91°C, not used in interpolation.

b) Alternate value, 5.62 ml/L, not used in interpolation.



SIO

CCOFI  
600I

| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

50.50

HORIZON; January 28, 1960; 1725 GCT; 39°40'N, 124°07.5'W; sounding, 470 fm; wind, 140°, force 5; weather, overcast; sea, rough; wire angle, 27°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 11.58 | 33.22   | 5.95 | 268 | 0   | (11.58) | (33.22) | (5.95) | (25.30) | (268) | (0.00) |
| 10  | 11.60 | 33.22   | 6.00 | 268 | 10  | 11.60   | 33.22   | 6.00   | 25.30   | 268   | 0.03   |
| 32  | 11.58 | 33.43   | 5.87 | 252 | 20  | 11.60   | 33.26   | 5.98   | 25.32   | 265   | 0.05   |
| 58  | 11.44 | 33.44   | 5.72 | 249 | 30  | 11.58   | 33.42   | 5.88   | 25.47   | 252   | 0.08   |
| 67  | 11.32 | 33.51   | 5.50 | 241 | 50  | 11.51   | 33.44   | 5.81   | 25.49   | 250   | 0.13   |
| 85  | 11.13 | 33.53   | 5.23 | 237 | 75  | 11.20   | 33.53   | 5.30   | 25.62   | 238   | 0.19   |
| 96  | 11.08 | 33.51   | 4.83 | 237 | 100 | 11.02   | 33.52   | 4.79   | 25.64   | 236   | 0.25   |
| 110 | 10.83 | 33.57   | 4.72 | 229 | 125 | 10.46   | 33.62   | 3.95   | 25.82   | 219   | 0.31   |
| 136 | 10.22 | 33.66   | 3.36 | 212 | 150 | 9.89    | 33.70   | 3.20   | 25.98   | 204   | 0.36   |
| 153 | 9.82  | 33.71   | 3.16 | 202 | 200 | 8.89    | 33.83   | 2.74   | 26.24   | 178   | 0.46   |
| 178 | 9.38  | 33.78   | 2.96 | 190 | 250 | 8.12    | 33.93   | 2.63   | 26.45   | 159   | 0.54   |
| 209 | 8.67  | 33.86   | 2.67 | 173 | 300 | 7.56    | 34.03   | 2.18   | 26.60   | 145   | 0.62   |
| 235 | 8.29  | 33.90 8 | 2.68 | 164 | 400 | 6.38    | 34.10   | 1.20   | 26.82   | 124   | 0.76   |
| 279 | 7.82  | 33.99 8 | 2.44 | 151 | 500 | 5.61    | 34.15   | 0.87   | 26.96   | 111   | 0.88   |
| 337 | 7.10  | 34.08 4 | 1.59 | 135 | 600 | (5.07)  | (34.21) |        | (27.06) | (101) | (1.00) |
| 427 | 6.12  | 34.10 7 | 1.09 | 120 |     |         |         |        |         |       |        |
| 510 | 5.54  | 34.15 5 | 0.83 | 110 |     |         |         |        |         |       |        |
| 582 | 5.14  | 34.19 6 | 0.51 | 102 |     |         |         |        |         |       |        |

50.55

HORIZON; January 29, 1960; 2330 GCT; 39°29.5'N, 124°29.5'W; sounding, 945 fm; wind, 160°, force 6; weather, overcast; sea, high; wire angle, 39°.

|      |       |         |      |     |    |         |         |        |         |       |        |
|------|-------|---------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1    | 11.40 | 32.74   | 5.99 | 300 | 0  | (11.40) | (32.74) | (5.99) | (24.97) | (300) | (0.00) |
| 10   | 11.40 | 32.72   | 6.01 | 301 | 10 | 11.40   | 32.72   | 6.01   | 24.96   | 301   | 0.03   |
| 28   | 11.41 | 32.74   | 6.07 | 300 | 20 | 11.40   | 32.73   | 6.04   | 24.96   | 301   | 0.06   |
| 52   | 11.54 | 33.49   | 5.56 | 247 | 30 | 11.41   | 32.75   | 6.06   | 24.98   | 299   | 0.09   |
| 62a) | 11.54 | 33.52   | 5.69 | 245 | 50 | 11.40   | 33.44   | 5.57   | 25.51   | 248   | 0.14   |
| 83   | 11.56 | 33.51   | 5.62 | 246 |    |         |         |        |         |       |        |
| 96   | 11.06 | 33.51   | 4.99 | 237 |    |         |         |        |         |       |        |
| 116  | 9.47  | 33.68   | 3.44 | 198 |    |         |         |        |         |       |        |
| 140  | 8.82  | 33.78   | 3.24 | 182 |    |         |         |        |         |       |        |
| 160  | 8.58  | 33.79 1 | 3.17 | 176 |    |         |         |        |         |       |        |
| 193  | 7.97  | 33.87 7 | 3.15 | 162 |    |         |         |        |         |       |        |
| 238  | 7.51  | 33.99 4 | 2.59 | 147 |    |         |         |        |         |       |        |
| 305  | 6.62  | 34.02 5 | 2.00 | 133 |    |         |         |        |         |       |        |
| 370  | 6.37  | 34.08 0 | 1.31 | 125 |    |         |         |        |         |       |        |
| 426  | 5.96  | 34.14 5 | 0.87 | 116 |    |         |         |        |         |       |        |

50.60

HORIZON; January 30, 1960; 0245 GCT; 39°20'N, 124°50'W; sounding, 2000+ fm; wind, 180°, force 3; weather, overcast; sea, moderate; wire angle, 09°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 11.41 | 32.74   | 6.04 | 300 | 0   | (11.41) | (32.74) | (6.04) | (24.97) | (300) | (0.00) |
| 13  | 11.40 | 32.75   | 6.03 | 299 | 10  | 11.40   | 32.75   | 6.03   | 24.98   | 299   | 0.03   |
| 32  | 11.42 | 32.83   | 6.08 | 293 | 20  | 11.41   | 32.78   | 6.05   | 25.00   | 297   | 0.06   |
| 60  | 11.02 | 32.86   | 5.97 | 284 | 30  | 11.41   | 32.82   | 6.07   | 25.03   | 294   | 0.09   |
| 70  | 10.45 | 32.87   | 5.82 | 274 | 50  | 11.39   | 32.84   | 6.07   | 25.05   | 293   | 0.15   |
| 85  | 9.30  | 33.03   | 5.12 | 244 | 75  | 10.08   | 32.90   | 5.67   | 25.32   | 267   | 0.22   |
| 100 | 8.68  | 33.16   | 4.52 | 225 | 100 | 8.68    | 33.16   | 4.52   | 25.76   | 225   | 0.28   |
| 115 | 9.00  | 33.49   | 4.10 | 206 | 125 | 8.97    | 33.60   | 3.78   | 26.05   | 197   | 0.33   |
| 140 | 8.90  | 33.71   | 3.41 | 188 | 150 | 8.77    | 33.76   | 3.29   | 26.21   | 182   | 0.38   |
| 159 | 8.62  | 33.80   | 3.21 | 177 | 200 | 8.13    | 33.93   | 2.97   | 26.44   | 160   | 0.47   |
| 189 | 8.23  | 33.91   | 3.06 | 163 | 250 | 7.59    | 33.98   | 3.01   | 26.56   | 149   | 0.55   |
| 218 | 7.98  | 33.96   | 2.83 | 156 | 300 | 6.92    | 33.98   | 2.93   | 26.65   | 140   | 0.62   |
| 247 | 7.63  | 33.98 0 | 3.02 | 150 | 400 | 6.11    | 34.08   | 1.27   | 26.83   | 123   | 0.76   |
| 296 | 6.97  | 33.97 6 | 2.96 | 141 | 500 | 5.56    | 34.13   | 0.76   | 26.95   | 112   | 0.88   |
| 349 | 6.54  | 34.04 6 | 1.74 | 130 | 600 | 5.00    | 34.20   | 0.52   | 27.06   | 101   | 0.99   |
| 433 | 5.86  | 34.10 2 | 0.97 | 117 |     |         |         |        |         |       |        |
| 517 | 5.50  | 34.14 8 | 0.70 | 110 |     |         |         |        |         |       |        |
| 600 | 5.00  | 34.20 0 | 0.52 | 101 |     |         |         |        |         |       |        |

a) Possible pretrip; depths too uncertain for interpolation.



| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

SIO  
CCOFI  
600I

HORIZON; January 30, 1960; 0756, 1101 GCT; 39°01'N, 125°36'W; sounding, 2000+ fm; wind, 180°, force 4; weather, fog; sea, rough; wire angle, 00°, 21°.

50.70

|       |       |         |      |     |      |       |         |      |         |       |        |
|-------|-------|---------|------|-----|------|-------|---------|------|---------|-------|--------|
| 5     | 11.44 | 32.86   | 5.81 | 292 | 0    | 11.5  | (32.86) |      | (25.04) | (293) | (0.00) |
| 15    | 11.44 | 32.86   | 5.86 | 292 | 10   | 11.44 | 32.86   | 5.84 | 25.05   | 292   | 0.03   |
| 35    | 11.40 | 32.94   | 5.84 | 285 | 20   | 11.43 | 32.87   | 5.86 | 25.06   | 291   | 0.06   |
| 44    | 11.50 | 33.24   | 5.60 | 264 | 30   | 11.40 | 32.90   | 5.86 | 25.09   | 288   | 0.09   |
| 60    | 11.72 | 33.54   | 5.43 | 246 | 50   | 11.67 | 33.38   | 5.56 | 25.41   | 258   | 0.14   |
| 75    | 11.54 | 33.55   | 5.18 | 242 | 75   | 11.54 | 33.55   | 5.18 | 25.57   | 242   | 0.20   |
| 100   | 9.57  | 33.59   | 3.51 | 207 | 100  | 9.57  | 33.59   | 3.51 | 25.94   | 207   | 0.26   |
| 119   | 9.14  | 33.64   | 3.32 | 197 | 125  | 8.97  | 33.66   | 3.31 | 26.10   | 192   | 0.31   |
| 139   | 8.52  | 33.71   | 3.29 | 182 | 150  | 8.49  | 33.80   | 3.18 | 26.28   | 175   | 0.36   |
| 160   | 8.46  | 33.87   | 3.06 | 170 | 200  | 7.98  | 33.94   | 2.76 | 26.47   | 157   | 0.44   |
| 189   | 8.15  | 33.94   | 2.76 | 160 | 250  | 7.45  | 34.01   | 2.30 | 26.60   | 145   | 0.52   |
| 225   | 7.58  | 33.96   | 2.76 | 150 | 300  | 6.97  | 34.04   | 1.82 | 26.69   | 136   | 0.59   |
| 254   | 7.42  | 34.02 0 | 2.24 | 144 | 400  | 5.89  | 34.06   | 1.35 | 26.85   | 121   | 0.72   |
| 305   | 6.90  | 34.04 0 | 1.81 | 135 | 500  | 5.34  | 34.12   | 0.83 | 26.97   | 110   | 0.84   |
| 359   | 6.09  | 34.02 1 | 1.75 | 126 | 600  | 5.17  | 34.24   | 0.41 | 27.08   | 99    | 0.96   |
| 444   | 5.54  | 34.06 6 | 0.94 | 117 | 700  | 4.45  | 34.27   | 0.34 | 27.18   | 89    | 1.06   |
| 529   | 5.28  | 34.15 7 | 0.64 | 107 | 800  | 4.06  | 34.32   | 0.30 | 27.26   | 82    | 1.15   |
| 613   | 5.11  | 34.25 0 | 0.40 | 98  | 1000 | 3.51  | 34.42   | 0.33 | 27.40   | 69    | 1.31   |
|       |       |         |      |     | 1200 | 3.07  | 34.48   | 0.53 | 27.48   | 61    | 1.46   |
| 375a) | 6.18  | 34.06 6 | 1.45 | 124 | 1500 | 2.60  | 34.55   | 0.85 | 27.58   | 52    | 1.65   |
| 467   | 5.42  | 34.09 0 | 0.99 | 114 | 2000 | 1.96  | 34.61   | 1.50 | 27.68   | 42    | 1.93   |
| 558   | 5.31  | 34.20 9 | 0.47 | 104 | 2500 | 1.76  | 34.64   | 2.00 | 27.73   | 38    | 2.18   |
| 743   | 4.24  | 34.29 3 | 0.32 | 86  | 3000 | 1.64  | 34.66   | 2.47 | 27.75   | 36    | 2.41   |
| 928   | 3.70  | 34.38 8 | 0.28 | 73  |      |       |         |      |         |       |        |
| 1114  | 3.26  | 34.45 9 | 0.43 | 64  |      |       |         |      |         |       |        |
| 1298  | 2.92  | 34.50 9 | 0.64 | 57  |      |       |         |      |         |       |        |
| 1485  | 2.62  | 34.54 7 | 0.84 | 52  |      |       |         |      |         |       |        |
| 1674  | 2.30  | 34.57 3 | 1.18 | 47  |      |       |         |      |         |       |        |
| 1864  | 2.09  | 34.59 4 | 1.38 | 44  |      |       |         |      |         |       |        |
| 2052  | 1.92  | 34.61 5 | 1.57 | 41  |      |       |         |      |         |       |        |
| 2242  | 1.84  | 34.62 8 | 1.79 | 40  |      |       |         |      |         |       |        |
| 2434  | 1.78  | 34.64 1 | 1.96 | 38  |      |       |         |      |         |       |        |
| 2627  | 1.72  | 34.65 4 | 2.18 | 37  |      |       |         |      |         |       |        |
| 2819  | 1.68  | 34.65 8 | 2.36 | 36  |      |       |         |      |         |       |        |
| 3061  | 1.62  | 34.66 4 | 2.48 | 36  |      |       |         |      |         |       |        |
| 3300  | 1.60  | 34.67 0 | 2.58 | 35  |      |       |         |      |         |       |        |
| 3400  | 1.56  | 34.67 0 | 2.64 | 34  |      |       |         |      |         |       |        |

HORIZON; January 30, 1960; 1704 GCT; 38°38.5'N, 126°19.5'W; sounding, 2000+ fm; wind, 160°, force 2; weather, fog; sea, rough; wire angle, 04°.

50.80

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 12.97 | 32.84   | 5.87 | 321 | 0   | (12.97) | (32.84) | (5.87) | (24.75) | (321) | (0.00) |
| 13  | 12.96 | 32.83   | 5.90 | 321 | 10  | 12.96   | 32.83   | 5.89   | 24.75   | 321   | 0.03   |
| 33  | 12.84 | 32.84   | 5.88 | 318 | 20  | 12.92   | 32.84   | 5.90   | 24.76   | 320   | 0.06   |
| 62  | 11.72 | 32.89   | 5.96 | 294 | 30  | 12.87   | 32.84   | 5.89   | 24.77   | 319   | 0.10   |
| 72  | 10.94 | 33.19   | 5.34 | 259 | 50  | 12.68   | 32.85   | 5.90   | 24.81   | 315   | 0.16   |
| 87  | 9.90  | 33.30   | 4.69 | 234 | 75  | 10.82   | 33.21   | 5.27   | 25.44   | 255   | 0.23   |
| 102 | 9.06  | 33.31   | 4.77 | 220 | 100 | 9.30    | 33.31   | 4.76   | 25.76   | 224   | 0.29   |
| 116 | 8.85  | 33.45   | 4.27 | 206 | 125 | 8.67    | 33.54   | 4.12   | 26.05   | 197   | 0.34   |
| 141 | 8.32  | 33.64   | 4.00 | 184 | 150 | 8.11    | 33.68   | 3.98   | 26.25   | 178   | 0.39   |
| 161 | 7.89  | 33.73   | 3.97 | 172 | 200 | 7.44    | 33.88   | 3.37   | 26.49   | 155   | 0.48   |
| 190 | 7.57  | 33.85   | 3.39 | 158 | 250 | 6.81    | 33.95   | 2.84   | 26.64   | 141   | 0.55   |
| 220 | 7.21  | 33.91   | 3.37 | 149 | 300 | 6.28    | 33.98   | 2.22   | 26.74   | 132   | 0.62   |
| 248 | 6.84  | 33.95 2 | 2.85 | 141 | 400 | 5.70    | 34.07   | 1.27   | 26.88   | 118   | 0.75   |
| 298 | 6.30  | 33.97 8 | 2.25 | 132 | 500 | 5.08    | 34.14   | 0.74   | 27.01   | 106   | 0.87   |
| 352 | 5.84  | 34.00 2 | 1.76 | 125 | 600 | 4.88    | 34.24   | 0.41   | 27.10   | 97    | 0.98   |
| 436 | 5.64  | 34.13 4 | 0.88 | 113 |     |         |         |        |         |       |        |
| 520 | 4.91  | 34.13 8 | 0.72 | 104 |     |         |         |        |         |       |        |
| 602 | 4.88  | 34.23 7 | 0.40 | 97  |     |         |         |        |         |       |        |

a) Overlapping casts; reconciliation of property curves when necessary.



SIO

CCOFI

6001

| OBSERVED |    |   |                | COMPUTED   | INTERPOLATED |    |   |                | COMPUTED   |            |            |
|----------|----|---|----------------|------------|--------------|----|---|----------------|------------|------------|------------|
| Z        | T  | S | O <sub>2</sub> | $\delta_T$ | Z            | T  | S | O <sub>2</sub> | $\sigma_t$ | $\delta_T$ | $\Delta D$ |
| m        | °C | ‰ | ml/L           | cl/ton     | m            | °C | ‰ | ml/L           | g/L        | cl/ton     | dyn m      |

50.90

HORIZON; January 30, 1960; 2155 GCT; 38°19'N, 127°03'W; sounding, 2000+ fm; wind, 170°, force 2; weather, cloudy; sea, rough; wire angle, 32°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.50 | 32.90   | 5.85 | 326 | 0   | (13.50) | (32.90) | (5.85) | (24.69) | (326) | (0.00) |
| 10  | 13.48 | 32.88   | 5.76 | 327 | 10  | 13.48   | 32.88   | 5.76   | 24.68   | 327   | 0.03   |
| 27  | 13.45 | 32.92   | 5.81 | 324 | 20  | 13.46   | 32.91   | 5.79   | 24.70   | 325   | 0.07   |
| 51  | 13.46 | 32.84u  | 5.76 | -   | 30  | 13.45   | 32.92   | 5.81   | 24.72   | 324   | 0.10   |
| 60  | 13.46 | 32.94   | 5.80 | 323 | 50  | 13.46   | 32.94   | 5.76   | 24.72   | 323   | 0.16   |
| 72  | 13.44 | 32.95   | 5.69 | 321 | 75  | 13.41   | 32.94   | 5.71   | 24.75   | 321   | 0.24   |
| 83  | 13.28 | 32.93   | 5.82 | 320 | 100 | 12.50   | 33.02   | 5.63   | 24.99   | 298   | 0.32   |
| 93  | 12.32 | 32.90   | 5.68 | 303 | 125 | 10.00   | 33.20   | 5.09   | 25.57   | 242   | 0.39   |
| 113 | 10.66 | 33.12   | 5.41 | 260 | 150 | 9.04    | 33.40   | 4.53   | 25.88   | 213   | 0.45   |
| 127 | 9.92  | 33.21   | 5.05 | 240 | 200 | 8.08    | 33.70   | 3.78   | 26.27   | 176   | 0.55   |
| 148 | 9.10  | 33.38   | 4.56 | 216 | 250 | 7.38    | 33.91   | 3.06   | 26.54   | 151   | 0.63   |
| 170 | 8.64  | 33.54   | 4.24 | 196 | 300 | 6.67    | 33.97   | 2.53   | 26.68   | 137   | 0.71   |
| 192 | 8.20  | 33.66 0 | 3.92 | 181 | 400 | 5.72    | 34.04   | 1.38   | 26.85   | 121   | 0.84   |
| 229 | 7.70  | 33.86 2 | 3.24 | 159 |     |         |         |        |         |       |        |
| 269 | 7.06  | 33.94 2 | 2.91 | 145 |     |         |         |        |         |       |        |
| 335 | 6.31  | 33.99 5 | 2.09 | 131 |     |         |         |        |         |       |        |
| 404 | 5.68  | 34.04 4 | 1.31 | 120 |     |         |         |        |         |       |        |

50.100

HORIZON; January 31, 1960; 1739, 2026 GCT; 38°02'N, 127°50'W; sounding, 2485 fm; wind, 150°, force 3; weather, overcast; sea, very rough; wire angle, 27°, 25°.

|       |       |         |        |     |      |         |         |        |         |       |        |
|-------|-------|---------|--------|-----|------|---------|---------|--------|---------|-------|--------|
| 2     | 12.82 | 32.86   | 5.95   | 316 | 0    | (12.82) | (32.86) | (5.95) | (24.80) | (316) | (0.00) |
| 11    | 12.82 | 32.91   | 6.12   | 313 | 10   | 12.82   | 32.91   | 6.12   | 24.83   | 313   | 0.03   |
| 32    | 12.74 | 32.82   | 6.08   | 318 | 20   | 12.78   | 32.87   | 6.11   | 24.81   | 315   | 0.06   |
| 59    | 12.65 | 32.84   | 6.06   | 315 | 30   | 12.75   | 32.83   | 6.10   | 24.78   | 318   | 0.09   |
| 68    | 12.63 | 32.84   | 6.06   | 314 | 50   | 12.68   | 32.84   | 6.06   | 24.80   | 315   | 0.16   |
| 86    | 12.07 | 32.93   | 5.91   | 298 | 75   | 12.60   | 32.84   | 6.04   | 24.82   | 314   | 0.24   |
| 98    | 10.75 | 33.13   | 5.53   | 260 | 100  | 10.66   | 33.14   | 5.49   | 25.41   | 258   | 0.31   |
| 112   | 10.18 | 33.17   | 5.28   | 248 | 125  | 9.77    | 33.34   | 5.14   | 25.71   | 229   | 0.37   |
| 138   | 9.40  | 33.58   | 5.01   | 205 | 150  | 9.13    | 33.66   | 4.80   | 26.07   | 195   | 0.42   |
| 157   | 9.00  | 33.70   | 4.54   | 190 | 200  | 8.46    | 33.95   | 3.08   | 26.40   | 164   | 0.52   |
| 182   | 8.78  | 33.86   | 3.07   | 175 | 250  | 8.18    | 34.04   | 2.12   | 26.52   | 152   | 0.60   |
| 213   | 8.29  | 34.00   | 3.08   | 158 | 300  | 7.44    | 34.06   | 2.05   | 26.64   | 141   | 0.67   |
| 239   | 8.28  | 34.03 3 | 2.15   | 155 | 400  | 6.55    | 34.09   | 1.37   | 26.79   | 127   | 0.81   |
| 283   | 7.67  | 34.05 6 | 2.11   | 145 | 500  | 5.69    | 34.18   | 0.67   | 26.96   | 110   | 0.94   |
| 341   | 6.98  | 34.05 6 | 1.82   | 135 | 600  | 5.29    | 34.24   | 0.46   | 27.06   | 101   | 1.05   |
| 428   | 6.34  | 34.12 8 | 1.03   | 122 | 700  | 4.80    | 34.29   | 0.36   | 27.16   | 92    | 1.15   |
| 505   | 5.63  | 34.18 4 | 0.61   | 109 | 800  | 4.35    | 34.33   | 0.31   | 27.24   | 84    | 1.24   |
| 573   | 5.30  | 34.21 6 | 0.47   | 103 | 1000 | 3.75    | 34.42   | 0.47   | 27.37   | 72    | 1.42   |
|       |       |         |        |     | 1200 | 3.30    | 34.49   | 0.60   | 27.47   | 62    | 1.57   |
| 441a) | 6.26  | 34.10 6 | 1.30   | 122 | 1500 | 2.74    | 34.54   | 0.87   | 27.57   | 53    | 1.77   |
| 614   | 5.26  | 34.25 0 | 0.45   | 100 | 2000 | 2.08    | 34.60   | 1.54   | 27.67   | 43    | 2.06   |
| 788   | 4.39  | 34.32 6 | 0.31   | 84  | 2500 | 1.78    | 34.63   | 1.85   | 27.72   | 39    | 2.31   |
| 1024  | 3.68  | 34.42 6 | 0.49   | 70  | 3000 | 1.62    | 34.66   | 2.50   | 27.74   | 36    | 2.55   |
| 1245  | 3.20  | 34.50 2 | 0.64   | 60  | 4000 | 1.52    | 34.69   | 3.09   | 27.78   | 33    | 3.01   |
| 1466  | 2.80  | 34.53 4 | 0.83   | 54  |      |         |         |        |         |       |        |
| 1685  | 2.45  | 34.57 4 | 1.14   | 48  |      |         |         |        |         |       |        |
| 1909  | 2.17  | 34.59 5 | 1.46   | 44  |      |         |         |        |         |       |        |
| 2139  | 1.97  | 34.61 6 | 1.72   | 42  |      |         |         |        |         |       |        |
| 2354  | 1.84  | 34.63 0 | 1.80   | 40  |      |         |         |        |         |       |        |
| 2574  | 1.76  | 34.64 5 | 2.07   | 38  |      |         |         |        |         |       |        |
| 2800  | 1.70  | 34.65 4 | 2.36   | 37  |      |         |         |        |         |       |        |
| 3022  | 1.62  | 34.66 6 | 2.52   | 36  |      |         |         |        |         |       |        |
| 3246  | 1.60  | 34.67 2 | 2.61   | 35  |      |         |         |        |         |       |        |
| 3471  | 1.57  | 34.67 5 | 2.37   | 34  |      |         |         |        |         |       |        |
| 3744  | 1.52  | 34.68 4 | 3.08   | 33  |      |         |         |        |         |       |        |
| 4027  | 1.52  | 34.68 8 | 3.09b) | 33  |      |         |         |        |         |       |        |
| 4301  | 1.54  | 34.68 7 | 3.16c) | 33  |      |         |         |        |         |       |        |
| 4416  | 1.54  | 34.69 1 | 3.27   | 33  |      |         |         |        |         |       |        |

a) Overlapping casts; reconciliation of property curves when necessary.

b) Alternate value, 3.24 ml/L, not used in interpolation.

c) Alternate value, 3.31 ml/L, not used in interpolation.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

S10

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6001

HORIZON; January 28, 1960; 1055 GCT; 39°02.5'N, 123°49.5'W; sounding, 50 fm; wind, 140°, force 7; weather, rain; sea, rough; wire angle, 18°.

53.52

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 2  | 12.06 | 33.48 | 6.12 | 257 | 0  | (12.06) | (33.48) | (6.12) | (25.42) | (257) | (0.00) |
| 11 | 12.08 | 33.48 | 6.12 | 257 | 10 | 12.08   | 33.48   | 6.12   | 25.42   | 257   | 0.03   |
| 30 | 12.09 | 33.49 | 6.09 | 257 | 20 | 12.09   | 33.48   | 6.11   | 25.42   | 257   | 0.05   |
| 49 | 12.08 | 33.48 | 6.04 | 257 | 30 | 12.09   | 33.49   | 6.09   | 25.42   | 257   | 0.08   |
| 73 | 12.10 | 33.48 | 6.01 | 258 | 50 | 12.09   | 33.48   | 6.04   | 25.42   | 257   | 0.13   |
|    |       |       |      |     | 75 | (12.10) | (33.48) | (6.01) | (25.41) | (258) | (0.19) |

HORIZON; January 28, 1960; 0853 GCT; 38°57.5'N, 124°04.5'W; sounding, 320 fm; wind, 140°, force 5; weather, rain; sea, rough; wire angle, 43°.

53.55

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 11.83 | 33.35   | 6.24 | 263 | 0   | (11.83) | (33.35) | (6.24) | (25.36) | (263) | (0.00) |
| 9   | 11.82 | 33.34   | 6.26 | 263 | 10  | 11.82   | 33.34   | 6.27   | 25.36   | 263   | 0.03   |
| 26  | 11.81 | 33.36   | 6.28 | 261 | 20  | 11.81   | 33.35   | 6.28   | 25.37   | 262   | 0.05   |
| 48  | 11.71 | 33.40   | 6.01 | 257 | 30  | 11.80   | 33.36   | 6.28   | 25.38   | 261   | 0.08   |
| 55  | 11.40 | 33.40   | 5.65 | 251 | 50  | 11.67   | 33.40   | 5.98   | 25.43   | 256   | 0.13   |
| 69  | 10.77 | 33.57   | 4.42 | 228 | 75  | 10.48   | 33.61   | 3.94   | 25.80   | 220   | 0.19   |
| 78  | 10.26 | 33.63   | 3.65 | 215 | 100 | 9.79    | 33.74   | 3.30   | 26.02   | 199   | 0.24   |
| 88  | 10.02 | 33.69   | 3.54 | 207 | 125 | 9.49    | 33.81   | 3.10   | 26.13   | 190   | 0.29   |
| 106 | 9.68  | 33.75   | 3.21 | 197 | 150 | 9.19    | 33.89   | 2.87   | 26.24   | 179   | 0.34   |
| 119 | 9.60  | 33.78   | 3.15 | 193 | 200 | 8.53    | 33.95   | 2.60   | 26.39   | 165   | 0.43   |
| 135 | 9.36  | 33.84   | 3.04 | 185 | 250 | 7.70    | 34.00   | 2.50   | 26.56   | 148   | 0.51   |
| 158 | 9.10  | 33.91   | 2.79 | 176 | 300 | 7.28    | 34.04   | 2.13   | 26.65   | 140   | 0.58   |
| 175 | 8.94  | 33.90 0 | 2.70 | 174 | 400 | 6.57    | 34.11   | 1.26   | 26.81   | 126   | 0.72   |
| 207 | 8.42  | 33.96 6 | 2.58 | 162 |     |         |         |        |         |       |        |
| 247 | 7.73  | 34.00 0 | 2.53 | 149 |     |         |         |        |         |       |        |
| 313 | 7.18  | 34.04 5 | 2.03 | 139 |     |         |         |        |         |       |        |
| 379 | 6.79  | 34.09 8 | 1.47 | 130 |     |         |         |        |         |       |        |
| 442 | 6.04  | 34.17 4 | 0.82 | 115 |     |         |         |        |         |       |        |

HORIZON; January 28, 1960; 0642 GCT; 38°58'N, 124°13.5'W; sounding, 2000 fm; wind, 140°, force 5; weather, rain; sea, rough; wire angle, 37°.

53.57

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 11.85 | 33.42   | 6.11 | 258 | 0   | (11.85) | (33.42) | (6.11) | (25.41) | (258) | (0.00) |
| 9   | 11.86 | 33.41   | 6.22 | 258 | 10  | 11.85   | 33.41   | 6.20   | 25.40   | 258   | 0.03   |
| 28  | 11.82 | 33.40   | 6.19 | 258 | 20  | 11.83   | 33.40   | 6.20   | 25.40   | 258   | 0.05   |
| 52  | 11.82 | 33.43   | 6.09 | 256 | 30  | 11.82   | 33.40   | 6.18   | 25.40   | 258   | 0.08   |
| 60  | 11.60 | 33.46   | 5.83 | 250 | 50  | 11.82   | 33.42   | 6.10   | 25.42   | 257   | 0.13   |
| 75  | 10.92 | 33.59   | 4.37 | 229 | 75  | 10.92   | 33.59   | 4.37   | 25.71   | 229   | 0.19   |
| 84  | 10.57 | 33.67   | 3.87 | 217 | 100 | 9.87    | 33.76   | 3.22   | 26.03   | 199   | 0.24   |
| 96  | 9.98  | 33.75   | 3.27 | 201 | 125 | 9.34    | 33.81   | 2.99   | 26.15   | 187   | 0.29   |
| 120 | 9.40  | 33.79   | 3.05 | 189 | 150 | 8.90    | 33.90   | 2.60   | 26.30   | 174   | 0.34   |
| 134 | 9.25  | 33.86   | 2.85 | 182 | 200 | 8.23    | 33.99   | 2.40   | 26.47   | 157   | 0.42   |
| 156 | 8.75  | 33.91   | 2.53 | 171 | 250 | 7.74    | 34.04   | 2.27   | 26.57   | 147   | 0.50   |
| 183 | 8.50  | 33.96   | 2.37 | 163 | 300 | 6.89    | 34.03   | 2.11   | 26.70   | 136   | 0.57   |
| 205 | 8.15  | 34.00 6 | 2.43 | 155 | 400 | 6.42    | 34.13   | 1.10   | 26.83   | 123   | 0.71   |
| 243 | 7.84  | 34.03 6 | 2.28 | 148 | 500 | 5.89    | 34.20   | 0.54   | 26.96   | 111   | 0.83   |
| 293 | 6.97  | 34.03 0 | 2.16 | 137 |     |         |         |        |         |       |        |
| 370 | 6.62  | 34.11 6 | 1.26 | 126 |     |         |         |        |         |       |        |
| 444 | 6.17  | 34.16 1 | 0.92 | 117 |     |         |         |        |         |       |        |
| 512 | 5.86  | 34.21 0 | 0.50 | 110 |     |         |         |        |         |       |        |



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600I

| OBSERVED |    |   |                | COMPUTED   | INTERPOLATED |    |   |                | COMPUTED   |            |            |
|----------|----|---|----------------|------------|--------------|----|---|----------------|------------|------------|------------|
| Z        | T  | S | O <sub>2</sub> | $\delta_T$ | Z            | T  | S | O <sub>2</sub> | $\sigma_t$ | $\delta_T$ | $\Delta D$ |
| m        | °C | ‰ | ml/L           | cl/ton     | m            | °C | ‰ | ml/L           | g/L        | cl/ton     | dyn m      |

53.60

HORIZON; January 28, 1960; 0409 GCT; 38°52.5'N, 124°27.5'W; sounding, 1900 fm; wind, 160°, force 5; weather, rain; sea, rough; wire angle, 32°.

|     |       |         |      |     |     |         |         |      |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|------|---------|-------|--------|
| 1   | 11.70 | 33.30   |      | 264 | 0   | (11.70) | (33.30) |      | (25.35) | (264) | (0.00) |
| 9   | 11.69 | 33.30   |      | 264 | 10  | 11.69   | 33.30   |      | 25.35   | 264   | 0.03   |
| 27  | 11.66 | 33.30   |      | 263 | 20  | 11.67   | 33.30   |      | 25.36   | 263   | 0.05   |
| 52  | 11.62 | 33.31   |      | 262 | 30  | 11.65   | 33.30   |      | 25.36   | 263   | 0.08   |
| 60  | 11.54 | 33.36   |      | 256 | 50  | 11.61   | 33.31   |      | 25.37   | 262   | 0.13   |
| 71  | 11.32 | 33.40   |      | 250 | 75  | 11.29   | 33.44   |      | 25.52   | 247   | 0.20   |
| 85  | 10.08 | 33.57   | 3.92 | 217 | 100 | 9.68    | 33.75   | 3.56 | 26.05   | 197   | 0.25   |
| 96  | 9.72  | 33.73   | 3.66 | 199 | 125 | 9.28    | 33.80   | 2.94 | 26.16   | 187   | 0.30   |
| 116 | 9.52  | 33.77   | 3.16 | 193 | 150 | 8.85    | 33.91   | 2.53 | 26.31   | 172   | 0.35   |
| 131 | 9.13  | 33.82   | 2.85 | 183 | 200 | 8.34    | 34.04   | 1.95 | 26.49   | 155   | 0.43   |
| 153 | 8.81  | 33.92   | 2.48 | 171 | 250 | 7.82    | 34.10   | 1.67 | 26.62   | 143   | 0.50   |
| 178 | 8.54  | 33.96   | 2.19 | 164 | 300 | 7.21    | 34.10   | 1.54 | 26.70   | 135   | 0.58   |
| 200 | 8.34  | 34.04 0 | 1.95 | 155 | 400 | 6.27    | 34.12   | 1.15 | 26.85   | 121   | 0.71   |
| 240 | 7.93  | 34.09 0 | 1.68 | 145 | 500 | 5.77    | 34.21   | 0.56 | 26.98   | 109   | 0.83   |
| 286 | 7.42  | 34.11 0 | 1.57 | 137 |     |         |         |      |         |       |        |
| 357 | 6.36  | 34.06 4 | 1.46 | 126 |     |         |         |      |         |       |        |
| 430 | 6.26  | 34.17 2 | 0.91 | 117 |     |         |         |      |         |       |        |
| 507 | 5.70  | 34.21 4 | 0.49 | 107 |     |         |         |      |         |       |        |

53.70

HORIZON; January 27, 1960; 2351 GCT; 38°28'N, 125°06'W; sounding, 2000+ fm; wind, 160°, force 4; weather, overcast; sea, moderate; wire angle, 26°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 11.62 | 32.93   | 5.95 | 290 | 0   | (11.62) | (32.93) | (5.95) | (25.07) | (290) | (0.00) |
| 10  | 11.62 | 32.95   | 6.12 | 288 | 10  | 11.62   | 32.95   | 6.12   | 25.09   | 288   | 0.03   |
| 29  | 11.35 | 33.35   | 5.93 | 254 | 20  | 11.38   | 33.07   | 6.07   | 25.23   | 275   | 0.06   |
| 55  | 11.60 | 33.48   | 5.61 | 249 | 30  | 11.35   | 33.35   | 5.93   | 25.45   | 254   | 0.08   |
| 64  | 11.40 | 33.49   | 5.41 | 244 | 50  | 11.57   | 33.47   | 5.65   | 25.50   | 249   | 0.13   |
| 77  | 10.30 | 33.57   | 4.11 | 220 | 75  | 10.41   | 33.55   | 4.26   | 25.78   | 223   | 0.19   |
| 91  | 9.82  | 33.68   | 3.55 | 204 | 100 | 9.41    | 33.68   | 3.44   | 26.04   | 198   | 0.25   |
| 104 | 9.25  | 33.68   | 3.40 | 195 | 125 | 9.09    | 33.77   | 2.99   | 26.17   | 186   | 0.30   |
| 126 | 9.08  | 33.78   | 2.98 | 186 | 150 | 8.74    | 33.83   | 2.88   | 26.26   | 177   | 0.34   |
| 143 | 8.86  | 33.82   | 2.84 | 179 | 200 | 8.03    | 33.94   | 2.81   | 26.46   | 158   | 0.43   |
| 169 | 8.47  | 33.86   | 3.10 | 170 | 250 | 7.30    | 34.01   | 2.36   | 26.62   | 143   | 0.50   |
| 194 | 8.10  | 33.93   | 2.90 | 160 | 300 | 6.66    | 34.03   | 1.87   | 26.72   | 133   | 0.57   |
| 220 | 7.79  | 34.00 6 | 2.43 | 150 | 400 | 5.73    | 34.07   | 1.18   | 26.87   | 119   | 0.70   |
| 266 | 7.04  | 34.00 5 | 2.30 | 140 | 500 | 5.21    | 34.16   | 0.66   | 27.01   | 106   | 0.82   |
| 313 | 6.51  | 34.03 6 | 1.70 | 131 |     |         |         |        |         |       |        |
| 391 | 5.80  | 34.05 9 | 1.25 | 120 |     |         |         |        |         |       |        |
| 470 | 5.32  | 34.12 9 | 0.79 | 110 |     |         |         |        |         |       |        |
| 550 | 5.12  | 34.23 7 | 0.42 | 99  |     |         |         |        |         |       |        |

53.80

HORIZON; January 27, 1960; 1836 GCT; 37°59.5'N, 125°51'W; sounding, 2000+ fm; wind, 200°, force 3; weather, overcast; sea, moderate; wire angle, 16°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.52 | 32.77   | 5.90 | 317 | 0   | (12.52) | (32.77) | (5.90) | (24.79) | (317) | (0.00) |
| 11  | 12.51 | 32.79   | 5.89 | 316 | 10  | 12.51   | 32.79   | 5.89   | 24.80   | 316   | 0.03   |
| 30  | 12.50 | 32.79   | 5.91 | 316 | 20  | 12.50   | 32.79   | 5.90   | 24.80   | 316   | 0.06   |
| 58  | 12.34 | 32.76   | 5.90 | 316 | 30  | 12.50   | 32.79   | 5.91   | 24.80   | 316   | 0.09   |
| 68  | 12.32 | 32.79   | 5.90 | 312 | 50  | 12.39   | 32.77   | 5.91   | 24.80   | 316   | 0.16   |
| 81  | 11.92 | 32.82   | 5.72 | 303 | 75  | 12.30   | 32.80   | 5.87   | 24.85   | 311   | 0.24   |
| 96  | 10.66 | 32.98   | 5.66 | 270 | 100 | 10.54   | 33.03   | 5.57   | 25.35   | 264   | 0.31   |
| 109 | 9.49  | 33.04   | 5.26 | 246 | 125 | 8.97    | 33.25   | 4.74   | 25.78   | 223   | 0.37   |
| 132 | 8.78  | 33.32   | 4.52 | 215 | 150 | 8.50    | 33.53   | 4.06   | 26.07   | 195   | 0.42   |
| 151 | 8.49  | 33.54   | 4.06 | 194 | 200 | 7.74    | 33.94   | 3.58   | 26.50   | 154   | 0.51   |
| 179 | 8.02  | 33.83   | 3.79 | 166 | 250 | 7.16    | 33.95   | 3.30   | 26.60   | 145   | 0.59   |
| 207 | 7.67  | 33.95   | 3.56 | 152 | 300 | 6.52    | 33.97   | 2.64   | 26.69   | 136   | 0.66   |
| 234 | 7.36  | 33.95 0 | 3.51 | 148 | 400 | 5.62    | 34.05   | 1.30   | 26.87   | 119   | 0.79   |
| 281 | 6.77  | 33.96 2 | 2.83 | 139 | 500 | 4.92    | 34.13   | 0.75   | 27.02   | 105   | 0.91   |
| 332 | 6.14  | 33.98 1 | 2.35 | 130 |     |         |         |        |         |       |        |
| 413 | 5.54  | 34.06 0 | 1.17 | 117 |     |         |         |        |         |       |        |
| 495 | 4.96  | 34.12 6 | 0.77 | 106 |     |         |         |        |         |       |        |
| 576 | 4.86  | 34.20 9 | 0.52 | 99  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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HORIZON; January 24, 1960; 1020 GCT; 38°30.5'N, 123°22.5'W; sounding, 53 fm; wind, 090°, force 4; weather, partly cloudy; sea, moderate; wire angle, 10°.

57.51

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 2  | 12.14 | 33.44 | 5.92 | 261 | 0  | (12.14) | (33.44) | (5.92) | (25.38) | (261) | (0.00) |
| 12 | 12.16 | 33.46 | 5.89 | 260 | 10 | 12.16   | 33.46   | 5.89   | 25.39   | 260   | 0.03   |
| 32 | 12.05 | 33.48 | 5.78 | 257 | 20 | 12.11   | 33.47   | 5.84   | 25.40   | 258   | 0.05   |
| 51 | 12.12 | 33.53 | 5.65 | 254 | 30 | 12.05   | 33.48   | 5.78   | 25.42   | 257   | 0.08   |
| 76 | 11.88 | 33.49 | 5.60 | 253 | 50 | 12.12   | 33.53   | 5.65   | 25.44   | 255   | 0.13   |
|    |       |       |      |     | 75 | 11.89   | 33.49   | 5.61   | 25.46   | 253   | 0.19   |

HORIZON; January 24, 1960; 1315 GCT; 38°21'N, 123°44.5'W; sounding, 760 fm; wind, 160°, force 6; weather, rain; sea, moderate; wire angle, 34°.

57.55

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 11.76 | 33.40   | 6.11 | 257 | 0   | (11.76) | (33.40) | (6.11) | (25.42) | (257) | (0.00) |
| 10  | 11.74 | 33.40   | 6.14 | 257 | 10  | 11.74   | 33.40   | 6.14   | 25.42   | 257   | 0.03   |
| 27  | 11.68 | 33.48   | 6.11 | 250 | 20  | 11.71   | 33.46   | 6.12   | 25.47   | 252   | 0.05   |
| 50  | 11.42 | 33.48   | 5.93 | 246 | 30  | 11.67   | 33.48   | 6.08   | 25.50   | 249   | 0.08   |
| 59  | 11.38 | 33.49   | 5.80 | 244 | 50  | 11.42   | 33.48   | 5.93   | 25.53   | 246   | 0.13   |
| 71  | 11.32 | 33.49   | 5.77 | 243 | 75  | 11.27   | 33.49   | 5.68   | 25.57   | 242   | 0.19   |
| 84  | 11.06 | 33.50   | 5.46 | 238 | 100 | 10.28   | 33.64   | 3.65   | 25.87   | 214   | 0.24   |
| 95  | 10.44 | 33.62   | 3.89 | 219 | 125 | 9.76    | 33.73   | 3.04   | 26.03   | 199   | 0.30   |
| 116 | 9.96  | 33.70   | 3.26 | 205 | 150 | 9.16    | 33.86   | 2.56   | 26.22   | 181   | 0.34   |
| 131 | 9.64  | 33.76   | 2.92 | 196 | 200 | 8.40    | 33.98   | 2.35   | 26.44   | 160   | 0.43   |
| 154 | 9.04  | 33.89   | 2.50 | 177 | 250 | 7.61    | 34.03   | 2.45   | 26.59   | 146   | 0.51   |
| 177 | 8.60  | 33.95   | 2.37 | 165 | 300 | 7.03    | 34.02   | 2.35   | 26.66   | 139   | 0.58   |
| 200 | 8.40  | 33.98 1 | 2.35 | 160 | 400 | 5.98    | 34.06   | 1.43   | 26.84   | 122   | 0.72   |
| 240 | 7.74  | 34.02 6 | 2.44 | 148 | 500 | 5.62    | 34.16   | 0.80   | 26.96   | 111   | 0.84   |
| 285 | 7.26  | 34.02 1 | 2.46 | 142 |     |         |         |        |         |       |        |
| 358 | 6.26  | 34.03 8 | 1.75 | 127 |     |         |         |        |         |       |        |
| 435 | 5.88  | 34.09 8 | 1.20 | 119 |     |         |         |        |         |       |        |
| 512 | 5.58  | 34.17 1 | 0.70 | 109 |     |         |         |        |         |       |        |

HORIZON; January 27, 1960; 0041 GCT; 38°18'N, 123°49'W; sounding, 950 fm; wind, 160°, force 2; weather, cloudy; sea, moderate; wire angle, 18°.

57.57

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.16 | 33.38   | 5.97 | 266 | 0   | (12.16) | (33.38) | (5.97) | (25.32) | (266) | (0.00) |
| 11  | 12.08 | 33.40   | 5.89 | 263 | 10  | 12.08   | 33.40   | 5.89   | 25.36   | 263   | 0.03   |
| 30  | 12.18 | 33.39   | 5.85 | 266 | 20  | 12.14   | 33.39   | 5.87   | 25.33   | 265   | 0.05   |
| 58  | 12.20 | 33.53   | 5.25 | 256 | 30  | 12.18   | 33.39   | 5.85   | 25.32   | 266   | 0.08   |
| 69  | 12.08 | 33.48   | 5.20 | 258 | 50  | 12.20   | 33.50   | 5.36   | 25.41   | 258   | 0.13   |
| 82  | 11.52 | 33.53   | 4.46 | 244 | 75  | 11.89   | 33.49   | 4.96   | 25.46   | 253   | 0.20   |
| 95  | 10.40 | 33.58   | 3.46 | 220 | 100 | 10.17   | 33.61   | 3.27   | 25.86   | 215   | 0.26   |
| 108 | 9.78  | 33.68   | 2.99 | 204 | 125 | 9.15    | 33.77   | 2.86   | 26.15   | 187   | 0.31   |
| 132 | 8.94  | 33.79   | 2.85 | 183 | 150 | 8.68    | 33.79   | 2.92   | 26.24   | 179   | 0.35   |
| 150 | 8.68  | 33.79   | 2.92 | 179 | 200 | 8.32    | 33.98   | 2.18   | 26.45   | 159   | 0.44   |
| 177 | 8.60  | 33.91   | 2.23 | 168 | 250 | 7.47    | 34.03   | 2.25   | 26.61   | 144   | 0.52   |
| 206 | 8.24  | 34.00   | 2.18 | 157 | 300 | 6.96    | 34.06   | 1.67   | 26.71   | 134   | 0.59   |
| 233 | 7.72  | 34.01 0 | 2.49 | 148 | 400 | 6.33    | 34.15   | 0.89   | 26.86   | 120   | 0.72   |
| 280 | 7.12  | 34.04 8 | 1.82 | 138 | 500 | 5.59    | 34.19   | 0.57   | 26.98   | 108   | 0.84   |
| 331 | 6.74  | 34.08 2 | 1.51 | 130 |     |         |         |        |         |       |        |
| 412 | 6.26  | 34.16 2 | 0.80 | 118 |     |         |         |        |         |       |        |
| 493 | 5.64  | 34.18 6 | 0.59 | 108 |     |         |         |        |         |       |        |
| 575 | 5.21  | 34.25 6 | 0.42 | 99  |     |         |         |        |         |       |        |



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| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

57.60

HORIZON; January 27, 1960; 0315 GCT; 38°12'N, 124°01'W; sounding, 2000 fm; wind, 160°, force 2; weather, partly cloudy; sea, moderate; wire angle, 12°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 11.93 | 33.33   | 5.86 | 266 | 0   | (11.93) | (33.33) | (5.86) | (25.33) | (266) | (0.00) |
| 12  | 11.89 | 33.34   | 5.75 | 264 | 10  | 11.90   | 33.34   | 5.76   | 25.34   | 264   | 0.03   |
| 31  | 11.89 | 33.35   | 5.73 | 263 | 20  | 11.89   | 33.35   | 5.74   | 25.35   | 263   | 0.05   |
| 60  | 11.65 | 33.36   | 5.48 | 258 | 30  | 11.89   | 33.35   | 5.73   | 25.35   | 263   | 0.08   |
| 70  | 10.44 | 33.51   | 4.16 | 227 | 50  | 11.81   | 33.36   | 5.63   | 25.38   | 261   | 0.13   |
| 85  | 9.48  | 33.56   | 3.78 | 208 | 75  | 9.69    | 33.52   | 3.89   | 25.87   | 214   | 0.19   |
| 100 | 9.26  | 33.75   | 2.94 | 190 | 100 | 9.26    | 33.75   | 2.94   | 26.12   | 190   | 0.24   |
| 113 | 8.96  | 33.82   | 2.81 | 180 | 125 | 8.90    | 33.90   | 2.58   | 26.29   | 174   | 0.29   |
| 138 | 8.74  | 33.91   | 2.46 | 170 | 150 | 8.50    | 33.92   | 2.55   | 26.38   | 166   | 0.33   |
| 158 | 8.30  | 33.92   | 2.60 | 163 | 200 | 7.90    | 34.00   | 2.02   | 26.53   | 151   | 0.41   |
| 186 | 7.95  | 33.95   | 2.36 | 156 | 250 | 7.13    | 34.03   | 2.12   | 26.66   | 139   | 0.49   |
| 215 | 7.88  | 34.07   | 1.64 | 146 | 300 | 6.70    | 34.06   | 1.62   | 26.74   | 131   | 0.56   |
| 243 | 7.23  | 34.03 4 | 2.13 | 140 | 400 | 6.14    | 34.15   | 0.88   | 26.89   | 118   | 0.68   |
| 293 | 6.74  | 34.05 7 | 1.70 | 132 | 500 | 5.52    | 34.19   | 0.56   | 27.00   | 107   | 0.80   |
| 345 | 6.48  | 34.12 2 | 1.17 | 124 | 600 | (5.05)  | (34.26) | (0.34) | (27.10) | (97)  | (0.91) |
| 429 | 5.96  | 34.15 4 | 0.79 | 115 |     |         |         |        |         |       |        |
| 511 | 5.47  | 34.20 8 | 0.51 | 106 |     |         |         |        |         |       |        |
| 593 | 5.08  | 34.25 9 | 0.34 | 98  |     |         |         |        |         |       |        |

57.70

HORIZON; January 27, 1960; 0842 GCT; 37°49.5'N, 124°46'W; sounding, 2000+ fm; wind, 160°, force 2; weather, overcast; sea, moderate; wire angle, 18°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 11.78 | 33.02   | 5.93 | 289 | 0   | (11.78) | (33.02) | (5.93) | (25.08) | (289) | (0.00) |
| 12  | 11.82 | 33.08   | 6.00 | 282 | 10  | 11.80   | 33.07   | 5.99   | 25.14   | 283   | 0.03   |
| 40  | 11.82 | 33.37   | 5.66 | 260 | 20  | 11.82   | 33.17   | 5.94   | 25.23   | 275   | 0.06   |
| 68  | 11.74 | 33.39   | 5.64 | 258 | 30  | 11.82   | 33.28   | 5.77   | 25.31   | 267   | 0.08   |
| 77  | 11.72 | 33.41   | 5.66 | 256 | 50  | 11.79   | 33.38   | 5.65   | 25.40   | 259   | 0.14   |
| 91  | 11.34 | 33.44   | 5.15 | 247 | 75  | 11.72   | 33.40   | 5.65   | 25.42   | 257   | 0.20   |
| 104 | 10.16 | 33.48   | 4.18 | 224 | 100 | 10.32   | 33.47   | 4.30   | 25.72   | 228   | 0.26   |
| 117 | 9.17  | 33.62   | 3.38 | 198 | 125 | 8.88    | 33.68   | 3.12   | 26.12   | 190   | 0.32   |
| 141 | 8.56  | 33.78   | 2.75 | 178 | 150 | 8.42    | 33.82   | 2.64   | 26.30   | 173   | 0.36   |
| 160 | 8.33  | 33.86   | 2.54 | 168 | 200 | 7.73    | 33.91   | 2.43   | 26.47   | 157   | 0.44   |
| 189 | 7.86  | 33.89   | 2.57 | 159 | 250 | 7.23    | 34.03   | 2.07   | 26.65   | 140   | 0.52   |
| 216 | 7.62  | 33.94   | 2.23 | 152 | 300 | 6.61    | 34.04   | 1.74   | 26.74   | 131   | 0.59   |
| 244 | 7.31  | 34.02 7 | 2.10 | 142 | 400 | 5.98    | 34.15   | 0.83   | 26.90   | 116   | 0.72   |
| 291 | 6.70  | 34.03 6 | 1.83 | 133 | 500 | 5.44    | 34.20   | 0.54   | 27.01   | 106   | 0.83   |
| 342 | 6.32  | 34.08 1 | 1.35 | 125 | 600 | (4.76)  | (34.24) |        | (27.12) | (95)  | (0.94) |
| 423 | 5.88  | 34.17 4 | 0.69 | 113 |     |         |         |        |         |       |        |
| 505 | 5.42  | 34.19 8 | 0.53 | 106 |     |         |         |        |         |       |        |
| 588 | 4.86  | 34.23 2 | 0.44 | 97  |     |         |         |        |         |       |        |

57.80

HORIZON; January 27, 1960; 1405 GCT; 37°29'N, 125°29'W; sounding, 2000+ fm; wind, 180°, force 3; weather, overcast; sea, moderate; wire angle, 10°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.27 | 32.70   | 5.89 | 318 | 0   | (12.27) | (32.70) | (5.89) | (24.78) | (318) | (0.00) |
| 12  | 12.26 | 32.73   | 5.90 | 316 | 10  | 12.26   | 32.72   | 5.90   | 24.79   | 317   | 0.03   |
| 32  | 12.14 | 32.72   | 5.90 | 314 | 20  | 12.23   | 32.72   | 5.90   | 24.81   | 315   | 0.06   |
| 60  | 11.46 | 32.94   | 5.80 | 286 | 30  | 12.17   | 32.72   | 5.90   | 24.82   | 314   | 0.09   |
| 70  | 11.16 | 33.12   | 5.68 | 267 | 50  | 11.71   | 32.76   | 5.86   | 24.94   | 303   | 0.16   |
| 85  | 10.68 | 33.19   | 5.15 | 255 | 75  | 10.72   | 33.10   | 5.47   | 25.38   | 261   | 0.23   |
| 100 | 10.63 | 33.42   | 4.67 | 237 | 100 | 10.63   | 33.42   | 4.67   | 25.62   | 237   | 0.29   |
| 113 | 9.70  | 33.54   | 3.76 | 213 | 125 | 9.42    | 33.60   | 3.53   | 25.97   | 204   | 0.35   |
| 139 | 9.18  | 33.66   | 3.41 | 196 | 150 | 8.98    | 33.70   | 3.36   | 26.12   | 190   | 0.40   |
| 158 | 8.82  | 33.73   | 3.32 | 185 | 200 | 8.21    | 33.84   | 2.89   | 26.35   | 168   | 0.49   |
| 187 | 8.47  | 33.82   | 2.88 | 173 | 250 | 7.34    | 33.98   | 2.60   | 26.59   | 146   | 0.57   |
| 216 | 7.86  | 33.86   | 2.89 | 162 | 300 | 6.83    | 34.02   | 1.95   | 26.69   | 136   | 0.64   |
| 245 | 7.40  | 33.97 0 | 2.69 | 147 | 400 | 6.29    | 34.12   | 1.12   | 26.84   | 122   | 0.77   |
| 295 | 6.88  | 34.01 8 | 2.00 | 137 | 500 | 5.77    | 34.24   | 0.50   | 27.00   | 106   | 0.89   |
| 348 | 6.48  | 34.05 0 | 1.62 | 129 | 600 | (5.09)  | (34.30) | (0.31) | (27.13) | (94)  | (1.00) |
| 431 | 6.20  | 34.16 0 | 0.87 | 118 |     |         |         |        |         |       |        |
| 515 | 5.66  | 34.26 2 | 0.44 | 104 |     |         |         |        |         |       |        |
| 597 | 5.12  | 34.29 8 | 0.31 | 95  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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HORIZON; January 24, 1960; 0353 GCT; 37°46'N, 123°18.5'W; sounding, 520 fm; wind, 140°, force 3; weather, overcast; sea, moderate; wire angle, 16°.

60.55

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 11.92 | 33.30   | 5.77 | 268 | 0   | (11.92) | (33.30) | (5.77) | (25.31) | (268) | (0.00) |
| 12  | 11.92 | 33.30   | 5.81 | 268 | 10  | 11.92   | 33.30   | 5.81   | 25.31   | 268   | 0.03   |
| 31  | 12.06 | 33.35   | 5.80 | 266 | 20  | 11.97   | 33.32   | 5.81   | 25.31   | 267   | 0.05   |
| 54  | 12.25 | 33.46   | 5.66 | 262 | 30  | 12.04   | 33.34   | 5.80   | 25.32   | 266   | 0.08   |
| 63  | 12.24 | 33.48   | 5.62 | 260 | 50  | 12.21   | 33.43   | 5.70   | 25.36   | 263   | 0.13   |
| 73  | 11.77 | 33.48   | 5.15 | 252 | 75  | 11.42   | 33.49   | 4.84   | 25.54   | 245   | 0.20   |
| 87  | 10.06 | 33.57   | 3.73 | 216 | 100 | 9.74    | 33.67   | 3.30   | 25.98   | 204   | 0.25   |
| 102 | 9.71  | 33.68   | 3.27 | 203 | 125 | 9.42    | 33.79   | 2.85   | 26.12   | 190   | 0.30   |
| 125 | 9.42  | 33.79   | 2.85 | 190 | 150 | 8.92    | 33.87   | 2.47   | 26.27   | 176   | 0.35   |
| 144 | 9.00  | 33.86   | 2.57 | 178 | 200 | 8.33    | 33.97   | 2.03   | 26.44   | 160   | 0.44   |
| 167 | 8.80  | 33.89   | 2.33 | 173 | 250 | 7.88    | 34.09   | 1.71   | 26.60   | 145   | 0.51   |
| 194 | 8.38  | 33.96   | 2.04 | 162 | 300 | 7.45    | 34.14   | 1.26   | 26.70   | 135   | 0.58   |
| 223 | 8.22  | 34.04 5 | 2.01 | 153 | 400 | 6.77    | 34.15   | 1.10   | 26.80   | 125   | 0.72   |
| 259 | 7.74  | 34.11 0 | 1.54 | 142 | 500 | 5.59    | 34.18   | 0.66   | 26.98   | 108   | 0.84   |
| 316 | 7.37  | 34.14 8 | 1.16 | 134 |     |         |         |        |         |       |        |
| 387 | 6.92  | 34.15 0 | 1.14 | 127 |     |         |         |        |         |       |        |
| 459 | 5.88  | 34.16 6 | 0.79 | 114 |     |         |         |        |         |       |        |
| 537 | 5.46  | 34.22 0 | 0.56 | 104 |     |         |         |        |         |       |        |

HORIZON; January 24, 1960; 0140 GCT; 37°43.5'N, 123°23.5'W; sounding, 1020 fm; wind, 140°, force 3; weather, cloudy; sea, rough; wire angle, 07°.

60.57

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 11.98 | 33.31   | 6.02 | 268 | 0   | (11.98) | (33.31) | (6.02) | (25.30) | (268) | (0.00) |
| 12  | 11.95 | 33.30   | 6.25 | 268 | 10  | 11.95   | 33.30   | 6.23   | 25.30   | 268   | 0.03   |
| 32  | 11.89 | 33.30   | 5.96 | 267 | 20  | 11.91   | 33.30   | 6.12   | 25.31   | 268   | 0.05   |
| 60  | 12.16 | 33.43   | 5.90 | 262 | 30  | 11.90   | 33.30   | 5.97   | 25.31   | 267   | 0.08   |
| 70  | 11.46 | 33.49   | 5.04 | 246 | 50  | 12.08   | 33.38   | 5.93   | 25.34   | 265   | 0.13   |
| 85  | 9.46  | 33.55   | 4.02 | 209 | 75  | 10.28   | 33.52   | 4.36   | 25.78   | 223   | 0.19   |
| 100 | 9.69  | 33.73   | 3.12 | 198 | 100 | 9.69    | 33.73   | 3.12   | 26.03   | 198   | 0.25   |
| 114 | 9.26  | 33.82   | 2.95 | 185 | 125 | 9.07    | 33.87   | 2.78   | 26.24   | 179   | 0.30   |
| 139 | 8.96  | 33.93   | 2.59 | 172 | 150 | 8.85    | 33.95   | 2.46   | 26.34   | 169   | 0.34   |
| 159 | 8.76  | 33.98   | 2.38 | 166 | 200 | 8.22    | 34.05   | 2.30   | 26.52   | 152   | 0.42   |
| 188 | 8.40  | 34.04   | 2.24 | 156 | 250 | 7.56    | 34.06   | 2.10   | 26.62   | 143   | 0.50   |
| 217 | 7.96  | 34.05   | 2.37 | 149 | 300 | 7.23    | 34.13   | 1.44   | 26.72   | 133   | 0.57   |
| 246 | 7.60  | 34.05 7 | 2.16 | 144 | 400 | 6.26    | 34.16   | 0.96   | 26.88   | 118   | 0.70   |
| 296 | 7.26  | 34.12 3 | 1.50 | 134 | 500 | 5.32    | 34.17   | 0.68   | 27.01   | 106   | 0.81   |
| 350 | 6.84  | 34.15 7 | 1.17 | 126 | 600 | (4.87)  | (34.24) | (0.40) | (27.11) | (96)  | (0.92) |
| 433 | 5.88  | 34.15 3 | 0.86 | 114 |     |         |         |        |         |       |        |
| 516 | 5.23  | 34.18 4 | 0.63 | 104 |     |         |         |        |         |       |        |
| 599 | 4.87  | 34.24 2 | 0.40 | 96  |     |         |         |        |         |       |        |

HORIZON; January 23, 1960; 2209 GCT; 37°39'N, 123°44.5'W; sounding, 2000+ fm; wind, 140°, force 4; weather, overcast; sea, moderate; wire angle, 29°.

60.60

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 11.88 | 33.30   | 5.82 | 267 | 0   | (11.88) | (33.30) | (5.82) | (25.31) | (267) | (0.00) |
| 10  | 11.88 | 33.30   | 5.83 | 267 | 10  | 11.88   | 33.30   | 5.83   | 25.31   | 267   | 0.03   |
| 28  | 11.76 | 33.28   | 5.79 | 266 | 20  | 11.81   | 33.28   | 5.80   | 25.32   | 266   | 0.05   |
| 53  | 11.77 | 33.31   | 5.66 | 264 | 30  | 11.76   | 33.28   | 5.79   | 25.33   | 266   | 0.08   |
| 62  | 11.80 | 33.33   | 5.68 | 263 | 50  | 11.77   | 33.31   | 5.66   | 25.35   | 264   | 0.13   |
| 75  | 11.60 | 33.44   | 4.99 | 252 | 75  | 11.60   | 33.44   | 4.99   | 25.47   | 252   | 0.20   |
| 88  | 9.62  | 33.47   | 3.91 | 217 | 100 | 9.08    | 33.50   | 3.83   | 25.95   | 206   | 0.26   |
| 100 | 9.08  | 33.50   | 3.83 | 206 | 125 | 8.67    | 33.72   | 3.14   | 26.19   | 184   | 0.30   |
| 121 | 8.76  | 33.68   | 3.26 | 188 | 150 | 8.32    | 33.86   | 2.80   | 26.36   | 168   | 0.35   |
| 137 | 8.50  | 33.80   | 2.92 | 175 | 200 | 7.72    | 34.03   | 2.29   | 26.58   | 147   | 0.43   |
| 159 | 8.20  | 33.89   | 2.76 | 164 | 250 | 7.03    | 34.01   | 2.28   | 26.66   | 139   | 0.50   |
| 183 | 7.94  | 33.95   | 2.61 | 156 | 300 | 6.53    | 34.07   | 1.56   | 26.77   | 129   | 0.57   |
| 206 | 7.66  | 34.03 4 | 2.27 | 146 | 400 | 5.84    | 34.12   | 1.02   | 26.90   | 116   | 0.70   |
| 248 | 7.06  | 34.01 0 | 2.29 | 140 | 500 | 5.44    | 34.22   | 0.50   | 27.02   | 105   | 0.81   |
| 293 | 6.60  | 34.06 0 | 1.65 | 130 |     |         |         |        |         |       |        |
| 366 | 5.96  | 34.07 2 | 1.28 | 121 |     |         |         |        |         |       |        |
| 442 | 5.75  | 34.18 2 | 0.69 | 110 |     |         |         |        |         |       |        |
| 520 | 5.34  | 34.22 6 | 0.47 | 102 |     |         |         |        |         |       |        |



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6001

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

60.70 HORIZON; January 23, 1960; 1854 GCT; 37°28'N, 124°08'W; sounding, 2000+ fm; wind, 140°, force 3; weather, overcast; sea, moderate; wire angle, 19°.

|     |       |         |      |     |     |       |       |      |       |     |      |
|-----|-------|---------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 11.81 | 33.30   | 6.06 | 266 | 0   | 11.81 | 33.30 | 6.06 | 25.33 | 266 | 0.00 |
| 8   | 11.81 | 33.30   | 5.92 | 266 | 10  | 11.80 | 33.30 | 5.91 | 25.33 | 265 | 0.03 |
| 28  | 11.76 | 33.30   | 5.73 | 264 | 20  | 11.77 | 33.30 | 5.83 | 25.34 | 265 | 0.05 |
| 55  | 11.65 | 33.35   | 5.61 | 259 | 30  | 11.74 | 33.30 | 5.71 | 25.34 | 264 | 0.08 |
| 64  | 11.62 | 33.35   | 5.63 | 258 | 50  | 11.66 | 33.35 | 5.62 | 25.39 | 260 | 0.13 |
| 77  | 11.43 | 33.36   | 5.44 | 255 | 75  | 11.47 | 33.36 | 5.48 | 25.43 | 256 | 0.20 |
| 90  | 9.77  | 33.53   | 3.82 | 214 | 100 | 9.17  | 33.63 | 3.44 | 26.04 | 198 | 0.25 |
| 102 | 9.10  | 33.64   | 3.42 | 196 | 125 | 8.45  | 33.73 | 3.50 | 26.23 | 180 | 0.30 |
| 124 | 8.47  | 33.73   | 3.51 | 180 | 150 | 8.37  | 33.85 | 3.08 | 26.34 | 170 | 0.35 |
| 142 | 8.40  | 33.81   | 3.32 | 173 | 200 | 7.88  | 33.97 | 2.46 | 26.51 | 153 | 0.43 |
| 168 | 8.24  | 33.91   | 2.61 | 164 | 250 | 7.25  | 34.05 | 1.90 | 26.66 | 139 | 0.50 |
| 194 | 7.95  | 33.96   | 2.48 | 155 | 300 | 6.68  | 34.07 | 1.57 | 26.75 | 130 | 0.57 |
| 220 | 7.58  | 34.01 2 | 2.36 | 146 | 400 | 5.78  | 34.11 | 1.00 | 26.90 | 116 | 0.70 |
| 265 | 7.10  | 34.06 3 | 1.74 | 136 | 500 | 5.30  | 34.20 | 0.53 | 27.03 | 104 | 0.81 |
| 314 | 6.51  | 34.06 9 | 1.52 | 128 |     |       |       |      |       |     |      |
| 390 | 5.84  | 34.10 2 | 1.06 | 118 |     |       |       |      |       |     |      |
| 470 | 5.39  | 34.16 5 | 0.66 | 108 |     |       |       |      |       |     |      |
| 549 | 5.18  | 34.25 6 | 0.32 | 98  |     |       |       |      |       |     |      |

60.80 HORIZON; January 23, 1960; 1330 GCT; 37°06'N, 124°55'W; sounding, 2000+ fm; wind, 180°, force 2; weather, fog; sea, moderate; wire angle, 15°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 11.99 | 33.24   | 5.96 | 273 | 0   | (11.99) | (33.24) | (5.96) | (25.25) | (273) | (0.00) |
| 10  | 11.99 | 33.23   | 5.98 | 274 | 10  | 11.99   | 33.23   | 5.98   | 25.24   | 274   | 0.03   |
| 30  | 12.04 | 33.26   | 5.96 | 273 | 20  | 12.01   | 33.24   | 5.97   | 25.25   | 273   | 0.05   |
| 58  | 12.06 | 33.28   | 5.90 | 272 | 30  | 12.04   | 33.26   | 5.96   | 25.25   | 273   | 0.08   |
| 68  | 12.04 | 33.26   | 5.91 | 273 | 50  | 12.06   | 33.28   | 5.90   | 25.26   | 272   | 0.14   |
| 82  | 11.28 | 33.32   | 5.18 | 255 | 75  | 12.04   | 33.26   | 5.91   | 25.25   | 273   | 0.20   |
| 97  | 9.66  | 33.49   | 4.02 | 216 | 100 | 9.53    | 33.51   | 3.94   | 25.89   | 212   | 0.27   |
| 110 | 9.28  | 33.64   | 3.73 | 199 | 125 | 9.00    | 33.70   | 3.49   | 26.12   | 190   | 0.32   |
| 134 | 8.86  | 33.73   | 3.37 | 186 | 150 | 8.63    | 33.85   | 3.10   | 26.29   | 174   | 0.36   |
| 155 | 8.56  | 33.87   | 3.04 | 171 | 200 | 8.06    | 33.97   | 2.65   | 26.47   | 157   | 0.45   |
| 182 | 8.29  | 33.93   | 2.92 | 162 | 250 | 7.51    | 34.03   | 2.14   | 26.61   | 144   | 0.52   |
| 211 | 7.92  | 33.98   | 2.43 | 153 | 300 | 6.90    | 34.06   | 1.53   | 26.71   | 134   | 0.60   |
| 238 | 7.64  | 34.02 6 | 2.24 | 147 | 400 | 5.81    | 34.11   | 1.00   | 26.90   | 116   | 0.72   |
| 287 | 7.06  | 34.05 6 | 1.64 | 136 | 500 | 5.31    | 34.19   | 0.57   | 27.03   | 104   | 0.84   |
| 340 | 6.48  | 34.09 4 | 1.27 | 126 | 600 | (4.76)  | (34.23) |        | (27.11) | (96)  | (0.95) |
| 422 | 5.60  | 34.11 6 | 0.93 | 114 |     |         |         |        |         |       |        |
| 505 | 5.28  | 34.20 2 | 0.56 | 103 |     |         |         |        |         |       |        |
| 587 | 4.84  | 34.23 4 | 0.38 | 97  |     |         |         |        |         |       |        |

60.90 HORIZON; January 23, 1960; 0831 GCT; 36°44.5'N, 125°41'W; sounding, 2000+ fm; wind, 200°, force 2; weather, fog; sea, moderate; wire angle, 07°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 12.06 | 33.17   | 6.06 | 280 | 0   | (12.06) | (33.17) | (6.06) | (25.18) | (280) | (0.00) |
| 13  | 12.04 | 33.15   | 6.11 | 281 | 10  | 12.04   | 33.15   | 6.10   | 25.17   | 281   | 0.03   |
| 33  | 11.99 | 33.19   | 6.03 | 277 | 20  | 12.02   | 33.17   | 6.08   | 25.19   | 279   | 0.06   |
| 61  | 11.93 | 33.20   | 5.99 | 275 | 30  | 12.00   | 33.19   | 6.04   | 25.21   | 277   | 0.08   |
| 71  | 11.59 | 33.24   | 5.79 | 266 | 50  | 11.96   | 33.19   | 6.01   | 25.22   | 276   | 0.14   |
| 86  | 10.12 | 33.40   | 4.31 | 230 | 75  | 11.09   | 33.29   | 5.37   | 25.45   | 254   | 0.21   |
| 101 | 9.58  | 33.53   | 3.96 | 212 | 100 | 9.61    | 33.53   | 3.97   | 25.89   | 212   | 0.26   |
| 115 | 9.19  | 33.64   | 3.58 | 197 | 125 | 8.97    | 33.68   | 3.47   | 26.11   | 191   | 0.32   |
| 139 | 8.72  | 33.73   | 3.40 | 183 | 150 | 8.57    | 33.79   | 3.10   | 26.26   | 177   | 0.36   |
| 159 | 8.44  | 33.86   | 2.81 | 170 | 200 | 7.90    | 33.98   | 2.66   | 26.51   | 153   | 0.44   |
| 188 | 8.03  | 33.96   | 3.01 | 157 | 250 | 7.34    | 34.05   | 1.95   | 26.65   | 140   | 0.52   |
| 216 | 7.76  | 34.02   | 2.19 | 148 | 300 | 6.78    | 34.08   | 1.47   | 26.75   | 131   | 0.59   |
| 246 | 7.39  | 34.05 2 | 1.98 | 141 | 400 | 6.16    | 34.20   | 0.70   | 26.93   | 114   | 0.72   |
| 295 | 6.83  | 34.07 7 | 1.50 | 132 | 500 | 5.27    | 34.21   | 0.56   | 27.04   | 103   | 0.83   |
| 347 | 6.30  | 34.13 2 | 1.01 | 121 | 600 | (4.78)  | (34.25) | (0.41) | (27.12) | (95)  | (0.93) |
| 432 | 6.07  | 34.22 8 | 0.57 | 111 |     |         |         |        |         |       |        |
| 515 | 5.10  | 34.20 2 | 0.56 | 102 |     |         |         |        |         |       |        |
| 597 | 4.78  | 34.24 7 | 0.41 | 95  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

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HORIZON; January 23, 1960; 0326 GCT; 36°22.5'N, 126°28'W; sounding, 2000+ fm; wind, 180°, force 3; weather, overcast; sea, rough; wire angle, 21°.

60.100

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 12.71 | 33.05   | 5.77 | 300 | 0   | (12.71) | (33.05) | (5.77) | (24.97) | (300) | (0.00) |
| 11  | 12.65 | 33.06   | 5.79 | 298 | 10  | 12.66   | 33.06   | 5.79   | 24.98   | 298   | 0.03   |
| 29  | 12.38 | 33.06   | 5.77 | 294 | 20  | 12.40   | 33.06   | 5.77   | 25.03   | 294   | 0.06   |
| 37  | 12.36 | 33.10   | 5.74 | 290 | 30  | 12.37   | 33.06   | 5.77   | 25.03   | 294   | 0.09   |
| 51  | 12.30 | 33.08   | 5.74 | 291 | 50  | 12.30   | 33.08   | 5.74   | 25.06   | 291   | 0.15   |
| 65  | 11.89 | 33.17   | 5.45 | 277 | 75  | 11.29   | 33.35   | 5.16   | 25.47   | 252   | 0.22   |
| 89  | 10.32 | 33.36   | 5.06 | 236 | 100 | 9.87    | 33.38   | 4.60   | 25.73   | 227   | 0.28   |
| 106 | 9.84  | 33.42   | 4.42 | 224 | 125 | 9.18    | 33.60   | 4.33   | 26.02   | 200   | 0.33   |
| 125 | 9.18  | 33.60   | 4.33 | 200 | 150 | 8.59    | 33.77   | 4.45   | 26.25   | 178   | 0.38   |
| 141 | 8.74  | 33.73   | 4.46 | 184 | 200 | 7.90    | 33.90   | 4.42   | 26.45   | 159   | 0.46   |
| 166 | 8.39  | 33.82   | 4.44 | 172 | 250 | 7.48    | 34.02   | 2.80   | 26.60   | 145   | 0.54   |
| 197 | 7.94  | 33.89   | 4.44 | 161 | 300 | 7.02    | 34.07   | 1.66   | 26.70   | 135   | 0.61   |
| 222 | 7.66  | 33.96 4 | 4.17 | 151 | 400 | 6.13    | 34.13   | 1.00   | 26.87   | 119   | 0.74   |
| 266 | 7.40  | 34.04 6 | 1.92 | 142 | 500 | 5.43    | 34.18   | 0.60   | 27.00   | 107   | 0.86   |
| 314 | 6.86  | 34.07 1 | 1.58 | 133 |     |         |         |        |         |       |        |
| 391 | 6.18  | 34.12 4 | 1.03 | 120 |     |         |         |        |         |       |        |
| 469 | 5.66  | 34.17 3 | 0.67 | 110 |     |         |         |        |         |       |        |
| 550 | 5.07  | 34.19 6 | 0.54 | 102 |     |         |         |        |         |       |        |

HORIZON; February 11, 1960; 2205 GCT; 37°11'N, 122°50'W; sounding, 193 fm; wind, 010°, force 2; weather, clear; sea, very rough; wire angle, 10°.

63.55

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.54 | 33.35 | 6.50 | 275 | 0   | (12.54) | (33.35) | (6.50) | (25.23) | (275) | (0.00) |
| 12  | 12.37 | 33.35 | 6.46 | 272 | 10  | 12.38   | 33.35   | 6.47   | 25.26   | 272   | 0.03   |
| 32  | 12.40 | 33.36 | 6.47 | 272 | 20  | 12.37   | 33.35   | 6.47   | 25.26   | 272   | 0.05   |
| 50  | 12.40 | 33.43 | 6.19 | 267 | 30  | 12.39   | 33.36   | 6.47   | 25.26   | 272   | 0.08   |
| 75  | 11.99 | 33.51 | 5.67 | 253 | 50  | 12.40   | 33.43   | 6.19   | 25.31   | 267   | 0.14   |
| 99  | 10.45 | 33.62 | 4.13 | 219 | 75  | 11.99   | 33.51   | 5.67   | 25.46   | 253   | 0.20   |
| 123 | 9.65  | 33.77 | 3.34 | 195 | 100 | 10.42   | 33.62   | 4.10   | 25.82   | 218   | 0.26   |
| 163 | 8.78  | 33.92 | 2.68 | 170 | 125 | 9.60    | 33.78   | 3.28   | 26.09   | 193   | 0.31   |
| 201 | 8.26  | 34.03 | 2.35 | 155 | 150 | 9.03    | 33.88   | 2.87   | 26.26   | 177   | 0.36   |
| 250 | 7.18  | 34.04 | 2.43 | 139 | 200 | 8.27    | 34.03   | 2.36   | 26.49   | 155   | 0.44   |
| 298 | 6.98  | 34.07 | 2.03 | 134 | 250 | 7.18    | 34.04   | 2.43   | 26.66   | 139   | 0.52   |
|     |       |       |      |     | 300 | (6.98)  | (34.07) | (2.03) | (26.71) | (134) | (0.59) |

HORIZON; February 11, 1960; 2350 GCT; 37°06.5'N, 122°58.5'W; sounding, 460 fm; wind, 300°, force 3; weather, partly cloudy; sea, very rough; wire angle, 18°.

63.57

|     |       |           |      |     |     |         |         |        |         |       |        |
|-----|-------|-----------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.48 | 33.30     | 6.59 | 278 | 0   | (12.48) | (33.30) | (6.59) | (25.20) | (278) | (0.00) |
| 10  | 12.34 | 33.31     | 6.53 | 275 | 10  | 12.34   | 33.31   | 6.53   | 25.23   | 275   | 0.03   |
| 30  | 12.30 | 33.31     | 6.60 | 274 | 20  | 12.31   | 33.31   | 6.59   | 25.24   | 274   | 0.06   |
| 58  | 12.28 | 33.33     | 6.34 | 272 | 30  | 12.30   | 33.31   | 6.60   | 25.24   | 274   | 0.08   |
| 67  | 12.28 | 33.37     | 6.40 | 269 | 50  | 12.28   | 33.32   | 6.42   | 25.25   | 273   | 0.14   |
| 81  | 11.10 | 33.39     | 5.42 | 246 | 75  | 12.26   | 33.37   | 6.37   | 25.30   | 268   | 0.20   |
| 95  | 10.91 | 33.49     | 4.95 | 236 | 100 | 10.26   | 33.48   | 4.64   | 25.74   | 226   | 0.27   |
| 109 | 9.88  | 33.49     | 4.45 | 219 | 125 | 9.26    | 33.66   | 3.99   | 26.05   | 197   | 0.32   |
| 132 | 9.04  | 33.74     | 3.87 | 188 | 150 | 8.52    | 33.91   | 3.59   | 26.37   | 167   | 0.37   |
| 153 | 8.43  | 33.93     | 3.55 | 164 | 200 | 8.10    | 34.05   | 2.85   | 26.54   | 151   | 0.45   |
| 181 | 8.20  | 33.98     | 3.28 | 158 | 250 | 7.91    | 34.09   | 1.93   | 26.60   | 144   | 0.52   |
| 210 | 8.04  | 34.07     | 2.71 | 148 | 300 | 7.42    | 34.09   | 1.77   | 26.66   | 139   | 0.60   |
| 237 | 7.99  | 34.08 7a) | 2.03 | 146 | 400 | 6.06    | 34.08   | 1.35   | 26.84   | 122   | 0.73   |
| 288 | 7.61  | 34.09 7   | 1.78 | 141 | 500 | 5.43    | 34.15   |        | 26.98   | 109   | 0.85   |
| 340 | 6.74  | 34.07 2   | 1.76 | 131 | 600 | (5.00)  | (34.21) |        | (27.07) | (100) | (0.96) |
| 422 | 5.84  | 34.08 8   | 1.18 | 119 |     |         |         |        |         |       |        |
| 505 | 5.42  | 34.15 2   | -    | 109 |     |         |         |        |         |       |        |
| 588 | 5.04  | 34.20 4   | -    | 101 |     |         |         |        |         |       |        |

a) Alternate value, 34.068‰, not used in interpolation.



SIO

CCOFI  
600I

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

63.60

HORIZON; February 12, 1960; 0217 GCT; 36°59'N, 123°12'W; sounding, 1390 fm; wind, 320°, force 3; weather, cloudy; sea, rough; wire angle, 15°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 12.46 | 33.37   | 6.05 | 273 | 0   | (12.46) | (33.37) | (6.05) | (25.25) | (273) | (0.00) |
| 11  | 12.46 | 33.39   | 6.10 | 271 | 10  | 12.46   | 33.39   | 6.09   | 25.27   | 271   | 0.03   |
| 30  | 12.30 | 33.35   | 6.09 | 271 | 20  | 12.38   | 33.37   | 6.09   | 25.27   | 271   | 0.05   |
| 59  | 12.29 | 33.39   | 6.03 | 268 | 30  | 12.30   | 33.35   | 6.09   | 25.27   | 271   | 0.08   |
| 69  | 12.22 | 33.47   | 5.88 | 260 | 50  | 12.30   | 33.36   | 6.06   | 25.28   | 270   | 0.14   |
| 83  | 11.24 | 33.32   | 5.20 | 254 | 75  | 12.27   | 33.51   | 5.70   | 25.40   | 258   | 0.20   |
| 96  | 9.98  | 33.42   | 4.38 | 226 | 100 | 9.96    | 33.44   | 4.32   | 25.76   | 224   | 0.26   |
| 110 | 9.71  | 33.60   | 3.65 | 208 | 125 | 9.10    | 33.67   | 3.61   | 26.08   | 194   | 0.32   |
| 133 | 8.87  | 33.69   | 3.58 | 189 | 150 | 8.69    | 33.79   | 3.34   | 26.24   | 179   | 0.36   |
| 151 | 8.68  | 33.79   | 3.33 | 179 | 200 | 8.10    | 33.95   | 2.56   | 26.46   | 158   | 0.45   |
| 179 | 8.36  | 33.93   | 2.42 | 163 | 250 | 7.68    | 34.05   | 2.06   | 26.60   | 145   | 0.52   |
| 207 | 8.02  | 33.96   | 2.58 | 156 | 300 | 7.00    | 34.04   | 1.96   | 26.69   | 136   | 0.60   |
| 233 | 7.83  | 34.02 8 | 2.08 | 148 | 400 | 5.84    | 34.08   | 1.26   | 26.87   | 119   | 0.73   |
| 280 | 7.36  | 34.05 0 | 2.04 | 140 | 500 | 5.32    | 34.17   | 0.62   | 27.00   | 106   | 0.85   |
| 332 | 6.44  | 34.03 6 | 1.79 | 130 |     |         |         |        |         |       |        |
| 413 | 5.76  | 34.08 8 | 1.14 | 118 |     |         |         |        |         |       |        |
| 495 | 5.35  | 34.16 3 | 0.63 | 107 |     |         |         |        |         |       |        |
| 577 | 4.93  | 34.21 9 | 0.56 | 98  |     |         |         |        |         |       |        |

63.70

HORIZON; February 12, 1960; 0721 GCT; 36°42'N, 123°56'W; sounding, 2100 fm; wind, 320°, force 2; weather, partly cloudy; sea, rough; wire angle, 11°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 12.64 | 33.50   | 5.94 | 266 | 0   | (12.64) | (33.50) | (5.94) | (25.32) | (266) | (0.00) |
| 11  | 12.65 | 33.47   | 5.89 | 268 | 10  | 12.65   | 33.47   | 5.90   | 25.30   | 268   | 0.03   |
| 31  | 12.60 | 33.48   | 5.94 | 267 | 20  | 12.62   | 33.48   | 5.91   | 25.30   | 268   | 0.05   |
| 59  | 12.52 | 33.48   | 5.73 | 265 | 30  | 12.60   | 33.48   | 5.93   | 25.31   | 267   | 0.08   |
| 69  | 12.12 | 33.52   | 5.18 | 255 | 50  | 12.54   | 33.48   | 5.79   | 25.32   | 266   | 0.13   |
| 83  | 11.37 | 33.56   | 4.52 | 239 | 75  | 11.79   | 33.54   | 4.88   | 25.52   | 248   | 0.20   |
| 97  | 10.44 | 33.58   | 3.77 | 222 | 100 | 10.30   | 33.58   | 3.69   | 25.82   | 219   | 0.26   |
| 111 | 10.08 | 33.63   | 3.54 | 212 | 125 | 9.84    | 33.72   | 3.38   | 26.00   | 202   | 0.31   |
| 135 | 9.50  | 33.77   | 3.23 | 192 | 150 | 9.27    | 33.84   | 2.98   | 26.19   | 184   | 0.36   |
| 154 | 9.20  | 33.86   | 2.95 | 181 | 200 | 8.39    | 33.94   | 2.53   | 26.41   | 163   | 0.45   |
| 182 | 8.63  | 33.88   | 2.98 | 171 | 250 | 7.99    | 34.06   | 1.91   | 26.56   | 148   | 0.53   |
| 210 | 8.28  | 33.99   | 2.21 | 158 | 300 | 7.57    | 34.10   | 1.55   | 26.66   | 139   | 0.60   |
| 237 | 8.10  | 34.05 4 | 2.00 | 150 | 400 | 6.49    | 34.15   | 1.04   | 26.84   | 122   | 0.74   |
| 285 | 7.70  | 34.09 0 | 1.65 | 142 | 500 | 5.70    | 34.21   | 0.62   | 26.99   | 108   | 0.86   |
| 335 | 7.28  | 34.14 4 | 1.30 | 133 | 600 | (5.06)  | (34.23) |        | (27.08) | (99)  | (0.96) |
| 417 | 6.30  | 34.15 6 | 0.97 | 119 |     |         |         |        |         |       |        |
| 499 | 5.72  | 34.20 9 | 0.62 | 108 |     |         |         |        |         |       |        |
| 581 | 5.16  | 34.22 4 | 0.53 | 100 |     |         |         |        |         |       |        |

63.80

HORIZON; February 12, 1960; 1223 GCT; 36°22'N, 124°47'W; sounding, 2000+ fm; wind, 250°, force 2; weather, cloudy; sea, very rough; wire angle, 10°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 12.48 | 33.06   | 5.95 | 296 | 0   | (12.48) | (33.06) | (5.95) | (25.01) | (296) | (0.00) |
| 11  | 12.49 | 33.08   | 5.81 | 294 | 10  | 12.49   | 33.08   | 5.82   | 25.03   | 294   | 0.03   |
| 31  | 12.50 | 33.08   | 5.87 | 294 | 20  | 12.50   | 33.08   | 5.84   | 25.03   | 294   | 0.06   |
| 59  | 11.65 | 33.18   | 5.38 | 272 | 30  | 12.50   | 33.08   | 5.86   | 25.03   | 294   | 0.09   |
| 69  | 10.84 | 33.27   | 4.89 | 251 | 50  | 12.47   | 33.08   | 5.86   | 25.03   | 294   | 0.15   |
| 84  | 9.90  | 33.39   | 4.34 | 227 | 75  | 10.48   | 33.31   | 4.70   | 25.57   | 242   | 0.21   |
| 99  | 9.33  | 33.52   | 4.07 | 208 | 100 | 9.32    | 33.52   | 4.06   | 25.93   | 208   | 0.27   |
| 112 | 9.01  | 33.58   | 3.62 | 199 | 125 | 8.80    | 33.65   | 3.56   | 26.11   | 191   | 0.32   |
| 137 | 8.66  | 33.71   | 3.53 | 184 | 150 | 8.54    | 33.84   | 4.20   | 26.30   | 173   | 0.37   |
| 157 | 8.50  | 33.91   | 4.50 | 167 | 200 | 7.83    | 33.96   | 4.22   | 26.51   | 153   | 0.45   |
| 186 | 8.02  | 33.95   | 4.44 | 157 | 250 | 7.25    | 34.01   | 2.62   | 26.62   | 143   | 0.53   |
| 214 | 7.64  | 33.98   | 3.95 | 150 | 300 | 6.79    | 34.05   | 1.78   | 26.72   | 134   | 0.60   |
| 241 | 7.34  | 33.99 8 | 2.88 | 144 | 400 | 6.03    | 34.10   | 1.04   | 26.86   | 120   | 0.73   |
| 290 | 6.88  | 34.04 0 | 1.89 | 135 | 500 | 5.20    | 34.13   | 0.80   | 26.98   | 108   | 0.85   |
| 342 | 6.46  | 34.08 0 | 1.39 | 127 | 600 | (4.90)  | (34.23) |        | (27.10) | (97)  | (0.96) |
| 422 | 5.90  | 34.11 6 | 0.95 | 117 |     |         |         |        |         |       |        |
| 505 | 5.16  | 34.13 1 | 0.79 | 107 |     |         |         |        |         |       |        |
| 586 | 4.93  | 34.21 6 | 0.42 | 98  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

SIO  
CCOFI  
6001

HORIZON; January 22, 1960; 2215 GCT; 35°42'N, 126°05.5'W; sounding, 2000+ fm; wind, 180°, force 3; weather, overcast; sea, rough; wire angle, 13°.

63.00

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 13.68 | 32.99   | 5.85 | 323 | 0   | (13.68) | (32.99) | (5.85) | (24.72) | (323) | (0.00) |
| 13  | 13.62 | 32.99   | 5.78 | 322 | 10  | 13.64   | 32.99   | 5.79   | 24.74   | 322   | 0.03   |
| 32  | 13.56 | 33.01   | 5.80 | 319 | 20  | 13.59   | 33.00   | 5.79   | 24.76   | 320   | 0.06   |
| 41  | 13.57 | 33.01   | 5.75 | 319 | 30  | 13.56   | 33.01   | 5.80   | 24.77   | 319   | 0.10   |
| 55  | 13.54 | 33.01a) | 5.72 | 318 | 50  | 13.56   | 33.01   | 5.73   | 24.77   | 318   | 0.16   |
| 70  | 13.38 | 32.99   | 5.76 | 318 | 75  | 13.18   | 32.99   | 5.81   | 24.83   | 313   | 0.24   |
| 94  | 12.52 | 33.03   | 5.81 | 298 | 100 | 12.53   | 33.07   | 5.77   | 25.02   | 295   | 0.32   |
| 113 | 12.18 | 33.19   | 5.44 | 280 | 125 | 11.24   | 33.28   | 5.27   | 25.42   | 257   | 0.39   |
| 133 | 10.54 | 33.30   | 5.18 | 244 | 150 | 9.88    | 33.41   | 4.60   | 25.74   | 226   | 0.45   |
| 152 | 9.82  | 33.42   | 4.54 | 224 | 200 | 8.36    | 33.87   | 4.30   | 26.35   | 268   | 0.55   |
| 181 | 8.63  | 33.77   | 3.91 | 180 | 250 | 7.68    | 33.97   | 3.98   | 26.54   | 151   | 0.63   |
| 216 | 8.16  | 33.93   | 4.59 | 160 | 300 | 7.12    | 34.01   | 2.75   | 26.64   | 141   | 0.71   |
| 244 | 7.77  | 33.96 9 | 4.04 | 152 | 400 | 6.30    | 34.09   | 1.26   | 26.82   | 124   | 0.84   |
| 295 | 7.16  | 34.00 2 | 2.80 | 142 | 500 | 5.46    | 34.14   | 0.82   | 26.97   | 110   | 0.96   |
| 347 | 6.84  | 34.07 2 | 1.63 | 132 | 600 | (4.63)  | (34.17) | (0.57) | (27.08) | (99)  | (1.08) |
| 430 | 5.98  | 34.10 3 | 1.10 | 119 |     |         |         |        |         |       |        |
| 514 | 5.35  | 34.14 4 | 0.77 | 108 |     |         |         |        |         |       |        |
| 597 | 4.66  | 34.17 2 | 0.57 | 99  |     |         |         |        |         |       |        |

HORIZON; February 13, 1960; 1100 GCT; 36°46'N, 122°10.5'W; sounding, 450 fm; wind, direction missing, force 1; weather, overcast; sea, moderate; wire angle, 04°.

67.50

|     |       |         |      |     |     |       |       |      |       |     |      |
|-----|-------|---------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 12.64 | 33.44   | 5.68 | 270 | 0   | 12.64 | 33.44 | 5.68 | 25.28 | 270 | 0.00 |
| 10  | 12.64 | 33.41   | 5.88 | 272 | 10  | 12.64 | 33.41 | 5.88 | 25.26 | 272 | 0.03 |
| 30  | 12.64 | 33.44   | 5.88 | 270 | 20  | 12.64 | 33.42 | 5.88 | 25.26 | 272 | 0.05 |
| 54  | 12.49 | 33.50   | 5.65 | 263 | 30  | 12.64 | 33.44 | 5.88 | 25.28 | 270 | 0.08 |
| 64  | 11.82 | 33.56   | 4.99 | 246 | 50  | 12.55 | 33.47 | 5.75 | 25.32 | 266 | 0.14 |
| 74  | 10.72 | 33.58   | 3.91 | 226 | 75  | 10.68 | 33.58 | 3.86 | 25.75 | 225 | 0.20 |
| 88  | 10.10 | 33.66   | 3.49 | 210 | 100 | 9.73  | 33.70 | 3.27 | 26.01 | 201 | 0.25 |
| 104 | 9.62  | 33.73   | 3.17 | 197 | 125 | 8.97  | 33.84 | 2.70 | 26.24 | 178 | 0.30 |
| 127 | 8.97  | 33.87   | 2.67 | 177 | 150 | 8.46  | 33.97 | 2.56 | 26.42 | 162 | 0.34 |
| 148 | 8.50  | 33.96   | 2.61 | 163 | 200 | 7.97  | 34.04 | 2.05 | 26.55 | 150 | 0.42 |
| 173 | 8.18  | 34.00   | 2.24 | 156 | 250 | 7.59  | 34.09 | 1.76 | 26.64 | 141 | 0.49 |
| 201 | 7.96  | 34.04   | 2.04 | 150 | 300 | 7.20  | 34.12 | 1.36 | 26.72 | 133 | 0.56 |
| 231 | 7.76  | 34.07 6 | 1.87 | 144 | 400 | 6.44  | 34.19 | 0.91 | 26.88 | 118 | 0.70 |
| 270 | 7.42  | 34.09 8 | 1.61 | 138 | 500 | 5.81  | 34.23 | 0.64 | 26.99 | 108 | 0.81 |
| 329 | 7.04  | 34.14 0 | 1.18 | 130 |     |       |       |      |       |     |      |
| 403 | 6.42  | 34.18 8 | 0.89 | 118 |     |       |       |      |       |     |      |
| 476 | 5.96  | 34.22 0 | 0.70 | 110 |     |       |       |      |       |     |      |
| 555 | 5.49  | 34.26 9 | 0.44 | 101 |     |       |       |      |       |     |      |

HORIZON; February 13, 1960; 0921 GCT; 36°42.5'N, 122°17.5'W; sounding, 760 fm; wind, direction missing, force 1; weather, drizzle; sea, moderate; wire angle, 01°.

67.53

|     |       |         |        |     |     |       |         |      |         |       |        |
|-----|-------|---------|--------|-----|-----|-------|---------|------|---------|-------|--------|
| 4   | 12.75 | 33.46   | 5.99   | 271 | 0   | 12.8  | (33.46) |      | (25.26) | (272) | (0.00) |
| 14  | 12.74 | 33.47   | 5.88   | 270 | 10  | 12.74 | 33.47   | 5.92 | 25.28   | 270   | 0.03   |
| 34  | 12.71 | 33.44   | 5.93   | 271 | 20  | 12.74 | 33.46   | 5.89 | 25.28   | 270   | 0.05   |
| 43  | 12.60 | 33.48   | 5.76   | 266 | 30  | 12.73 | 33.44   | 5.92 | 25.27   | 271   | 0.08   |
| 58  | 12.34 | 33.51   | 5.47   | 260 | 50  | 12.49 | 33.49   | 5.65 | 25.35   | 264   | 0.13   |
| 73  | 11.33 | 33.61   | 4.15   | 234 | 75  | 11.23 | 33.62   | 4.10 | 25.68   | 232   | 0.20   |
| 98  | 10.33 | 33.70   | 3.56   | 211 | 100 | 10.28 | 33.70   | 3.53 | 25.91   | 210   | 0.25   |
| 117 | 9.77  | 33.77   | 3.20b) | 196 | 125 | 9.52  | 33.80   | 3.04 | 26.12   | 190   | 0.30   |
| 138 | 9.14  | 33.84   | 2.89   | 182 | 150 | 8.80  | 33.86   | 3.00 | 26.28   | 175   | 0.35   |
| 157 | 8.66  | 33.87   | 3.04   | 172 | 200 | 8.12  | 34.01   | 2.28 | 26.50   | 154   | 0.43   |
| 186 | 8.35  | 33.98   | 2.30   | 160 | 250 | 7.66  | 34.08   | 1.85 | 26.62   | 143   | 0.51   |
| 222 | 7.88  | 34.04   | 2.27   | 148 | 300 | 7.02  | 34.09   | 1.57 | 26.72   | 133   | 0.58   |
| 250 | 7.66  | 34.07 6 | 1.85   | 143 | 400 | 6.56  | 34.22   | 0.71 | 26.88   | 118   | 0.71   |
| 300 | 7.02  | 34.08 8 | 1.57   | 133 | 500 | 5.99  | 34.24   | 0.50 | 26.98   | 109   | 0.83   |
| 354 | 6.79  | 34.16 0 | 1.00   | 125 | 600 | 5.43  | 34.28   | 0.35 | 27.08   | 99    | 0.94   |
| 438 | 6.34  | 34.23 2 | 0.60   | 114 |     |       |         |      |         |       |        |
| 522 | 5.86  | 34.25 0 | 0.46   | 107 |     |       |         |      |         |       |        |
| 605 | 5.41  | 34.29 0 | 0.34   | 98  |     |       |         |      |         |       |        |

a) Loose bottle cap; value falls on property curve.

b) Alternate value, 2.95 ml/L, not used in interpolation.



SIO

CCOFI  
600I

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

67.55

HORIZON; February 13, 1960; 0617 GCT; 36°38.5'N, 122°26.5'W; sounding, 1200 fm; wind, 290°, force 3; weather, cloudy; sea, rough; wire angle, 09°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 12.48 | 33.32   | 6.14 | 277 | 0   | (12.48) | (33.32) | (6.14) | (25.21) | (277) | (0.00) |
| 9   | 12.44 | 33.32   | 6.16 | 276 | 10  | 12.44   | 33.32   | 6.16   | 25.22   | 276   | 0.03   |
| 30  | 12.53 | 33.36   | 6.16 | 274 | 20  | 12.48   | 33.34   | 6.16   | 25.23   | 275   | 0.06   |
| 59  | 12.21 | 33.38   | 5.92 | 267 | 30  | 12.53   | 33.36   | 6.16   | 25.24   | 274   | 0.08   |
| 69  | 11.18 | 33.40   | 5.06 | 247 | 50  | 12.52   | 33.37   | 6.15   | 25.25   | 273   | 0.14   |
| 84  | 10.14 | 33.55   | 3.88 | 219 | 75  | 10.74   | 33.44   | 4.62   | 25.62   | 237   | 0.20   |
| 99  | 9.92  | 33.68   | 3.47 | 206 | 100 | 9.89    | 33.68   | 3.46   | 25.97   | 205   | 0.26   |
| 114 | 9.59  | 33.73   | 3.42 | 197 | 125 | 9.43    | 33.78   | 3.18   | 26.11   | 191   | 0.31   |
| 138 | 9.26  | 33.84   | 2.83 | 184 | 150 | 9.04    | 33.90   | 2.67   | 26.27   | 176   | 0.35   |
| 158 | 8.89  | 33.93   | 2.60 | 171 | 200 | 8.23    | 33.98   | 2.57   | 26.46   | 158   | 0.44   |
| 186 | 8.38  | 33.96   | 2.64 | 162 | 250 | 7.80    | 34.07   | 1.92   | 26.60   | 145   | 0.52   |
| 215 | 8.12  | 34.00   | 2.47 | 155 | 300 | 7.35    | 34.12   | 1.39   | 26.69   | 136   | 0.59   |
| 244 | 7.87  | 34.05 6 | 1.98 | 147 | 400 | 6.61    | 34.18   | 0.94   | 26.85   | 121   | 0.72   |
| 294 | 7.42  | 34.11 8 | 1.41 | 136 | 500 | 5.89    | 34.24   | 0.49   | 26.99   | 108   | 0.84   |
| 348 | 6.88  | 34.12 6 | 1.21 | 129 | 600 | (5.29)  | (34.28) | (0.39) | (27.09) | (98)  | (0.95) |
| 430 | 6.46  | 34.20 4 | 0.74 | 117 |     |         |         |        |         |       |        |
| 513 | 5.78  | 34.25 0 | 0.44 | 106 |     |         |         |        |         |       |        |
| 595 | 5.31  | 34.27 6 | 0.39 | 98  |     |         |         |        |         |       |        |

67.60

HORIZON; January 13, 1960; 0313 GCT; 36°29'N, 122°47.5'W; sounding, 1640 fm; wind, direction missing, force 1; weather, cloudy; sea, rough; wire angle, 14°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.04 | 33.48   | 5.99 | 275 | 0   | (13.04) | (33.48) | (5.99) | (25.23) | (275) | (0.00) |
| 11  | 13.04 | 33.48   | 6.07 | 275 | 10  | 13.04   | 33.48   | 6.07   | 25.23   | 275   | 0.03   |
| 30  | 12.96 | 33.48   | 6.02 | 273 | 20  | 12.99   | 33.48   | 6.05   | 25.24   | 274   | 0.06   |
| 53  | 12.92 | 33.48   | 5.84 | 272 | 30  | 12.96   | 33.48   | 6.02   | 25.25   | 273   | 0.08   |
| 63  | 12.86 | 33.48   | 5.69 | 271 | 50  | 12.92   | 33.48   | 5.89   | 25.26   | 272   | 0.14   |
| 73  | 12.70 | 33.52   | 5.43 | 265 | 75  | 12.63   | 33.53   | 5.38   | 25.35   | 264   | 0.20   |
| 87  | 11.44 | 33.57   | 4.49 | 240 | 100 | 10.82   | 33.61   | 4.05   | 25.74   | 226   | 0.27   |
| 102 | 10.75 | 33.62   | 3.99 | 224 | 125 | 10.13   | 33.70   | 3.64   | 25.94   | 208   | 0.32   |
| 124 | 10.14 | 33.70   | 3.65 | 208 | 150 | 9.57    | 33.80   | 3.23   | 26.11   | 191   | 0.37   |
| 145 | 9.74  | 33.77   | 3.36 | 196 | 200 | 8.06    | 34.03   | 2.23   | 26.52   | 152   | 0.46   |
| 169 | 8.62  | 33.95   | 2.65 | 166 | 250 | 7.73    | 34.09   | 1.72   | 26.63   | 142   | 0.53   |
| 196 | 8.12  | 34.02   | 2.26 | 153 | 300 | 7.40    | 34.12   | 1.41   | 26.69   | 136   | 0.60   |
| 225 | 7.89  | 34.05 8 | 2.04 | 147 | 400 | 6.48    | 34.20   | 0.87   | 26.88   | 118   | 0.74   |
| 262 | 7.67  | 34.10 1 | 1.65 | 141 | 500 | 5.93    | 34.26   | 0.48   | 27.00   | 107   | 0.86   |
| 319 | 7.24  | 34.13 2 | 1.35 | 133 |     |         |         |        |         |       |        |
| 390 | 6.54  | 34.18 8 | 0.95 | 120 |     |         |         |        |         |       |        |
| 461 | 6.18  | 34.23 6 | 0.56 | 112 |     |         |         |        |         |       |        |
| 538 | 5.64  | 34.27 9 | 0.43 | 102 |     |         |         |        |         |       |        |

67.70

HORIZON; February 12, 1960; 2215 GCT; 36°09'N, 123°31.5'W; sounding, 2000+ fm; wind, direction missing, force 1; weather, cloudy; sea, rough; wire angle, 05°.

|     |       |         |      |     |     |        |         |        |         |      |        |
|-----|-------|---------|------|-----|-----|--------|---------|--------|---------|------|--------|
| 0   | 13.14 | 33.43   | 5.87 | 280 | 0   | 13.14  | 33.43   | 5.87   | 25.17   | 280  | 0.00   |
| 10  | 13.04 | 33.44   | 5.81 | 278 | 10  | 13.04  | 33.44   | 5.81   | 25.20   | 278  | 0.03   |
| 30  | 12.92 | 33.44   | 5.80 | 276 | 20  | 12.95  | 33.44   | 5.80   | 25.22   | 276  | 0.06   |
| 59  | 12.02 | 33.49   | 5.20 | 255 | 30  | 12.92  | 33.44   | 5.80   | 25.22   | 276  | 0.08   |
| 68  | 11.60 | 33.49   | 4.84 | 248 | 50  | 12.90  | 33.44   | 5.79   | 25.23   | 275  | 0.14   |
| 84  | 10.61 | 33.57   | 3.88 | 225 | 75  | 10.90  | 33.51   | 4.22   | 25.45   | 254  | 0.20   |
| 100 | 9.80  | 33.62   | 3.30 | 208 | 100 | 9.80   | 33.62   | 3.30   | 25.93   | 208  | 0.26   |
| 113 | 9.46  | 33.69   | 3.11 | 198 | 125 | 9.26   | 33.76   | 2.95   | 26.12   | 190  | 0.31   |
| 137 | 9.06  | 33.81   | 2.80 | 182 | 150 | 8.74   | 33.85   | 2.80   | 26.28   | 175  | 0.36   |
| 158 | 8.58  | 33.87   | 2.80 | 171 | 200 | 8.11   | 33.99   | 2.37   | 26.49   | 155  | 0.44   |
| 186 | 8.25  | 33.95   | 2.58 | 160 | 250 | 7.50   | 34.06   | 1.99   | 26.63   | 142  | 0.52   |
| 216 | 7.94  | 34.02   | 2.18 | 150 | 300 | 6.98   | 34.08   | 1.54   | 26.72   | 134  | 0.59   |
| 245 | 7.57  | 34.05 1 | 2.07 | 144 | 400 | 6.30   | 34.16   | 0.89   | 26.88   | 118  | 0.72   |
| 295 | 7.03  | 34.07 8 | 1.57 | 134 | 500 | 5.83   | 34.26   | 0.43   | 27.01   | 106  | 0.83   |
| 349 | 6.60  | 34.09 6 | 1.36 | 127 | 600 | (5.20) | (34.30) | (0.29) | (27.12) | (95) | (0.94) |
| 431 | 6.15  | 34.19 8 | 0.69 | 114 |     |        |         |        |         |      |        |
| 516 | 5.76  | 34.26 9 | 0.38 | 104 |     |        |         |        |         |      |        |
| 599 | 5.21  | 34.30 4 | 0.29 | 95  |     |        |         |        |         |      |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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6001

HORIZON; February 12, 1960; 1738 GCT; 35°47.5'N, 124°13'W; sounding, 2000 fm; wind, direction missing, force 1; weather, partly cloudy; sea, rough; wire angle, 07°.

67.80

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 12.48 | 33.39   | 5.49 | 272 | 0   | (12.48) | (33.39) | (5.49) | (25.26) | (272) | (0.00) |
| 11  | 12.44 | 33.40   | 5.67 | 270 | 10  | 12.44   | 33.40   | 5.67   | 25.28   | 270   | 0.03   |
| 31  | 12.44 | 33.41   | 5.38 | 269 | 20  | 12.44   | 33.40   | 5.52   | 25.28   | 270   | 0.05   |
| 61  | 12.38 | 33.41   | 5.41 | 268 | 30  | 12.44   | 33.41   | 5.39   | 25.29   | 269   | 0.08   |
| 71  | 11.92 | 33.58   | 4.64 | 247 | 50  | 12.43   | 33.41   | 5.40   | 25.29   | 269   | 0.13   |
| 85  | 10.71 | 33.60   | 3.73 | 225 | 75  | 11.00   | 33.58   | 3.95   | 25.69   | 231   | 0.20   |
| 99  | 10.10 | 33.66   | 3.45 | 210 | 100 | 10.09   | 33.66   | 3.45   | 25.91   | 210   | 0.25   |
| 113 | 9.06  | 33.66   | 3.59 | 194 | 125 | 9.94    | 33.76   | 3.25   | 26.18   | 184   | 0.30   |
| 139 | 8.87  | 33.86   | 2.80 | 176 | 150 | 8.78    | 33.91   | 2.48   | 26.32   | 171   | 0.35   |
| 159 | 8.68  | 33.94   | 2.31 | 167 | 200 | 8.17    | 34.03   | 2.03   | 26.52   | 153   | 0.43   |
| 188 | 8.30  | 34.02   | 2.09 | 156 | 250 | 7.88    | 34.10   | 1.50   | 26.62   | 143   | 0.51   |
| 217 | 8.06  | 34.04   | 1.96 | 151 | 300 | 7.30    | 34.16   | 1.08   | 26.74   | 132   | 0.58   |
| 245 | 7.92  | 34.09 8 | 1.57 | 144 | 400 | 6.38    | 34.20   | 0.69   | 26.90   | 117   | 0.70   |
| 295 | 7.36  | 34.15 5 | 1.12 | 133 | 500 | 5.86    | 34.25   | 0.46   | 27.00   | 106   | 0.82   |
| 350 | 6.82  | 34.18 6 | 0.81 | 123 | 600 | (5.31)  | (34.31) | (0.32) | (27.11) | (96)  | (0.93) |
| 432 | 6.17  | 34.21 2 | 0.62 | 113 |     |         |         |        |         |       |        |
| 516 | 5.79  | 34.26 2 | 0.43 | 105 |     |         |         |        |         |       |        |
| 599 | 5.32  | 34.30 4 | 0.32 | 96  |     |         |         |        |         |       |        |

HORIZON; January 22, 1960; 1638 GCT; 35°13'N, 125°30'W; sounding, 2000+ fm; wind, 180°, force 3; weather, overcast; sea, rough; wire angle, 00°.

67.100

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 13.57 | 33.03   | 5.91 | 318 | 0   | (13.57) | (33.03) | (5.91) | (24.78) | (318) | (0.00) |
| 12  | 13.56 | 33.04   | 5.78 | 317 | 10  | 13.56   | 33.04   | 5.79   | 24.79   | 317   | 0.03   |
| 32  | 13.01 | 33.01   | 5.97 | 309 | 20  | 13.49   | 33.04   | 5.82   | 24.80   | 316   | 0.06   |
| 38  | 12.72 | 33.00   | 5.92 | 304 | 30  | 13.12   | 33.02   | 5.94   | 24.86   | 310   | 0.09   |
| 55  | 12.56 | 33.04   | 5.67 | 298 | 50  | 12.58   | 33.03   | 5.70   | 24.98   | 299   | 0.16   |
| 69  | 12.42 | 33.13   | 5.56 | 290 | 75  | 12.34   | 33.16   | 5.50   | 25.12   | 286   | 0.23   |
| 97  | 11.20 | 33.24   | 5.11 | 259 | 100 | 11.03   | 33.25   | 5.04   | 25.43   | 256   | 0.30   |
| 115 | 9.95  | 33.34   | 4.58 | 232 | 125 | 9.61    | 33.42   | 4.40   | 25.81   | 220   | 0.36   |
| 135 | 9.38  | 33.51   | 4.24 | 210 | 150 | 9.00    | 33.66   | 3.62   | 26.09   | 193   | 0.41   |
| 156 | 8.89  | 33.72   | 3.37 | 187 | 200 | 8.44    | 33.90   | 2.87   | 26.36   | 167   | 0.50   |
| 184 | 8.62  | 33.84   | 2.96 | 174 | 250 | 7.73    | 33.98   | 3.32   | 26.54   | 151   | 0.58   |
| 220 | 8.18  | 33.98   | 2.83 | 157 | 300 | 7.08    | 34.01   | 2.55   | 26.65   | 140   | 0.66   |
| 249 | 7.74  | 33.98 0 | 3.33 | 151 | 400 | 6.04    | 34.07   | 1.45   | 26.83   | 123   | 0.79   |
| 298 | 7.10  | 34.00 6 | 2.60 | 140 | 500 | 5.38    | 34.15   | 0.76   | 26.98   | 108   | 0.92   |
| 352 | 6.53  | 34.03 2 | 1.92 | 131 | 600 | 4.88    | 34.24   | 0.41   | 27.10   | 97    | 1.02   |
| 436 | 5.72  | 34.09 1 | 1.16 | 117 |     |         |         |        |         |       |        |
| 521 | 5.29  | 34.16 6 | 0.67 | 106 |     |         |         |        |         |       |        |
| 604 | 4.86  | 34.24 2 | 0.39 | 96  |     |         |         |        |         |       |        |

HORIZON; January 20, 1960; 0617 GCT; 36°09'N, 121°50.5'W; sounding, 300 fm; wind, 130°, force 4; weather, partly cloudy; sea, rough; wire angle, 17°.

70.51

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 12.87 | 33.61   | 5.75 | 262 | 0   | (12.87) | (33.61) | (5.75) | (25.37) | (262) | (0.00) |
| 10  | 12.86 | 33.59   | 5.77 | 263 | 10  | 12.86   | 33.59   | 5.77   | 25.35   | 263   | 0.03   |
| 29  | 12.84 | 33.62   | 5.75 | 261 | 20  | 12.85   | 33.61   | 5.76   | 25.37   | 262   | 0.05   |
| 53  | 12.58 | 33.60   | 5.50 | 257 | 30  | 12.83   | 33.62   | 5.74   | 25.38   | 261   | 0.08   |
| 61  | 12.46 | 33.54   | 5.23 | 260 | 50  | 12.63   | 33.61   | 5.59   | 25.41   | 258   | 0.13   |
| 72  | 11.94 | 33.58   | 4.74 | 247 | 75  | 11.47   | 33.61   | 4.42   | 25.63   | 237   | 0.19   |
| 86  | 10.72 | 33.63   | 4.02 | 223 | 100 | 10.32   | 33.60   | 3.93   | 25.83   | 218   | 0.25   |
| 100 | 10.32 | 33.60   | 3.93 | 218 | 125 | 9.91    | 33.75   | 3.61   | 26.02   | 200   | 0.30   |
| 123 | 9.96  | 33.75   | 3.64 | 201 | 150 | 9.26    | 33.82   | 3.24   | 26.18   | 185   | 0.35   |
| 142 | 9.47  | 33.78   | 3.37 | 191 | 200 | 8.70    | 33.91   | 2.78   | 26.33   | 170   | 0.44   |
| 166 | 8.96  | 33.89   | 3.04 | 175 | 250 | 8.08    | 34.02   | 2.50   | 26.52   | 153   | 0.52   |
| 193 | 8.78  | 33.90   | 2.78 | 172 | 300 | 7.76    | 34.11   | 1.70   | 26.63   | 142   | 0.60   |
| 222 | 8.42  | 33.96 4 | 2.81 | 162 | 400 | 6.78    | 34.20   | 0.90   | 26.84   | 122   | 0.74   |
| 259 | 8.00  | 34.03 8 | 2.32 | 150 | 500 | 6.13    | 34.27   | 0.47   | 26.99   | 108   | 0.86   |
| 316 | 7.64  | 34.12 5 | 1.53 | 139 |     |         |         |        |         |       |        |
| 388 | 6.86  | 34.18 8 | 0.98 | 124 |     |         |         |        |         |       |        |
| 460 | 6.38  | 34.24 8 | 0.56 | 113 |     |         |         |        |         |       |        |
| 539 | 5.87  | 34.28 8 | 0.42 | 104 |     |         |         |        |         |       |        |



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6001

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

70.53

HORIZON; January 20, 1960; 0805 GCT; 36°06.5'N, 121°54.5'W; sounding, 580 fm; wind, 120°, force 4; weather, missing; sea, rough; wire angle, 23°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 12.77 | 33.51   | 5.84 | 267 | 0   | (12.77) | (33.51) | (5.84) | (25.31) | (267) | (0.00) |
| 12  | 12.76 | 33.51   | 5.79 | 267 | 10  | 12.76   | 33.51   | 5.80   | 25.31   | 267   | 0.03   |
| 30  | 12.74 | 33.58   | 5.71 | 262 | 20  | 12.75   | 33.54   | 5.73   | 25.34   | 265   | 0.05   |
| 57  | 12.66 | 33.65   | 5.79 | 255 | 30  | 12.74   | 33.58   | 5.71   | 25.37   | 262   | 0.08   |
| 67  | 12.58 | 33.60   | 5.61 | 257 | 50  | 12.70   | 33.64   | 5.77   | 25.42   | 257   | 0.13   |
| 80  | 12.22 | 33.59   | 5.03 | 252 | 75  | 12.53   | 33.61   | 5.38   | 25.43   | 256   | 0.20   |
| 94  | 11.44 | 33.62   | 4.07 | 236 | 100 | 11.12   | 33.65   | 4.00   | 25.73   | 227   | 0.26   |
| 106 | 10.72 | 33.68   | 3.94 | 219 | 125 | 10.01   | 33.76   | 3.33   | 26.00   | 202   | 0.31   |
| 129 | 9.86  | 33.78   | 3.24 | 198 | 150 | 9.13    | 33.85   | 3.20   | 26.22   | 181   | 0.36   |
| 146 | 9.21  | 33.85   | 3.22 | 182 | 200 | 8.36    | 33.95   | 2.93   | 26.42   | 162   | 0.45   |
| 173 | 8.82  | 33.87   | 3.11 | 175 | 250 | 7.78    | 34.05   | 2.44   | 26.58   | 147   | 0.52   |
| 200 | 8.36  | 33.95   | 2.93 | 162 | 300 | 7.51    | 34.12   | 1.47   | 26.68   | 137   | 0.60   |
| 226 | 8.02  | 34.00 6 | 2.65 | 153 | 400 | 6.91    | 34.20   | 0.89   | 26.82   | 124   | 0.73   |
| 272 | 7.62  | 34.07 4 | 1.93 | 143 | 500 | 6.24    | 34.27   | 0.50   | 26.97   | 110   | 0.86   |
| 321 | 7.42  | 34.14 4 | 1.28 | 135 |     |         |         |        |         |       |        |
| 399 | 6.92  | 34.19 9 | 0.90 | 124 |     |         |         |        |         |       |        |
| 480 | 6.38  | 34.25 5 | 0.55 | 112 |     |         |         |        |         |       |        |
| 562 | 5.72  | 34.29 2 | 0.34 | 102 |     |         |         |        |         |       |        |

70.55

HORIZON; January 20, 1960; 1005 GCT; 36°03'N, 122°02'W; sounding, 740 fm; wind, 150°, force 6; weather, missing; sea, rough; wire angle, 35°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.98 | 33.58   | 5.59 | 266 | 0   | (12.98) | (33.58) | (5.59) | (25.32) | (266) | (0.00) |
| 12  | 12.96 | 33.58   | 5.78 | 266 | 10  | 12.97   | 33.58   | 5.74   | 25.32   | 266   | 0.03   |
| 26  | 12.94 | 33.60   | 5.68 | 264 | 20  | 12.95   | 33.60   | 5.71   | 25.34   | 264   | 0.05   |
| 49  | 12.96 | 33.57   | 5.50 | 266 | 30  | 12.94   | 33.60   | 5.64   | 25.34   | 264   | 0.08   |
| 58  | 12.94 | 33.58   | 5.69 | 266 | 50  | 12.96   | 33.57   | 5.50   | 25.32   | 266   | 0.13   |
| 70  | 12.56 | 33.57   | 5.01 | 259 | 75  | 11.44   | 33.59   | 4.12   | 25.61   | 238   | 0.20   |
| 82  | 11.30 | 33.62   | 4.00 | 233 | 100 | 10.77   | 33.67   | 3.75   | 25.80   | 221   | 0.25   |
| 93  | 11.01 | 33.64   | 3.90 | 227 | 125 | 9.77    | 33.75   | 3.43   | 26.04   | 198   | 0.31   |
| 113 | 10.16 | 33.73   | 3.38 | 206 | 150 | 9.26    | 33.91   | 2.69   | 26.25   | 178   | 0.35   |
| 128 | 9.70  | 33.76   | 3.43 | 196 | 200 | 8.43    | 33.93   | 2.80   | 26.39   | 165   | 0.44   |
| 149 | 9.28  | 33.91   | 2.69 | 178 | 250 | 7.83    | 34.04   | 2.25   | 26.56   | 148   | 0.52   |
| 172 | 8.74  | 33.93   | 2.95 | 169 | 300 | 7.34    | 34.08   | 1.76   | 26.67   | 138   | 0.60   |
| 195 | 8.48  | 33.92 8 | 2.83 | 165 | 400 | 6.67    | 34.22   | 0.69   | 26.87   | 119   | 0.73   |
| 233 | 8.08  | 34.02 8 | 2.38 | 152 | 500 | (5.91)  | (34.26) | (0.43) | (27.00) | (107) | (0.84) |
| 275 | 7.48  | 34.04 7 | 2.06 | 142 |     |         |         |        |         |       |        |
| 347 | 7.15  | 34.16 4 | 1.05 | 129 |     |         |         |        |         |       |        |
| 421 | 6.48  | 34.22 9 | 0.62 | 116 |     |         |         |        |         |       |        |
| 498 | 5.92  | 34.25 4 | 0.43 | 107 |     |         |         |        |         |       |        |

70.60

HORIZON; January 20, 1960; 1323 GCT; 35°55'N, 122°23.5'W; sounding, 2000+ fm; wind, 140°, force 6; weather, cloudy; sea, very rough; wire angle, 36°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.60 | 33.56   | 5.58 | 261 | 0   | (12.60) | (33.56) | (5.58) | (25.38) | (261) | (0.00) |
| 10  | 12.60 | 33.55   | 5.71 | 262 | 10  | 12.60   | 33.55   | 5.71   | 25.37   | 262   | 0.03   |
| 30  | 12.58 | 33.54   | 5.62 | 262 | 20  | 12.59   | 33.55   | 5.67   | 25.38   | 261   | 0.05   |
| 54  | 12.46 | 33.55   | 5.32 | 259 | 30  | 12.58   | 33.54   | 5.62   | 25.37   | 262   | 0.08   |
| 61  | 11.94 | 33.55   | 4.96 | 250 | 50  | 12.54   | 33.54   | 5.50   | 25.38   | 261   | 0.13   |
| 76  | 10.36 | 33.60   | 3.71 | 219 | 75  | 10.41   | 33.60   | 3.74   | 25.81   | 220   | 0.19   |
| 89  | 9.92  | 33.62   | 3.59 | 210 | 100 | 9.87    | 33.68   | 3.48   | 25.97   | 205   | 0.24   |
| 102 | 9.70  | 33.68   | 3.41 | 202 | 125 | 9.17    | 33.78   | 3.13   | 26.16   | 187   | 0.29   |
| 125 | 9.17  | 33.78   | 3.13 | 187 | 150 | 8.80    | 33.87   | 2.95   | 26.29   | 174   | 0.34   |
| 141 | 8.89  | 33.86   | 3.05 | 176 | 200 | 8.10    | 33.98   | 2.70   | 26.48   | 156   | 0.42   |
| 164 | 8.68  | 33.89   | 2.77 | 171 | 250 | 7.53    | 34.05   | 2.14   | 26.62   | 143   | 0.50   |
| 190 | 8.32  | 33.95   | 2.88 | 161 | 300 | 7.21    | 34.12   | 1.46   | 26.71   | 134   | 0.57   |
| 210 | 7.91  | 33.99 8 | 2.54 | 152 | 400 | 6.40    | 34.18   | 0.74   | 26.88   | 118   | 0.70   |
| 247 | 7.55  | 34.04 6 | 2.16 | 144 | 500 | 5.82    | 34.24   | 0.44   | 27.00   | 107   | 0.82   |
| 297 | 7.23  | 34.11 1 | 1.50 | 134 |     |         |         |        |         |       |        |
| 375 | 6.60  | 34.16 8 | 0.85 | 122 |     |         |         |        |         |       |        |
| 453 | 6.02  | 34.21 4 | 0.56 | 112 |     |         |         |        |         |       |        |
| 520 | 5.76  | 34.26 2 | 0.39 | 105 |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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600I

HORIZON; January 20, 1960; 2010 GCT; 35°38'N, 123°01'W; sounding, 2000+ fm; wind, 170°, force 6; weather, cloudy; sea, very rough; wire angle, 38°.

70.70

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.00 | 33.58   | 5.79 | 248 | 0   | (12.00) | (33.58) | (5.79) | (25.51) | (248) | (0.00) |
| 11  | 12.01 | 33.57   | 5.54 | 249 | 10  | 12.01   | 33.57   | 5.55   | 25.50   | 249   | 0.02   |
| 33  | 12.00 | 33.57   | 5.70 | 249 | 20  | 12.01   | 33.57   | 5.62   | 25.50   | 249   | 0.05   |
| 59  | 11.02 | 33.60   | 4.59 | 230 | 30  | 12.00   | 33.57   | 5.67   | 25.50   | 249   | 0.07   |
| 68  | 9.96  | 33.71   | 3.33 | 204 | 50  | 11.97   | 33.57   | 5.69   | 25.50   | 249   | 0.12   |
| 84  | 9.68  | 33.77   | 3.15 | 195 | 75  | 9.85    | 33.73   | 3.27   | 26.01   | 201   | 0.18   |
| 95  | 9.34  | 33.83   | 2.96 | 186 | 100 | 9.23    | 33.84   | 2.91   | 26.19   | 184   | 0.23   |
| 106 | 9.10  | 33.84   | 2.88 | 181 | 125 | 8.72    | 33.91   | 2.81   | 26.33   | 170   | 0.27   |
| 129 | 8.64  | 33.93   | 2.80 | 168 | 150 | 8.32    | 33.96   | 2.68   | 26.44   | 160   | 0.32   |
| 143 | 8.40  | 33.96   | 2.76 | 162 | 200 | 7.70    | 34.08   | 1.95   | 26.62   | 143   | 0.39   |
| 173 | 8.21  | 34.02   | 2.34 | 155 | 250 | 7.37    | 34.09   | 1.64   | 26.67   | 138   | 0.46   |
| 190 | 7.89  | 34.09   | 1.99 | 145 | 300 | 6.97    | 34.11   | 1.24   | 26.75   | 131   | 0.53   |
| 213 | 7.56  | 34.07 8 | 1.90 | 142 | 400 | 6.37    | 34.22   | 0.70   | 26.91   | 115   | 0.66   |
| 251 | 7.36  | 34.09 2 | 1.63 | 137 | 500 | 5.66    | 34.26   | 0.43   | 27.03   | 104   | 0.77   |
| 304 | 6.95  | 34.12 0 | 1.22 | 130 |     |         |         |        |         |       |        |
| 387 | 6.46  | 34.20 7 | 0.78 | 117 |     |         |         |        |         |       |        |
| 466 | 5.86  | 34.23 8 | 0.52 | 108 |     |         |         |        |         |       |        |
| 534 | 5.53  | 34.28 7 | 0.35 | 100 |     |         |         |        |         |       |        |

HORIZON; January 21, 1960; 0125 GCT; 35°19'N, 123°39.5'W; sounding, 2000+ fm; wind, 170°, force 6; weather, cloudy; sea, high; wire angle, 35°.

70.80

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 12.10 | 33.60   | 5.79 | 248 | 0   | (12.10) | (33.60) | (5.79) | (25.51) | (248) | (0.00) |
| 11  | 12.08 | 33.62   | 5.80 | 246 | 10  | 12.08   | 33.62   | 5.80   | 25.52   | 247   | 0.02   |
| 31  | 12.08 | 33.60   | 5.72 | 248 | 20  | 12.08   | 33.61   | 5.76   | 25.52   | 247   | 0.05   |
| 56  | 12.09 | 33.62   | 5.89 | 247 | 30  | 12.08   | 33.60   | 5.72   | 25.51   | 248   | 0.07   |
| 65  | 11.98 | 33.60   | 5.56 | 246 | 50  | 12.09   | 33.62   | 5.86   | 25.52   | 247   | 0.12   |
| 80  | 9.81  | 33.73   | 3.16 | 200 | 75  | 10.35   | 33.69   | 3.68   | 25.89   | 212   | 0.18   |
| 93  | 9.32  | 33.78   | 3.09 | 189 | 100 | 9.08    | 33.86   | 2.97   | 26.23   | 180   | 0.23   |
| 105 | 8.95  | 33.89   | 2.85 | 175 | 125 | 8.71    | 33.92   | 2.52   | 26.34   | 169   | 0.28   |
| 130 | 8.66  | 33.93   | 2.46 | 168 | 150 | 8.50    | 34.01   | 2.21   | 26.45   | 159   | 0.32   |
| 144 | 8.55  | 34.00   | 2.21 | 161 | 200 | 7.96    | 34.04   | 2.26   | 26.56   | 149   | 0.40   |
| 166 | 8.32  | 34.04   | 2.23 | 155 | 250 | 7.33    | 34.07   | 1.94   | 26.66   | 139   | 0.47   |
| 193 | 8.10  | 34.05   | 2.23 | 151 | 300 | 7.10    | 34.11   | 1.50   | 26.72   | 133   | 0.54   |
| 213 | 7.64  | 34.03 6 | 2.27 | 146 | 400 | 6.57    | 34.23   | 0.67   | 26.89   | 117   | 0.67   |
| 248 | 7.34  | 34.06 6 | 1.95 | 139 | 500 | (5.62)  | (34.29) | (0.38) | (27.06) | (101) | (0.78) |
| 294 | 7.11  | 34.09 8 | 1.58 | 134 |     |         |         |        |         |       |        |
| 367 | 6.80  | 34.21 2 | 0.80 | 121 |     |         |         |        |         |       |        |
| 436 | 6.26  | 34.25 6 | 0.57 | 111 |     |         |         |        |         |       |        |
| 496 | 5.66  | 34.28 8 | 0.38 | 102 |     |         |         |        |         |       |        |

HORIZON; January 21, 1960; 1815 GCT; 34°55.5'N, 124°31'W; sounding, 2260 fm; wind, 160°, force 3; weather, partly cloudy; sea, very rough; wire angle, 05°.

70.90

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.80 | 33.52   | 5.92 | 267 | 0   | (12.80) | (33.52) | (5.92) | (25.31) | (267) | (0.00) |
| 12  | 12.78 | 33.49   | 5.97 | 269 | 10  | 12.78   | 33.49   | 5.96   | 25.29   | 269   | 0.03   |
| 37  | 12.76 | 33.48   | 5.98 | 269 | 20  | 12.77   | 33.49   | 5.97   | 25.29   | 269   | 0.05   |
| 65  | 12.76 | 33.49   | 5.98 | 269 | 30  | 12.77   | 33.49   | 5.97   | 25.29   | 269   | 0.08   |
| 75  | 12.03 | 33.52   | 5.46 | 254 | 50  | 12.76   | 33.48   | 5.98   | 25.29   | 269   | 0.13   |
| 95  | 9.86  | 33.64   | 4.05 | 208 | 75  | 12.03   | 33.52   | 5.46   | 25.45   | 254   | 0.20   |
| 110 | 9.58  | 33.71   | 3.45 | 198 | 100 | 9.75    | 33.66   | 3.86   | 25.97   | 204   | 0.26   |
| 125 | 9.30  | 33.79   | 3.14 | 188 | 125 | 9.30    | 33.79   | 3.14   | 26.14   | 188   | 0.31   |
| 155 | 8.93  | 33.90   | 2.77 | 174 | 150 | 8.99    | 33.89   | 2.82   | 26.27   | 176   | 0.35   |
| 174 | 8.68  | 33.96   | 2.36 | 166 | 200 | 8.34    | 33.97   | 2.28   | 26.44   | 160   | 0.44   |
| 204 | 8.28  | 33.98   | 2.27 | 159 | 250 | 7.58    | 34.06   | 1.93   | 26.62   | 143   | 0.52   |
| 239 | 7.72  | 34.04   | 2.03 | 146 | 300 | 7.11    | 34.11   | 1.57   | 26.72   | 133   | 0.59   |
| 267 | 7.39  | 34.09 2 | 1.75 | 138 | 400 | 5.88    | 34.10   | 1.16   | 26.88   | 118   | 0.72   |
| 316 | 6.97  | 34.10 6 | 1.49 | 131 | 500 | 5.44    | 34.23   | 0.50   | 27.04   | 103   | 0.83   |
| 379 | 6.00  | 34.07 8 | 1.29 | 122 | 600 | 4.99    | 34.29   | 0.36   | 27.14   | 93    | 0.94   |
| 478 | 5.54  | 34.20 8 | 0.54 | 106 |     |         |         |        |         |       |        |
| 567 | 5.14  | 34.27 2 | 0.43 | 97  |     |         |         |        |         |       |        |
| 641 | 4.81  | 34.31 0 | 0.25 | 90  |     |         |         |        |         |       |        |



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600I

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

70.100

HORIZON; January 21, 1960; 0822 GCT; 34°38.5'N, 125°04'W; sounding, 2000+ fm; wind, 220°, force 3; weather, overcast; sea, very rough; wire angle, 23°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 13.00 | 33.12   | 5.84 | 300 | 0   | (13.00) | (33.12) | (5.84) | (24.96) | (300) | (0.00) |
| 11  | 12.98 | 33.12   | 5.90 | 300 | 10  | 12.98   | 33.12   | 5.90   | 24.97   | 300   | 0.03   |
| 30  | 12.76 | 33.41   | 5.83 | 274 | 20  | 12.87   | 33.19   | 5.88   | 25.04   | 293   | 0.06   |
| 56  | 12.52 | 33.42   | 5.87 | 269 | 30  | 12.76   | 33.41   | 5.83   | 25.24   | 274   | 0.09   |
| 65  | 12.50 | 33.47   | 5.61 | 266 | 50  | 12.55   | 33.41   | 5.87   | 25.27   | 271   | 0.14   |
| 79  | 11.60 | 33.49   | 4.59 | 248 | 75  | 12.00   | 33.48   | 4.98   | 25.44   | 255   | 0.21   |
| 92  | 10.16 | 33.60   | 3.48 | 216 | 100 | 9.62    | 33.61   | 3.60   | 25.96   | 206   | 0.27   |
| 105 | 9.07  | 33.59   | 3.70 | 200 | 125 | 8.67    | 33.65   | 3.81   | 26.14   | 188   | 0.32   |
| 126 | 8.67  | 33.66   | 3.81 | 188 | 150 | 8.49    | 33.78   | 3.26   | 26.27   | 176   | 0.36   |
| 144 | 8.54  | 33.76   | 3.46 | 179 | 200 | 7.88    | 33.97   | 2.63   | 26.51   | 153   | 0.45   |
| 169 | 8.25  | 33.83   | 2.80 | 170 | 250 | 7.24    | 34.01   | 2.45   | 26.63   | 142   | 0.52   |
| 195 | 7.94  | 33.95   | 2.64 | 156 | 300 | 6.67    | 34.03   | 1.91   | 26.72   | 133   | 0.59   |
| 221 | 7.64  | 34.01 2 | 2.57 | 147 | 400 | 5.82    | 34.12   | 0.97   | 26.90   | 116   | 0.72   |
| 265 | 7.04  | 34.00 9 | 2.39 | 140 | 500 | 5.58    | 34.26   | 0.36   | 27.05   | 102   | 0.84   |
| 313 | 6.54  | 34.04 2 | 1.73 | 130 |     |         |         |        |         |       |        |
| 388 | 5.86  | 34.10 6 | 1.05 | 117 |     |         |         |        |         |       |        |
| 465 | 5.68  | 34.22 2 | 0.40 | 106 |     |         |         |        |         |       |        |
| 541 | 5.44  | 34.28 6 | 0.36 | 99  |     |         |         |        |         |       |        |

73.51

HORIZON; January 20, 1960; 0052 GCT; 35°36'N, 121°25.5'W; sounding, 282 fm; wind, 160°, force 3; weather, overcast; sea, rough; wire angle, 19°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.23 | 33.53   | 5.81 | 275 | 0   | (13.23) | (33.53) | (5.81) | (25.23) | (275) | (0.00) |
| 10  | 13.22 | 33.53   | 5.80 | 275 | 10  | 13.22   | 33.53   | 5.80   | 25.23   | 275   | 0.03   |
| 29  | 12.92 | 33.57   | 5.68 | 266 | 20  | 13.20   | 33.53   | 5.79   | 25.24   | 274   | 0.05   |
| 38  | 12.62 | 33.55   | 5.43 | 262 | 30  | 12.90   | 33.57   | 5.67   | 25.32   | 266   | 0.08   |
| 47  | 12.52 | 33.55   | 5.40 | 260 | 50  | 12.49   | 33.55   | 5.37   | 25.40   | 259   | 0.13   |
| 57  | 12.35 | 33.58   | 5.11 | 255 | 75  | 11.23   | 33.59   | 4.17   | 25.65   | 235   | 0.20   |
| 66  | 11.56 | 33.60   | 4.37 | 239 | 100 | 10.22   | 33.65   | 3.52   | 25.88   | 213   | 0.25   |
| 80  | 11.05 | 33.58   | 4.06 | 232 | 125 | 9.94    | 33.73   | 3.30   | 25.98   | 203   | 0.31   |
| 93  | 10.68 | 33.63   | 3.69 | 222 | 150 | 9.65    | 33.82   | 3.00   | 26.11   | 191   | 0.36   |
| 106 | 10.21 | 33.68   | 3.47 | 211 | 200 | 9.09    | 33.93   | 2.63   | 26.29   | 174   | 0.45   |
| 128 | 9.90  | 33.74   | 3.24 | 201 | 250 | 8.29    | 34.06   | 1.98   | 26.52   | 152   | 0.53   |
| 155 | 9.60  | 33.83 4 | 2.95 | 189 | 300 | 7.84    | 34.11   | 1.58   | 26.62   | 143   | 0.61   |
| 185 | 9.32  | 33.88 4 | 2.81 | 181 | 400 | 7.04    | 34.21   | 0.91   | 26.81   | 125   | 0.75   |
| 230 | 8.54  | 34.03 2 | 2.19 | 158 | 500 | (6.23)  | (34.27) |        | (26.99) | (108) | (0.87) |
| 275 | 8.05  | 34.08 6 | 1.77 | 147 |     |         |         |        |         |       |        |
| 370 | 7.28  | 34.18 4 | 1.09 | 129 |     |         |         |        |         |       |        |
| 464 | 6.49  | 34.24 5 | 0.62 | 115 |     |         |         |        |         |       |        |

73.53

HORIZON; January 19, 1960; 2333 GCT; 35°33'N, 121°28'W; sounding, 350 fm; wind, 250°, force 3; weather, cloudy; sea, rough; wire angle, 20°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 12.96 | 33.58   | 5.83 | 266 | 0   | (12.96) | (33.58) | (5.83) | (25.32) | (266) | (0.00) |
| 13  | 12.90 | 33.55   | 5.72 | 267 | 10  | 12.92   | 33.56   | 5.74   | 25.31   | 267   | 0.03   |
| 32  | 12.22 | 33.54   | 4.96 | 255 | 20  | 12.87   | 33.55   | 5.67   | 25.31   | 267   | 0.05   |
| 40  | 12.00 | 33.55   | 4.84 | 251 | 30  | 12.30   | 33.54   | 5.00   | 25.42   | 257   | 0.08   |
| 55  | 11.12 | 33.64   | 4.13 | 228 | 50  | 11.42   | 33.62   | 4.38   | 25.64   | 236   | 0.13   |
| 69  | 10.68 | 33.66   | 3.86 | 220 | 75  | 10.54   | 33.66   | 3.80   | 25.84   | 217   | 0.19   |
| 92  | 10.34 | 33.68   | 3.70 | 212 | 100 | 10.35   | 33.69   | 3.67   | 25.90   | 211   | 0.24   |
| 109 | 10.36 | 33.71   | 3.62 | 210 | 125 | 9.83    | 33.79   | 3.20   | 26.05   | 197   | 0.29   |
| 126 | 9.82  | 33.79   | 3.19 | 196 | 150 | 9.48    | 33.88   | 2.87   | 26.18   | 185   | 0.34   |
| 145 | 9.56  | 33.86   | 2.94 | 187 | 200 | 8.76    | 34.00   | 2.33   | 26.40   | 164   | 0.43   |
| 169 | 9.20  | 33.92   | 2.64 | 177 | 250 | 7.91    | 34.10   | 1.71   | 26.60   | 145   | 0.51   |
| 200 | 8.76  | 34.00   | 2.33 | 164 | 300 | 7.43    | 34.11   | 1.50   | 26.68   | 137   | 0.58   |
| 226 | 8.31  | 34.05 2 | 2.00 | 154 | 400 | 6.74    | 34.22   | 0.75   | 26.86   | 120   | 0.71   |
| 271 | 7.65  | 34.11 4 | 1.58 | 140 | 500 | 6.03    | 34.27   | 0.50   | 27.00   | 107   | 0.83   |
| 320 | 7.31  | 34.11 6 | 1.45 | 135 |     |         |         |        |         |       |        |
| 397 | 6.76  | 34.21 5 | 0.77 | 120 |     |         |         |        |         |       |        |
| 475 | 6.22  | 34.25 8 | 0.55 | 110 |     |         |         |        |         |       |        |
| 554 | 5.53  | 34.31 7 | 0.36 | 98  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

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6001

HORIZON; January 19, 1960; 2157 GCT; 35°28.5'N, 121°33'W; sounding, 490 fm; wind, 220°, force 3; weather, cloudy; sea, rough; wire angle, 15°.

73.55

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 12.84 | 33.50   | 6.00 | 270 | 0   | (12.84) | (33.50) | (6.00) | (25.28) | (270) | (0.00) |
| 11  | 12.80 | 33.49   | 5.91 | 270 | 10  | 12.81   | 33.49   | 5.92   | 25.28   | 270   | 0.03   |
| 35  | 12.62 | 33.51   | 5.82 | 265 | 20  | 12.72   | 33.50   | 5.87   | 25.31   | 267   | 0.05   |
| 64  | 11.56 | 33.49   | 4.72 | 247 | 30  | 12.64   | 33.51   | 5.83   | 25.33   | 265   | 0.08   |
| 73  | 10.66 | 33.54   | 4.12 | 228 | 50  | 12.58   | 33.51   | 5.76   | 25.34   | 264   | 0.13   |
| 92  | 10.05 | 33.60   | 3.73 | 214 | 75  | 10.63   | 33.54   | 4.10   | 25.72   | 228   | 0.19   |
| 106 | 9.79  | 33.63   | 3.68 | 207 | 100 | 9.91    | 33.61   | 3.71   | 25.90   | 211   | 0.25   |
| 121 | 9.39  | 33.73   | 3.48 | 194 | 125 | 9.29    | 33.75   | 3.42   | 26.11   | 191   | 0.30   |
| 149 | 8.91  | 33.82   | 3.26 | 180 | 150 | 8.89    | 33.82   | 3.25   | 26.24   | 179   | 0.35   |
| 165 | 8.65  | 33.89   | 2.99 | 171 | 200 | 8.33    | 33.99   | 2.52   | 26.45   | 159   | 0.43   |
| 195 | 8.38  | 33.98   | 2.57 | 160 | 250 | 7.86    | 34.11   | 1.60   | 26.62   | 143   | 0.51   |
| 228 | 8.02  | 34.00   | 2.26 | 154 | 300 | 7.47    | 34.16   | 1.23   | 26.71   | 134   | 0.58   |
| 255 | 7.82  | 34.12 2 | 1.55 | 142 | 400 | 6.59    | 34.23   | 0.71   | 26.89   | 117   | 0.71   |
| 301 | 7.46  | 34.16 1 | 1.24 | 134 | 500 | 5.84    | 34.29   | 0.37   | 27.03   | 104   | 0.83   |
| 363 | 6.90  | 34.19 4 | 0.91 | 124 | 600 | 5.24    | 34.35   | 0.30   | 27.16   | 92    | 0.93   |
| 457 | 6.16  | 34.26 1 | 0.48 | 109 |     |         |         |        |         |       |        |
| 543 | 5.56  | 34.31 1 | 0.30 | 98  |     |         |         |        |         |       |        |
| 615 | 5.16  | 34.36 6 | 0.30 | 90  |     |         |         |        |         |       |        |

HORIZON; January 19, 1960; 1917 GCT; 35°20'N, 121°55.5'W; sounding, 1300+ fm; wind, 120°, force 3; weather, partly cloudy; sea, rough; wire angle, 20°.

73.60

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.14 | 33.50   | 5.76 | 275 | 0   | (13.14) | (33.50) | (5.76) | (25.23) | (275) | (0.00) |
| 10  | 13.10 | 33.50   | 5.76 | 275 | 10  | 13.10   | 33.50   | 5.76   | 25.23   | 275   | 0.03   |
| 29  | 13.10 | 33.48   | 5.80 | 276 | 20  | 13.10   | 33.49   | 5.78   | 25.23   | 275   | 0.06   |
| 56  | 13.10 | 33.49   | 5.85 | 275 | 30  | 13.10   | 33.48   | 5.80   | 25.22   | 276   | 0.08   |
| 64  | 13.10 | 33.48   | 5.72 | 276 | 50  | 13.10   | 33.49   | 5.83   | 25.23   | 275   | 0.14   |
| 79  | 11.56 | 33.42   | 4.65 | 252 | 75  | 13.03   | 33.48   | 5.66   | 25.23   | 275   | 0.21   |
| 92  | 10.56 | 33.55   | 4.05 | 226 | 100 | 10.31   | 33.57   | 3.93   | 25.81   | 220   | 0.27   |
| 105 | 10.14 | 33.59   | 3.85 | 216 | 125 | 9.31    | 33.73   | 3.44   | 26.10   | 192   | 0.32   |
| 126 | 9.29  | 33.74   | 3.42 | 191 | 150 | 8.89    | 33.87   | 3.09   | 26.27   | 176   | 0.37   |
| 144 | 8.95  | 33.85   | 3.12 | 178 | 200 | 8.14    | 33.99   | 2.84   | 26.48   | 156   | 0.45   |
| 168 | 8.72  | 33.89   | 3.03 | 172 | 250 | 7.43    | 34.02   | 2.48   | 26.61   | 144   | 0.53   |
| 195 | 8.23  | 33.98   | 2.84 | 158 | 300 | 6.94    | 34.09   | 1.61   | 26.73   | 132   | 0.60   |
| 220 | 7.82  | 34.00 9 | 2.84 | 150 | 400 | 5.86    | 34.12   | 1.05   | 26.89   | 117   | 0.73   |
| 265 | 7.26  | 34.03 0 | 2.25 | 141 | 500 | 5.42    | 34.22   | 0.50   | 27.03   | 104   | 0.84   |
| 314 | 6.79  | 34.10 2 | 1.43 | 129 |     |         |         |        |         |       |        |
| 391 | 5.92  | 34.10 7 | 1.12 | 118 |     |         |         |        |         |       |        |
| 470 | 5.57  | 34.19 4 | 0.58 | 107 |     |         |         |        |         |       |        |
| 551 | 5.12  | 34.24 0 | 0.44 | 99  |     |         |         |        |         |       |        |

HORIZON; January 19, 1960; 1458 GCT; 35°12.5'N, 122°41'W; sounding, 2000+ fm; wind, 160°, force 3; weather, partly cloudy; sea, moderate; wire angle, 16°.

73.70

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 12.40 | 33.51   | 5.62 | 261 | 0   | (12.40) | (33.51) | (5.62) | (25.38) | (261) | (0.00) |
| 10  | 12.43 | 33.51   | 5.76 | 262 | 10  | 12.43   | 33.51   | 5.76   | 25.37   | 262   | 0.03   |
| 30  | 12.31 | 33.53   | 5.72 | 258 | 20  | 12.34   | 33.52   | 5.74   | 25.39   | 259   | 0.05   |
| 58  | 12.00 | 33.55   | 5.69 | 251 | 30  | 12.31   | 33.53   | 5.72   | 25.41   | 258   | 0.08   |
| 67  | 11.95 | 33.55   | 5.67 | 250 | 50  | 12.03   | 33.54   | 5.70   | 25.47   | 252   | 0.13   |
| 81  | 10.12 | 33.62   | 3.42 | 213 | 75  | 10.60   | 33.59   | 4.01   | 25.77   | 224   | 0.19   |
| 96  | 9.67  | 33.68   | 3.10 | 202 | 100 | 9.49    | 33.71   | 3.03   | 26.05   | 197   | 0.24   |
| 109 | 9.22  | 33.78   | 2.89 | 188 | 125 | 9.00    | 33.84   | 2.64   | 26.23   | 180   | 0.29   |
| 133 | 8.90  | 33.87   | 2.56 | 176 | 150 | 8.62    | 33.94   | 2.47   | 26.37   | 167   | 0.33   |
| 152 | 8.58  | 33.95   | 2.47 | 165 | 200 | 7.78    | 34.00   | 2.49   | 26.55   | 150   | 0.41   |
| 180 | 8.06  | 34.00   | 2.55 | 154 | 250 | 7.26    | 34.08   | 1.88   | 26.67   | 138   | 0.49   |
| 208 | 7.68  | 34.01   | 2.42 | 148 | 300 | 6.66    | 34.10   | 1.37   | 26.78   | 128   | 0.56   |
| 236 | 7.39  | 34.05 6 | 2.08 | 141 | 400 | 5.73    | 34.13   | 0.92   | 26.92   | 115   | 0.68   |
| 284 | 6.90  | 34.10 1 | 1.43 | 131 | 500 | 5.20    | 34.19   | 0.62   | 27.03   | 104   | 0.79   |
| 336 | 6.14  | 34.09 0 | 1.26 | 122 | 600 | (5.16)  | (34.32) |        | (27.14) | (94)  | (0.90) |
| 417 | 5.64  | 34.13 3 | 0.86 | 113 |     |         |         |        |         |       |        |
| 500 | 5.20  | 34.18 6 | 0.62 | 104 |     |         |         |        |         |       |        |
| 582 | 5.16  | 34.29 2 | 0.32 | 95  |     |         |         |        |         |       |        |



SIO

CCOFI  
600I

| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

73.80

HORIZON; January 19, 1960; 1000 GCT; 34°45'N, 123°20.5'W; sounding, 2000+ fm; wind, 160°, force 4; weather, cloudy; sea, moderate; wire angle, 23°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 12.56 | 33.57   | 5.69 | 259 | 0   | (12.56) | (33.57) | (5.69) | (25.40) | (259) | (0.00) |
| 14  | 12.57 | 33.57   | 5.72 | 260 | 10  | 12.56   | 33.57   | 5.71   | 25.39   | 260   | 0.03   |
| 32  | 12.56 | 33.56   | 5.69 | 260 | 20  | 12.56   | 33.57   | 5.71   | 25.39   | 260   | 0.05   |
| 59  | 12.56 | 33.57   | 5.60 | 259 | 30  | 12.56   | 33.56   | 5.69   | 25.39   | 260   | 0.08   |
| 67  | 12.08 | 33.57   | 5.63 | 251 | 50  | 12.56   | 33.57   | 5.62   | 25.40   | 259   | 0.13   |
| 82  | 9.70  | 33.64   | 3.42 | 205 | 75  | 10.00   | 33.61   | 3.79   | 25.89   | 212   | 0.19   |
| 96  | 9.48  | 33.82   | 2.87 | 189 | 100 | 9.43    | 33.83   | 2.84   | 26.16   | 187   | 0.24   |
| 109 | 9.32  | 33.86   | 2.79 | 183 | 125 | 9.15    | 33.90   | 2.59   | 26.25   | 178   | 0.28   |
| 132 | 9.10  | 33.91   | 2.51 | 176 | 150 | 8.88    | 33.99   | 2.25   | 26.36   | 167   | 0.33   |
| 150 | 8.88  | 33.99   | 2.25 | 167 | 200 | 8.48    | 34.08   | 1.77   | 26.50   | 154   | 0.41   |
| 178 | 8.66  | 34.04   | 1.98 | 160 | 250 | 8.07    | 34.16   | 1.41   | 26.63   | 142   | 0.48   |
| 205 | 8.43  | 34.09   | 1.73 | 153 | 300 | 7.79    | 34.20   | 1.16   | 26.70   | 136   | 0.56   |
| 232 | 8.19  | 34.13 9 | 1.56 | 145 | 400 | 6.99    | 34.26   | 0.75   | 26.86   | 120   | 0.69   |
| 279 | 7.91  | 34.18 0 | 1.24 | 138 | 500 | 6.28    | 34.29   | 0.54   | 26.98   | 109   | 0.81   |
| 330 | 7.58  | 34.21 4 | 1.04 | 131 |     |         |         |        |         |       |        |
| 409 | 6.92  | 34.25 9 | 0.72 | 119 |     |         |         |        |         |       |        |
| 489 | 6.36  | 34.28 2 | 0.56 | 110 |     |         |         |        |         |       |        |
| 569 | 5.80  | 34.30 2 | 0.38 | 102 |     |         |         |        |         |       |        |

77.51

HORIZON; January 17, 1960; 1626 GCT; 35°02.5'N, 120°55.5'W; sounding, 140 fm; wind, 090°, force 2; weather, partly cloudy; sea, very rough; wire angle, 00°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 13.01 | 33.51 | 5.34 | 272 | 0   | (13.01) | (33.51) | (5.34) | (25.26) | (272) | (0.00) |
| 12  | 13.04 | 33.51 | 5.41 | 273 | 10  | 13.03   | 33.51   | 5.40   | 25.25   | 273   | 0.03   |
| 32  | 13.04 | 33.49 | 5.31 | 274 | 20  | 13.04   | 33.50   | 5.35   | 25.24   | 274   | 0.05   |
| 51  | 13.04 | 33.50 | 5.43 | 274 | 30  | 13.04   | 33.49   | 5.32   | 25.24   | 274   | 0.08   |
| 76  | 12.83 | 33.49 | 5.23 | 270 | 50  | 13.04   | 33.50   | 5.42   | 25.24   | 274   | 0.14   |
| 101 | 11.10 | 33.62 | 3.83 | 230 | 75  | 12.89   | 33.49   | 5.30   | 25.27   | 271   | 0.20   |
| 125 | 9.76  | 33.78 | 2.99 | 196 | 100 | 11.12   | 33.62   | 3.84   | 25.70   | 230   | 0.27   |
| 165 | 8.94  | 33.93 | 2.23 | 172 | 125 | 9.76    | 33.78   | 2.99   | 26.06   | 196   | 0.32   |
| 204 | 8.39  | 34.06 | 1.78 | 154 | 150 | 9.19    | 33.87   | 2.49   | 26.23   | 180   | 0.37   |
|     |       |       |      |     | 200 | 8.44    | 34.05   | 1.82   | 26.48   | 156   | 0.46   |

77.53

HORIZON; January 17, 1960; 1420 GCT; 34°58'N, 121°04'W; sounding, 270 fm; wind, 250°, force 2; weather, partly cloudy; sea, moderate; wire angle, 03°.

|     |       |           |      |     |     |         |         |        |         |       |        |
|-----|-------|-----------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 13.00 | 33.56     | 5.50 | 268 | 0   | (13.00) | (33.56) | (5.50) | (25.30) | (268) | (0.00) |
| 22  | 13.05 | 33.55     | 5.49 | 270 | 10  | 13.02   | 33.56   | 5.50   | 25.29   | 269   | 0.03   |
| 32  | 13.07 | 33.57     | 5.51 | 269 | 20  | 13.04   | 33.55   | 5.49   | 25.28   | 270   | 0.05   |
| 40  | 13.06 | 33.56     | 5.46 | 269 | 30  | 13.06   | 33.57   | 5.51   | 25.29   | 269   | 0.08   |
| 51  | 13.08 | 33.60     | 5.40 | 267 | 50  | 13.07   | 33.60   | 5.40   | 25.32   | 267   | 0.13   |
| 66  | 11.24 | 33.53     | 4.25 | 239 | 75  | 10.95   | 33.61   | 3.82   | 25.72   | 228   | 0.20   |
| 81  | 10.76 | 33.63     | 3.73 | 223 | 100 | 10.00   | 33.72   | 3.57   | 25.97   | 204   | 0.25   |
| 96  | 10.14 | 33.69     | 3.69 | 209 | 125 | 9.56    | 33.85   | 2.80   | 26.15   | 187   | 0.30   |
| 120 | 9.62  | 33.84     | 2.89 | 189 | 150 | 9.24    | 33.90   | 2.39   | 26.24   | 179   | 0.35   |
| 150 | 9.24  | 33.90     | 2.39 | 179 | 200 | 8.82    | 34.05   | 2.00   | 26.42   | 162   | 0.43   |
| 184 | 9.03  | 34.01 9   | 2.12 | 167 | 250 | 8.05    | 34.11   | 1.56   | 26.59   | 146   | 0.51   |
| 233 | 8.28  | 34.09 6   | 1.66 | 150 | 300 | 7.53    | 34.15   | 1.28   | 26.70   | 135   | 0.58   |
| 282 | 7.70  | 34.13 9   | 1.37 | 139 | 400 | 6.82    | 34.24   | 0.68   | 26.86   | 120   | 0.72   |
| 386 | 6.92  | 34.22 1a) | 0.74 | 122 | 500 | (6.04)  | (34.28) | (0.41) | (27.00) | (107) | (0.83) |
| 484 | 6.16  | 34.28 0   | 0.41 | 108 |     |         |         |        |         |       |        |

a) Mean value of 34.214 and 34.228‰.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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6001

HORIZON; January 17, 1960; 1216 GCT; 34°53.5'N, 121°14'W; sounding, 300 fm; wind, 250°, force 3; weather, partly cloudy; sea, moderate; wire angle, 05°.

7755

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 13.34 | 33.53 | 5.46 | 277 | 0   | (13.34) | (33.53) | (5.46) | (25.21) | (277) | (0.00) |
| 12  | 13.34 | 33.55 | 5.48 | 276 | 10  | 13.34   | 33.55   | 5.48   | 25.22   | 276   | 0.03   |
| 32  | 13.34 | 33.55 | 5.50 | 276 | 20  | 13.34   | 33.55   | 5.49   | 25.22   | 276   | 0.06   |
| 51  | 13.36 | 33.55 | 5.50 | 276 | 30  | 13.34   | 33.55   | 5.50   | 25.22   | 276   | 0.08   |
| 75  | 11.54 | 33.48 | 4.51 | 248 | 50  | 13.36   | 33.55   | 5.50   | 25.22   | 276   | 0.14   |
| 100 | 10.28 | 33.58 | 3.90 | 219 | 75  | 11.54   | 33.48   | 4.51   | 25.52   | 248   | 0.20   |
| 124 | 9.42  | 33.77 | 3.36 | 191 | 100 | 10.28   | 33.58   | 3.90   | 25.82   | 219   | 0.26   |
| 164 | 8.52  | 33.98 | 2.58 | 162 | 125 | 9.42    | 33.78   | 3.35   | 26.11   | 191   | 0.32   |
| 203 | 8.26  | 34.02 | 2.29 | 156 | 150 | 8.83    | 33.92   | 2.87   | 26.32   | 171   | 0.36   |
| 252 | 7.78  | 34.13 | 1.58 | 140 | 200 | 8.29    | 34.02   | 2.31   | 26.48   | 156   | 0.44   |
| 302 | 7.52  | 34.18 | 1.26 | 133 | 250 | 7.79    | 34.13   | 1.59   | 26.65   | 140   | 0.52   |
| 405 | 6.88  | 34.23 | 0.73 | 121 | 300 | 7.53    | 34.18   | 1.28   | 26.72   | 133   | 0.59   |
|     |       |       |      |     | 400 | 6.91    | 34.23   | 0.77   | 26.84   | 122   | 0.72   |

HORIZON; January 18, 1960; 1656 GCT; 34°50'N, 121°20.5'W; sounding, 265 fm; wind, 260°, force 1; weather, squalls; sea, moderate; wire angle, 04°.

7757

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 13.22 | 33.60 | 5.38 | 270 | 0   | (13.22) | (33.60) | (5.38) | (25.28) | (270) | (0.00) |
| 12  | 13.22 | 33.58 | 5.39 | 271 | 10  | 13.22   | 33.58   | 5.39   | 25.27   | 271   | 0.03   |
| 32  | 13.24 | 33.58 | 5.32 | 271 | 20  | 13.23   | 33.58   | 5.36   | 25.27   | 271   | 0.05   |
| 51  | 12.18 | 33.57 | 4.45 | 252 | 30  | 13.24   | 33.58   | 5.33   | 25.27   | 271   | 0.08   |
| 76  | 10.90 | 33.62 | 3.76 | 226 | 50  | 12.30   | 33.57   | 4.55   | 25.44   | 255   | 0.13   |
| 101 | 9.90  | 33.68 | 3.61 | 205 | 75  | 10.93   | 33.62   | 3.77   | 25.73   | 227   | 0.19   |
| 125 | 9.44  | 33.70 | 3.41 | 197 | 100 | 9.93    | 33.68   | 3.62   | 25.95   | 206   | 0.25   |
| 165 | 8.97  | 33.78 | 3.21 | 183 | 125 | 9.44    | 33.70   | 3.41   | 26.05   | 197   | 0.30   |
| 203 | 8.50  | 33.94 | 2.89 | 165 | 150 | 9.13    | 33.74   | 3.26   | 26.14   | 189   | 0.35   |
| 252 | 7.80  | 34.08 | 1.69 | 144 | 200 | 8.55    | 33.93   | 2.95   | 26.37   | 166   | 0.44   |
| 302 | 7.37  | 34.22 | 1.21 | 128 | 250 | 7.82    | 34.08   | 1.70   | 26.60   | 145   | 0.52   |
| 405 | 6.67  | 34.25 | 0.62 | 117 | 300 | 7.38    | 34.22   | 1.22   | 26.78   | 128   | 0.59   |
|     |       |       |      |     | 400 | 6.72    | 34.25   | 0.64   | 26.89   | 117   | 0.72   |

HORIZON; January 18, 1960; 1938 GCT; 34°41'N, 121°33.5'W; sounding, 500 fm; wind, direction missing, force 1; weather, squalls; sea, rough; wire angle, 07°.

7760

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.28 | 33.57u  | 5.54 | -   | 0   | (13.28) | (33.49) | (5.54) | (25.19) | (279) | (0.00) |
| 11  | 13.20 | 33.49   | 5.59 | 277 | 10  | 13.21   | (33.49) | (5.58) | (25.21) | (277) | (0.03) |
| 31  | 13.18 | 33.50   | 5.54 | 276 | 20  | 13.19   | 33.49   | 5.58   | 25.21   | 277   | (0.06) |
| 56  | 13.19 | 33.48   | 5.57 | 277 | 30  | 13.18   | 33.50   | 5.54   | 25.22   | 276   | (0.08) |
| 65  | 13.16 | 33.53   | 5.45 | 273 | 50  | 13.19   | 33.49   | 5.56   | 25.21   | 277   | (0.14) |
| 75  | 11.96 | 33.44   | 4.77 | 258 | 75  | 11.96   | 33.44   | 4.77   | 25.41   | 258   | (0.21) |
| 89  | 10.64 | 33.51   | 4.08 | 230 | 100 | 10.22   | 33.57   | 3.85   | 25.82   | 219   | (0.27) |
| 104 | 9.83  | 33.61   | 3.69 | 210 | 125 | 9.28    | 33.73   | 3.30   | 26.12   | 190   | (0.32) |
| 128 | 9.10  | 33.75   | 3.24 | 188 | 150 | 8.74    | 33.87   | 2.98   | 26.30   | 173   | (0.36) |
| 148 | 8.76  | 33.87   | 2.99 | 174 | 200 | 8.07    | 34.02   | 2.75   | 26.52   | 152   | (0.45) |
| 173 | 8.38  | 33.95   | 2.86 | 162 | 250 | 7.09    | 34.05   | 1.88   | 26.68   | 137   | (0.52) |
| 202 | 8.03  | 34.02   | 2.74 | 152 | 300 | 6.85    | 34.12   | 1.32   | 26.77   | 129   | (0.59) |
| 231 | 7.40  | 34.03 9 | 2.14 | 142 | 400 | 6.42    | 34.26   | 0.57   | 26.93   | 113   | (0.71) |
| 270 | 6.91  | 34.07 2 | 1.64 | 133 | 500 | 5.87    | 34.31   | 0.37   | 27.05   | 102   | (0.83) |
| 329 | 6.80  | 34.16 5 | 1.03 | 125 |     |         |         |        |         |       |        |
| 402 | 6.41  | 34.25 7 | 0.56 | 113 |     |         |         |        |         |       |        |
| 476 | 6.01  | 34.30 0 | 0.41 | 105 |     |         |         |        |         |       |        |
| 554 | 5.52  | 34.33 6 | 0.30 | 96  |     |         |         |        |         |       |        |



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600I

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

77.70

HORIZON; January 19, 1960; 0037 GCT; 34°25'N, 122°14'W; sounding, 2000+ fm; wind, direction missing, force 1; weather, squalls; sea, moderate; wire angle, 10°.

|     |       |           |      |     |     |         |         |        |         |       |        |
|-----|-------|-----------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.00 | 33.46     | 5.92 | 276 | 0   | (13.00) | (33.46) | (5.92) | (25.22) | (276) | (0.00) |
| 11  | 12.93 | 33.46     | 5.86 | 274 | 10  | 12.94   | 33.46   | 5.87   | 25.24   | 274   | 0.03   |
| 31  | 12.88 | 33.47     | 5.86 | 272 | 20  | 12.90   | 33.47   | 5.86   | 25.25   | 273   | 0.05   |
| 54  | 12.84 | 33.46     | 5.78 | 272 | 30  | 12.88   | 33.47   | 5.86   | 25.26   | 272   | 0.08   |
| 64  | 10.86 | 33.60     | 3.75 | 227 | 50  | 12.85   | 33.46   | 5.80   | 25.26   | 272   | 0.14   |
| 75  | 10.38 | 33.62     | 3.48 | 217 | 75  | 10.38   | 33.62   | 3.48   | 25.84   | 217   | 0.20   |
| 89  | 9.66  | 33.71     | 3.30 | 200 | 100 | 9.52    | 33.74   | 3.14   | 26.07   | 195   | 0.25   |
| 104 | 9.44  | 33.75     | 3.07 | 193 | 125 | 9.12    | 33.83   | 2.75   | 26.20   | 183   | 0.30   |
| 127 | 9.09  | 33.83     | 2.73 | 182 | 150 | 8.75    | 33.94   | 2.53   | 26.35   | 168   | 0.34   |
| 147 | 8.80  | 33.93     | 2.52 | 170 | 200 | 7.90    | 34.00   | 2.58   | 26.52   | 152   | 0.42   |
| 172 | 8.48  | 33.97     | 2.55 | 162 | 250 | 7.38    | 34.08   | 1.90   | 26.67   | 138   | 0.50   |
| 200 | 7.90  | 34.00     | 2.58 | 152 | 300 | 7.14    | 34.15   | 1.37   | 26.75   | 130   | 0.57   |
| 230 | 7.54  | 34.05 6a) | 2.07 | 143 | 400 | 6.57    | 34.26   | 0.67   | 26.92   | 114   | 0.69   |
| 268 | 7.26  | 34.10 3   | 1.77 | 135 | 500 | 5.77    | 34.31   | 0.39   | 27.05   | 102   | 0.80   |
| 327 | 7.05  | 34.19 6   | 1.04 | 126 |     |         |         |        |         |       |        |
| 400 | 6.57  | 34.26 2   | 0.67 | 114 |     |         |         |        |         |       |        |
| 473 | 5.96  | 34.29 4   | 0.44 | 104 |     |         |         |        |         |       |        |
| 552 | 5.50  | 34.32 0   | 0.31 | 97  |     |         |         |        |         |       |        |

77.80

HORIZON; January 19, 1960; 0510 GCT; 34°10'N, 122°55'W; sounding, 2000+ fm; wind, 050°, force 4; weather, cloudy; sea, moderate; wire angle, 20°.

|     |       |           |      |     |     |         |         |        |         |       |        |
|-----|-------|-----------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 12.86 | 33.40     | 5.79 | 277 | 0   | (12.86) | (33.40) | (5.79) | (25.21) | (277) | (0.00) |
| 11  | 12.86 | 33.40     | 5.85 | 277 | 10  | 12.86   | 33.40   | 5.85   | 25.21   | 277   | 0.03   |
| 30  | 12.82 | 33.42     | 5.78 | 275 | 20  | 12.84   | 33.41   | 5.80   | 25.22   | 276   | 0.06   |
| 53  | 12.86 | 33.48     | 5.71 | 271 | 30  | 12.82   | 33.42   | 5.78   | 25.23   | 275   | 0.08   |
| 62  | 12.73 | 33.53     | 5.59 | 265 | 50  | 12.86   | 33.47   | 5.73   | 25.26   | 272   | 0.14   |
| 71  | 11.56 | 33.51     | 4.60 | 246 | 75  | 11.10   | 33.52   | 4.20   | 25.63   | 237   | 0.20   |
| 86  | 10.32 | 33.60     | 3.58 | 218 | 100 | 9.88    | 33.69   | 3.22   | 25.97   | 204   | 0.26   |
| 100 | 9.88  | 33.69     | 3.22 | 204 | 125 | 9.18    | 33.82   | 2.95   | 26.19   | 184   | 0.31   |
| 123 | 9.21  | 33.81     | 2.98 | 185 | 150 | 8.72    | 33.89   | 2.77   | 26.32   | 172   | 0.35   |
| 143 | 8.86  | 33.87     | 2.79 | 175 | 200 | 8.01    | 34.04   | 2.42   | 26.54   | 150   | 0.43   |
| 167 | 8.44  | 33.96     | 2.70 | 163 | 250 | 7.60    | 34.08   | 1.90   | 26.63   | 142   | 0.51   |
| 195 | 8.08  | 34.04     | 2.45 | 151 | 300 | 7.30    | 34.15   | 1.37   | 26.73   | 132   | 0.58   |
| 223 | 7.74  | 34.04 2b) | 2.27 | 146 | 400 | 6.70    | 34.23   | 0.84   | 26.87   | 119   | 0.71   |
| 261 | 7.55  | 34.10 6   | 1.68 | 139 | 500 | 6.12    | 34.28   | 0.68   | 26.99   | 108   | 0.83   |
| 318 | 7.18  | 34.16 4   | 1.26 | 130 |     |         |         |        |         |       |        |
| 390 | 6.76  | 34.21 8c) | 0.83 | 120 |     |         |         |        |         |       |        |
| 463 | 6.33  | 34.26 0   | 0.84 | 112 |     |         |         |        |         |       |        |
| 542 | 5.90  | 34.30 4   | 0.40 | 103 |     |         |         |        |         |       |        |

80.53

HORIZON; January 17, 1960; 0525 GCT; 34°20.5'N, 120°43'W; sounding, 325 fm; wind, 320°, force 1; weather, partly cloudy; sea, very rough; wire angle, 12°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 13.02 | 33.53   | 5.64 | 271 | 0   | (13.02) | (33.53) | (5.64) | (25.27) | (271) | (0.00) |
| 13  | 13.02 | 33.53   | 5.89 | 271 | 10  | 13.02   | 33.53   | 5.82   | 25.27   | 271   | 0.03   |
| 32  | 13.00 | 33.53   | 5.91 | 270 | 20  | 13.01   | 33.53   | 5.90   | 25.28   | 270   | 0.05   |
| 61  | 11.14 | 33.58   | 4.09 | 233 | 30  | 13.00   | 33.53   | 5.91   | 25.28   | 270   | 0.08   |
| 70  | 10.87 | 33.61   | 3.83 | 227 | 50  | 13.00   | 33.53   | 5.90   | 25.28   | 270   | 0.14   |
| 85  | 10.40 | 33.68   | 3.60 | 213 | 75  | 10.71   | 33.64   | 3.74   | 25.79   | 222   | 0.20   |
| 100 | 10.04 | 33.70   | 3.35 | 206 | 100 | 10.04   | 33.70   | 3.35   | 25.95   | 206   | 0.25   |
| 113 | 9.78  | 33.73   | 2.88 | 200 | 125 | 9.63    | 33.81   | 2.80   | 26.10   | 192   | 0.30   |
| 138 | 9.52  | 33.86   | 2.74 | 186 | 150 | 9.43    | 33.87   | 2.55   | 26.18   | 184   | 0.35   |
| 157 | 9.38  | 33.87   | 2.41 | 183 | 200 | 8.72    | 34.07   | 1.97   | 26.46   | 158   | 0.44   |
| 186 | 9.04  | 34.01   | 2.11 | 168 | 250 | 8.25    | 34.14   | 1.65   | 26.58   | 146   | 0.51   |
| 216 | 8.43  | 34.11   | 1.82 | 152 | 300 | 7.77    | 34.16   | 1.42   | 26.67   | 138   | 0.59   |
| 244 | 8.28  | 34.13 4 | 1.67 | 147 | 400 | 6.85    | 34.20   | 1.00   | 26.83   | 123   | 0.72   |
| 294 | 7.86  | 34.16 1 | 1.45 | 139 | 500 | 6.31    | 34.28   | 0.52   | 26.97   | 110   | 0.84   |
| 347 | 7.06  | 34.15 7 | 1.29 | 129 | 600 | (5.64)  | (34.33) | (0.36) | (27.09) | (98)  | (0.95) |
| 430 | 6.74  | 34.22 6 | 0.82 | 119 |     |         |         |        |         |       |        |
| 513 | 6.22  | 34.28 2 | 0.49 | 109 |     |         |         |        |         |       |        |
| 597 | 5.66  | 34.33 0 | 0.36 | 98  |     |         |         |        |         |       |        |

- a) Mean value of 34.048 and 34.065‰.  
b) Mean value of 34.037 and 34.048‰.  
c) Mean value of 34.212 and 34.224‰.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | α <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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6001

HORIZON; January 17, 1960; 0319 GCT; 34°18.5'N, 120°48'W; sounding, 408 fm; wind, 320°, force 5; weather, partly cloudy; sea, very rough; wire angle, 35°.

80.55

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.19 | 33.57   | 5.56 | 271 | 0   | (13.19) | (33.57) | (5.56) | (25.27) | (271) | (0.00) |
| 8   | 13.20 | 33.57   | 5.55 | 271 | 10  | 13.20   | 33.56   | 5.56   | 25.27   | 271   | 0.03   |
| 28  | 13.22 | 33.55   | 5.56 | 273 | 20  | 13.21   | 33.56   | 5.56   | 25.26   | 272   | 0.05   |
| 51  | 13.18 | 33.57   | 5.56 | 271 | 30  | 13.22   | 33.55   | 5.56   | 25.25   | 273   | 0.08   |
| 61  | 13.08 | 33.55   | 5.45 | 271 | 50  | 13.19   | 33.57   | 5.56   | 25.27   | 271   | 0.14   |
| 78  | 11.60 | 33.57   | 4.26 | 242 | 75  | 11.91   | 33.56   | 4.45   | 25.51   | 248   | 0.20   |
| 89  | 10.96 | 33.64   | 3.89 | 226 | 100 | 10.85   | 33.65   | 3.80   | 25.78   | 223   | 0.26   |
| 101 | 10.84 | 33.65   | 3.79 | 223 | 125 | 9.33    | 33.83   | 2.99   | 26.16   | 186   | 0.31   |
| 122 | 9.39  | 33.81   | 3.05 | 188 | 150 | 8.99    | 34.01   | 2.11   | 26.37   | 166   | 0.36   |
| 140 | 9.13  | 33.94   | 2.44 | 174 | 200 | 8.49    | 34.11   | 1.67   | 26.52   | 152   | 0.44   |
| 162 | 8.82  | 34.04   | 1.96 | 162 | 250 | 8.04    | 34.15   | 1.42   | 26.62   | 143   | 0.51   |
| 189 | 8.62  | 34.07   | 1.80 | 157 | 300 | 7.64    | 34.16   | 1.31   | 26.69   | 136   | 0.58   |
| 211 | 8.35  | 34.13 0 | 1.58 | 149 | 400 | 7.01    | 34.21   | 0.96   | 26.82   | 124   | 0.72   |
| 250 | 8.04  | 34.14 8 | 1.42 | 143 | 500 | 6.40    | 34.27   | 0.58   | 26.95   | 112   | 0.84   |
| 303 | 7.62  | 34.16 2 | 1.30 | 136 |     |         |         |        |         |       |        |
| 385 | 7.10  | 34.20 0 | 1.00 | 126 |     |         |         |        |         |       |        |
| 466 | 6.59  | 34.25 4 | 0.68 | 115 |     |         |         |        |         |       |        |
| 537 | 6.21  | 34.27 8 | 0.50 | 109 |     |         |         |        |         |       |        |

HORIZON; January 17, 1960; 0015 GCT; 34°15'N, 121°03'W; sounding, 560 fm; wind, 320°, force 5; weather, partly cloudy; sea, high; wire angle, 26°.

80.57

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 13.74 | 33.57   | 5.56 | 282 | 0   | (13.74) | (33.57) | (5.56) | (25.16) | (282) | (0.00) |
| 12  | 13.74 | 33.55   | 5.63 | 283 | 10  | 13.74   | 33.56   | 5.61   | 25.15   | 283   | 0.03   |
| 33  | 13.72 | 33.53   | 5.68 | 284 | 20  | 13.73   | 33.55   | 5.65   | 25.15   | 283   | 0.06   |
| 60  | 13.28 | 33.51   | 5.22 | 277 | 30  | 13.73   | 33.53   | 5.67   | 25.13   | 284   | 0.08   |
| 70  | 11.41 | 33.51   | 4.32 | 243 | 50  | 13.65   | 33.52   | 5.60   | 25.15   | 283   | 0.14   |
| 85  | 10.38 | 33.61   | 3.82 | 218 | 75  | 11.00   | 33.54   | 4.13   | 25.66   | 234   | 0.21   |
| 100 | 9.48  | 33.72   | 3.59 | 196 | 100 | 9.48    | 33.72   | 3.59   | 26.06   | 196   | 0.26   |
| 113 | 9.33  | 33.74   | 3.43 | 192 | 125 | 9.12    | 33.79   | 3.20   | 26.18   | 185   | 0.31   |
| 139 | 8.86  | 33.87   | 2.96 | 175 | 150 | 8.69    | 33.91   | 2.82   | 26.33   | 170   | 0.35   |
| 156 | 8.62  | 33.92   | 2.78 | 168 | 200 | 8.04    | 34.01   | 2.26   | 26.52   | 153   | 0.44   |
| 181 | 8.39  | 33.97   | 2.57 | 161 | 250 | 7.56    | 34.09   | 1.72   | 26.65   | 140   | 0.51   |
| 212 | 7.84  | 34.04   | 2.09 | 148 | 300 | 7.14    | 34.17   | 1.12   | 26.76   | 129   | 0.58   |
| 238 | 7.65  | 34.07 6 | 1.85 | 143 | 400 | 6.51    | 34.24   | 0.62   | 26.91   | 116   | 0.71   |
| 281 | 7.29  | 34.14 0 | 1.34 | 133 | 500 | 5.91    | 34.28   | 0.62   | 27.02   | 105   | 0.82   |
| 339 | 6.88  | 34.20 5 | 0.86 | 123 |     |         |         |        |         |       |        |
| 428 | 6.35  | 34.25 0 | 0.59 | 112 |     |         |         |        |         |       |        |
| 510 | 5.84  | 34.28 4 | 0.62 | 104 |     |         |         |        |         |       |        |
| 578 | 5.48  | 34.33 9 | 0.10 | 95  |     |         |         |        |         |       |        |

HORIZON; January 16, 1960; 2145 GCT; 34°09'N, 121°11.5'W; sounding, 1200 fm; wind, 320°, force 5; weather, cloudy; sea, very rough; wire angle, 34°.

80.60

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 13.60 | 33.53   | 5.80 | 282 | 0   | (13.62) | (33.53) | (5.80) | (25.15) | (282) | (0.00) |
| 10  | 13.62 | 33.55   | 5.76 | 280 | 10  | 13.60   | 33.55   | 5.76   | 25.17   | 280   | 0.03   |
| 31  | 13.57 | 33.53   | 5.83 | 281 | 20  | 13.59   | 33.54   | 5.80   | 25.16   | 281   | 0.06   |
| 56  | 13.48 | 33.55   | 5.71 | 278 | 30  | 13.58   | 33.53   | 5.83   | 25.16   | 281   | 0.08   |
| 64  | 13.22 | 33.52   | 5.45 | 276 | 50  | 13.53   | 33.55   | 5.75   | 25.19   | 279   | 0.14   |
| 81  | 10.94 | 33.56   | 4.05 | 231 | 75  | 11.20   | 33.55   | 4.12   | 25.63   | 237   | 0.20   |
| 93  | 10.19 | 33.60   | 3.97 | 216 | 100 | 10.04   | 33.65   | 3.83   | 25.91   | 210   | 0.26   |
| 105 | 9.92  | 33.68   | 3.72 | 206 | 125 | 9.42    | 33.76   | 3.36   | 26.10   | 192   | 0.31   |
| 130 | 9.30  | 33.78   | 3.27 | 188 | 150 | 8.87    | 33.89   | 3.03   | 26.29   | 174   | 0.36   |
| 146 | 8.96  | 33.87   | 3.10 | 177 | 200 | 8.10    | 34.04   | 2.34   | 26.54   | 151   | 0.44   |
| 171 | 8.45  | 33.96   | 2.65 | 163 | 250 | 7.50    | 34.09   | 1.66   | 26.65   | 140   | 0.52   |
| 200 | 8.10  | 34.04   | 2.34 | 151 | 300 | 7.04    | 34.14   | 1.22   | 26.76   | 130   | 0.58   |
| 225 | 7.82  | 34.06 1 | 2.05 | 146 | 400 | 6.39    | 34.24   | 0.61   | 26.94   | 113   | 0.71   |
| 267 | 7.32  | 34.11 0 | 1.44 | 136 | 500 | 6.04    | 34.30   | 0.42   | 27.01   | 106   | 0.82   |
| 322 | 6.88  | 34.16 6 | 1.07 | 126 |     |         |         |        |         |       |        |
| 409 | 6.36  | 34.24 7 | 0.59 | 113 |     |         |         |        |         |       |        |
| 492 | 6.09  | 34.29 0 | 0.43 | 107 |     |         |         |        |         |       |        |
| 562 | 5.61  | 34.32 8 | 0.34 | 98  |     |         |         |        |         |       |        |



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600I

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

80.70

HORIZON; January 16, 1960; 1527 GCT; 33°39'N, 121°54'W; sounding, 2000+ fm; wind, 320°, force 5; weather, partly cloudy; sea, high; wire angle, 30°.

|     |       |         |      |     |     |       |       |      |       |     |      |
|-----|-------|---------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 13.47 | 33.21   | 5.74 | 303 | 0   | 13.47 | 33.21 | 5.74 | 24.94 | 303 | 0.00 |
| 9   | 13.48 | 33.22   | 5.81 | 302 | 10  | 13.48 | 33.22 | 5.81 | 24.95 | 302 | 0.03 |
| 30  | 13.49 | 33.26   | 5.81 | 299 | 20  | 13.49 | 33.24 | 5.81 | 24.97 | 300 | 0.06 |
| 55  | 13.52 | 33.24   | 5.78 | 301 | 30  | 13.49 | 33.26 | 5.81 | 24.98 | 299 | 0.09 |
| 64  | 13.56 | 33.33   | 5.80 | 296 | 50  | 13.51 | 33.24 | 5.79 | 24.96 | 301 | 0.15 |
| 82  | 11.26 | 33.36   | 4.72 | 252 | 75  | 12.95 | 33.35 | 5.56 | 25.14 | 283 | 0.22 |
| 94  | 10.38 | 33.51   | 4.06 | 226 | 100 | 9.90  | 33.53 | 4.00 | 25.84 | 217 | 0.29 |
| 107 | 9.78  | 33.58   | 3.93 | 211 | 125 | 9.28  | 33.74 | 3.31 | 26.10 | 192 | 0.34 |
| 131 | 9.14  | 33.78   | 3.14 | 186 | 150 | 8.89  | 33.87 | 2.98 | 26.27 | 176 | 0.39 |
| 148 | 8.93  | 33.85   | 2.95 | 178 | 200 | 7.92  | 33.98 | 3.10 | 26.50 | 154 | 0.47 |
| 172 | 8.46  | 33.95   | 3.19 | 164 | 250 | 7.25  | 34.05 | 2.42 | 26.66 | 139 | 0.54 |
| 202 | 7.88  | 33.98   | 3.05 | 153 | 300 | 6.71  | 34.14 | 1.82 | 26.81 | 125 | 0.61 |
| 226 | 7.54  | 34.02 8 | 2.84 | 145 | 400 | 6.10  | 34.20 | 0.76 | 26.94 | 113 | 0.74 |
| 268 | 7.06  | 34.06 4 | 2.15 | 135 | 500 | 5.69  | 34.26 | 0.45 | 27.03 | 104 | 0.85 |
| 325 | 6.50  | 34.18 0 | 1.59 | 120 |     |       |       |      |       |     |      |
| 409 | 6.06  | -       | 0.72 | -   |     |       |       |      |       |     |      |
| 490 | 5.72  | 34.25 0 | 0.47 | 105 |     |       |       |      |       |     |      |
| 558 | 5.58  | 34.34 2 | 0.31 | 96  |     |       |       |      |       |     |      |

80.80

HORIZON; January 16, 1960; 0030 GCT; 33°29.5'N, 122°35'W; sounding, 2000+ fm; wind, 330°, force 7; weather, cloudy; sea, high; wire angle, 36°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 13.46 | 33.26   | 5.97 | 299 | 0   | (13.46) | (33.26) | (5.97) | (24.98) | (299) | (0.00) |
| 11  | 13.46 | 33.28   | 5.98 | 297 | 10  | 13.46   | 33.28   | 5.98   | 25.00   | 297   | 0.03   |
| 30  | 13.46 | 33.28   | 6.00 | 297 | 20  | 13.46   | 33.28   | 5.99   | 25.00   | 297   | 0.06   |
| 54  | 13.42 | 33.28   | 5.90 | 297 | 30  | 13.46   | 33.28   | 6.00   | 25.00   | 297   | 0.09   |
| 61  | 13.02 | 33.30   | 5.79 | 288 | 50  | 13.44   | 33.28   | 5.92   | 25.00   | 297   | 0.15   |
| 76  | 11.30 | 33.36   | 5.18 | 252 | 75  | 11.31   | 33.36   | 5.19   | 25.47   | 252   | 0.22   |
| 88  | 11.24 | 33.33u  | 4.90 | -   | 100 | 10.65   | 33.49   | 4.05   | 25.68   | 232   | 0.28   |
| 100 | 10.65 | 33.49   | 4.05 | 232 | 125 | 9.48    | 33.61   | 3.67   | 25.98   | 204   | 0.34   |
| 122 | 9.55  | 33.58   | 3.80 | 208 | 150 | 9.05    | 33.77   | 3.13   | 26.18   | 185   | 0.38   |
| 137 | 9.27  | 33.77   | 2.99 | 189 | 200 | 8.25    | 33.97   | 3.20   | 26.45   | 159   | 0.47   |
| 168 | 8.80  | 33.78   | 3.33 | 181 | 250 | 7.60    | 34.08   | 2.51   | 26.63   | 142   | 0.55   |
| 188 | 8.51  | 33.87   | 3.26 | 170 | 300 | 7.01    | 34.13   | 1.80   | 26.75   | 130   | 0.62   |
| 212 | 8.04  | 34.02 6 | 3.15 | 152 | 400 | 5.94    | 34.13   | 0.96   | 26.89   | 117   | 0.75   |
| 253 | 7.56  | 34.08 0 | 2.48 | 141 | 500 | 5.37    | 34.21   | 0.54   | 27.02   | 105   | 0.86   |
| 307 | 6.92  | 34.12 8 | 1.69 | 129 |     |         |         |        |         |       |        |
| 396 | 5.98  | 34.12 8 | 0.98 | 117 |     |         |         |        |         |       |        |
| 483 | 5.47  | 34.19 4 | 0.59 | 106 |     |         |         |        |         |       |        |
| 555 | 5.00  | 34.24 8 | 0.45 | 97  |     |         |         |        |         |       |        |

80.90

HORIZON; January 15, 1960; 1841 GCT; 33°05.5'N, 123°12'W; sounding, 2000 fm; wind, 330°, force 6; weather, cloudy; sea, high; wire angle, 34°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 13.60 | 33.16   | 5.71 | 309 | 0   | (13.60) | (33.16) | (5.71) | (24.87) | (309) | (0.00) |
| 10  | 13.61 | 33.15   | 5.81 | 310 | 10  | 13.61   | 33.15   | 5.81   | 24.86   | 310   | 0.03   |
| 30  | 13.60 | 33.16   | 5.85 | 309 | 20  | 13.60   | 33.16   | 5.83   | 24.87   | 309   | 0.06   |
| 57  | 13.06 | 33.22   | 5.72 | 294 | 30  | 13.60   | 33.16   | 5.85   | 24.87   | 309   | 0.09   |
| 64  | 12.86 | 33.27   | 5.79 | 287 | 50  | 13.50   | 33.18   | 5.84   | 24.90   | 306   | 0.15   |
| 82  | 12.38 | 33.29   | 5.60 | 277 | 75  | 12.75   | 33.31   | 5.70   | 25.16   | 282   | 0.23   |
| 95  | 11.36 | 33.19   | 5.55 | 266 | 100 | 11.14   | 33.20   | 5.51   | 25.37   | 261   | 0.30   |
| 108 | 10.84 | 33.25   | 5.39 | 253 | 125 | 10.00   | 33.46   | 4.65   | 25.76   | 224   | 0.36   |
| 135 | 9.61  | 33.57   | 4.28 | 209 | 150 | 9.31    | 33.63   | 4.15   | 26.02   | 200   | 0.41   |
| 151 | 9.29  | 33.63   | 4.13 | 200 | 200 | 8.51    | 33.91   | 3.65   | 26.36   | 167   | 0.50   |
| 178 | 8.84  | 33.82   | 3.93 | 178 | 250 | 7.74    | 33.99   | 2.76   | 26.55   | 150   | 0.59   |
| 208 | 8.39  | 33.93   | 3.49 | 164 | 300 | 7.13    | 34.02   | 2.28   | 26.65   | 140   | 0.66   |
| 232 | 8.00  | 33.97 4 | 2.97 | 155 | 400 | 6.11    | 34.11   | 1.06   | 26.86   | 120   | 0.80   |
| 276 | 7.42  | 34.00 6 | 2.53 | 145 | 500 | 5.58    | 34.22   | 0.52   | 27.02   | 105   | 0.92   |
| 335 | 6.71  | 34.04 6 | 1.81 | 132 |     |         |         |        |         |       |        |
| 425 | 5.94  | 34.14 2 | 0.85 | 115 |     |         |         |        |         |       |        |
| 507 | 5.56  | 34.22 9 | 0.50 | 105 |     |         |         |        |         |       |        |
| 579 | 5.28  | 34.31 4 | 0.30 | 95  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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HORIZON; January 13, 1960; 1030 GCT; 34°15'N, 119°59'W; sounding, 320 fm; wind, 320°, force 2; weather, clear; sea, rough; wire angle, 06°.

82.47

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 13.70 | 33.55   | 5.32 | 282 | 0   | (13.70) | (33.55) | (5.32) | (25.15) | (282) | (0.00) |
| 14  | 13.70 | 33.51   | 5.32 | 285 | 10  | 13.70   | 33.52   | 5.32   | 25.13   | 284   | 0.03   |
| 34  | 13.70 | 33.53   | 5.35 | 284 | 20  | 13.70   | 33.52   | 5.33   | 25.12   | 285   | 0.06   |
| 43  | 13.58 | 33.51   | 5.08 | 283 | 30  | 13.70   | 33.52   | 5.34   | 25.13   | 284   | 0.09   |
| 53  | 13.02 | 33.55   | 4.65 | 270 | 50  | 13.26   | 33.53   | 4.85   | 25.23   | 275   | 0.14   |
| 63  | 12.48 | 33.55   | 4.28 | 259 | 75  | 11.12   | 33.63   | 3.70   | 25.71   | 229   | 0.20   |
| 73  | 11.24 | 33.62   | 3.80 | 232 | 100 | 10.25   | 33.73   | 3.08   | 25.93   | 208   | 0.26   |
| 87  | 10.66 | 33.68   | 3.33 | 218 | 125 | 9.70    | 33.81   | 2.58   | 26.10   | 192   | 0.31   |
| 103 | 10.16 | 33.74   | 3.02 | 205 | 150 | 9.42    | 33.91   | 2.30   | 26.23   | 180   | 0.36   |
| 115 | 9.84  | 33.78   | 2.74 | 197 | 200 | 8.97    | 34.05   | 1.81   | 26.40   | 164   | 0.44   |
| 141 | 9.53  | 33.87   | 2.43 | 185 | 250 | 8.35    | 34.13   | 1.33   | 26.56   | 148   | 0.52   |
| 170 | 9.20  | 34.00   | 2.05 | 171 | 300 | 7.96    | 34.20   | 1.06   | 26.67   | 138   | 0.60   |
| 205 | 8.94  | 34.05 8 | 1.78 | 163 | 400 | 6.97    | 34.25   | 0.78   | 26.86   | 120   | 0.73   |
| 254 | 8.29  | 34.13 0 | 1.31 | 148 | 500 | 6.55    | 34.26   | 0.24   | 26.92   | 114   | 0.85   |
| 303 | 7.94  | 34.20 1 | 1.04 | 137 |     |         |         |        |         |       |        |
| 406 | 6.92  | 34.24 9 | 0.77 | 120 |     |         |         |        |         |       |        |
| 504 | 6.54  | 34.26 6 | 0.22 | 114 |     |         |         |        |         |       |        |

HORIZON; January 13, 1960; 0535 GCT; 34°13.5'N, 119°22.5'W; sounding, 12 fm; wind, 310°, force 4; weather, clear; sea, rough; wire angle, 00°.

83.40

|    |       |       |      |     |    |       |       |      |       |     |      |
|----|-------|-------|------|-----|----|-------|-------|------|-------|-----|------|
| 0  | 13.95 | 33.54 | 5.60 | 288 | 0  | 13.95 | 33.54 | 5.60 | 25.09 | 288 | 0.00 |
| 10 | 13.94 | 33.55 | 5.69 | 287 | 10 | 13.94 | 33.55 | 5.69 | 25.10 | 287 | 0.03 |

HORIZON; January 13, 1960; 0725 GCT; 34°07'N, 119°34.5'W; sounding, 130 fm; wind, 320°, force 2; weather, clear; sea, slight; wire angle, 06°.

83.43

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.84 | 33.50 | 5.79 | 289 | 0   | (13.84) | (33.50) | (5.79) | (25.08) | (289) | (0.00) |
| 11  | 13.88 | 33.51 | 5.79 | 289 | 10  | 13.87   | 33.51   | 5.79   | 25.08   | 289   | 0.03   |
| 31  | 13.88 | 33.50 | 5.77 | 290 | 20  | 13.88   | 33.50   | 5.78   | 25.08   | 289   | 0.06   |
| 50  | 13.89 | 33.51 | 5.69 | 289 | 30  | 13.88   | 33.50   | 5.77   | 25.07   | 290   | 0.09   |
| 75  | 11.86 | 33.53 | 4.55 | 249 | 50  | 13.89   | 33.51   | 5.69   | 25.08   | 289   | 0.14   |
| 100 | 10.76 | 33.62 | 4.00 | 224 | 75  | 11.86   | 33.53   | 4.55   | 25.50   | 249   | 0.21   |
| 123 | 9.80  | 33.78 | 3.35 | 197 | 100 | 10.76   | 33.62   | 4.00   | 25.77   | 224   | 0.27   |
| 153 | 9.12  | 33.96 | 2.30 | 172 | 125 | 9.75    | 33.79   | 3.33   | 26.07   | 195   | 0.33   |
|     |       |       |      |     | 150 | 9.19    | 33.94   | 2.46   | 26.28   | 175   | 0.37   |

HORIZON; January 14, 1960; 0520 GCT; 33°51'N, 120°08'W; sounding, 120 fm; wind, 270°, force 3; weather, partly cloudy; sea, moderate; wire angle, 17°.

83.51

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.22 | 33.58 | 5.04 | 271 | 0   | (13.22) | (33.58) | (5.04) | (25.27) | (271) | (0.00) |
| 10  | 13.24 | 33.60 | 5.55 | 270 | 10  | 13.24   | 33.60   | 5.55   | 25.28   | 270   | 0.03   |
| 30  | 13.24 | 33.58 | 5.50 | 272 | 20  | 13.24   | 33.59   | 5.53   | 25.27   | 271   | 0.05   |
| 47  | 13.08 | 33.55 | 5.23 | 270 | 30  | 13.24   | 33.58   | 5.50   | 25.26   | 272   | 0.08   |
| 73  | 11.18 | 33.64 | 4.01 | 229 | 50  | 12.90   | 33.53   | 5.12   | 25.30   | 268   | 0.14   |
| 96  | 9.59  | 33.82 | 3.09 | 190 | 75  | 10.44   | 33.66   | 3.68   | 25.85   | 216   | 0.20   |
| 119 | 9.24  | 33.88 | 2.84 | 181 | 100 | 9.53    | 33.84   | 3.03   | 26.15   | 187   | 0.25   |
| 148 | 8.76  | 34.04 | 1.97 | 161 | 125 | 9.15    | 33.91   | 2.73   | 26.26   | 177   | 0.29   |
|     |       |       |      |     | 150 | (8.72)  | (34.05) | (1.97) | (26.44) | (160) | (0.34) |



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

83.55

HORIZON; January 14, 1960; 0630 GCT; 33°43.5'N, 120°24'W; sounding, 440 fm; wind, 280°, force 3; weather, partly cloudy; sea, rough; wire angle, 25°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.96 | 33.51   | 5.55 | 290 | 0   | (13.96) | (33.51) | (5.55) | (25.07) | (290) | (0.00) |
| 10  | 13.94 | 33.51   | 5.53 | 290 | 10  | 13.94   | 33.51   | 5.53   | 25.07   | 290   | 0.03   |
| 28  | 13.94 | 33.51   | 5.37 | 290 | 20  | 13.94   | 33.51   | 5.44   | 25.07   | 290   | 0.06   |
| 55  | 13.95 | 33.49   | 5.54 | 292 | 30  | 13.94   | 33.50   | 5.40   | 25.07   | 290   | 0.09   |
| 63  | 12.78 | 33.42   | 4.94 | 274 | 50  | 13.95   | 33.49   | 5.52   | 25.06   | 291   | 0.15   |
| 77  | 11.82 | 33.40   | 4.72 | 258 | 75  | 11.98   | 33.40   | 4.76   | 25.38   | 261   | 0.21   |
| 91  | 11.06 | 33.49   | 4.27 | 239 | 100 | 10.30   | 33.56   | 4.09   | 25.80   | 221   | 0.28   |
| 103 | 10.01 | 33.58   | 4.02 | 215 | 125 | 9.34    | 33.70   | 3.67   | 26.07   | 195   | 0.33   |
| 126 | 9.32  | 33.70   | 3.66 | 195 | 150 | 8.81    | 33.83   | 3.30   | 26.25   | 178   | 0.38   |
| 144 | 8.88  | 33.81   | 3.39 | 180 | 200 | 8.11    | 33.99   | 2.60   | 26.48   | 156   | 0.46   |
| 170 | 8.60  | 33.91   | 2.98 | 168 | 250 | 7.63    | 34.06   | 2.00   | 26.61   | 144   | 0.54   |
| 198 | 8.13  | 33.98   | 2.62 | 156 | 300 | 7.24    | 34.12   | 1.40   | 26.71   | 134   | 0.61   |
| 225 | 7.86  | 34.02 8 | 2.33 | 149 | 400 | 6.65    | 34.21   | 0.98   | 26.86   | 120   | 0.74   |
| 270 | 7.46  | 34.08 2 | 1.74 | 139 | 500 | 6.08    | 34.29   | 0.46   | 27.00   | 107   | 0.86   |
| 320 | 7.12  | 34.14 7 | 1.23 | 130 |     |         |         |        |         |       |        |
| 400 | 6.65  | 34.20 6 | 0.98 | 120 |     |         |         |        |         |       |        |
| 479 | 6.20  | 34.27 2 | 0.52 | 109 |     |         |         |        |         |       |        |
| 560 | 5.80  | 34.32 4 | 0.33 | 100 |     |         |         |        |         |       |        |

83.60

HORIZON; January 14, 1960; 0945 GCT; 33°34'N, 120°45'W; sounding, 790 fm; wind, 230°, force 4; weather, overcast; sea, rough; wire angle, 10°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 14.22 | 33.58   | 5.44 | 291 | 0   | (14.22) | (33.58) | (5.44) | (25.06) | (291) | (0.00) |
| 11  | 14.22 | 33.58   | 5.49 | 291 | 10  | 14.22   | 33.58   | 5.49   | 25.06   | 291   | 0.03   |
| 30  | 14.22 | 33.55   | 5.41 | 293 | 20  | 14.22   | 33.56   | 5.43   | 25.06   | 291   | 0.06   |
| 59  | 14.22 | 33.55   | 5.46 | 293 | 30  | 14.22   | 33.55   | 5.41   | 25.04   | 293   | 0.09   |
| 69  | 14.21 | 33.55   | 5.33 | 292 | 50  | 14.22   | 33.55   | 5.45   | 25.05   | 292   | 0.15   |
| 83  | 12.70 | 33.38   | 4.88 | 276 | 75  | 14.20   | 33.55   | 5.33   | 25.05   | 292   | 0.22   |
| 98  | 11.20 | 33.40   | 4.40 | 248 | 100 | 11.15   | 33.41   | 4.39   | 25.54   | 246   | 0.29   |
| 113 | 9.92  | 33.51   | 4.03 | 218 | 125 | 9.60    | 33.58   | 3.83   | 25.93   | 208   | 0.34   |
| 137 | 9.30  | 33.68   | 3.57 | 196 | 150 | 9.16    | 33.77   | 3.10   | 26.15   | 187   | 0.40   |
| 158 | 9.10  | 33.82   | 2.84 | 183 | 200 | 8.32    | 33.94   | 2.51   | 26.42   | 162   | 0.48   |
| 184 | 8.64  | 33.91   | 2.60 | 169 | 250 | 7.69    | 34.07   | 1.80   | 26.61   | 144   | 0.56   |
| 215 | 8.02  | 33.97   | 2.43 | 156 | 300 | 7.11    | 34.11   | 1.39   | 26.73   | 132   | 0.63   |
| 243 | 7.76  | 34.05 0 | 1.91 | 146 | 400 | 6.38    | 34.19   | 0.89   | 26.90   | 117   | 0.76   |
| 293 | 7.17  | 34.10 6 | 1.44 | 134 | 500 | 5.92    | 34.28   | 0.45   | 27.02   | 105   | 0.88   |
| 346 | 6.76  | 34.15 0 | 1.11 | 125 | 600 | (5.46)  | (34.34) | (0.35) | (27.13) | (95)  | (0.98) |
| 429 | 6.17  | 34.21 2 | 0.80 | 113 |     |         |         |        |         |       |        |
| 512 | 5.88  | 34.28 8 | 0.42 | 104 |     |         |         |        |         |       |        |
| 593 | 5.50  | 34.34 0 | 0.35 | 96  |     |         |         |        |         |       |        |

83.70

HORIZON; January 14, 1960; 1457 GCT; 33°14'N, 121°24.5'W; sounding, 2000+ fm; wind, 270°, force 5; weather, cloudy; sea, rough; wire angle, 15°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 13.36 | 33.42   | 5.51 | 285 | 0   | (13.36) | (33.42) | (5.51) | (25.12) | (285) | (0.00) |
| 11  | 13.37 | 33.42   | 5.58 | 285 | 10  | 13.37   | 33.42   | 5.58   | 25.12   | 285   | 0.03   |
| 30  | 13.38 | 33.43   | 5.53 | 285 | 20  | 13.38   | 33.42   | 5.55   | 25.12   | 285   | 0.06   |
| 58  | 13.40 | 33.42   | 5.55 | 286 | 30  | 13.38   | 33.43   | 5.53   | 25.12   | 285   | 0.09   |
| 68  | 12.06 | 33.35   | 4.88 | 267 | 50  | 13.40   | 33.42   | 5.55   | 25.11   | 286   | 0.14   |
| 82  | 10.98 | 33.40   | 4.47 | 243 | 75  | 11.32   | 33.38   | 4.60   | 25.48   | 251   | 0.21   |
| 96  | 10.44 | 33.50   | 4.09 | 228 | 100 | 10.27   | 33.53   | 3.97   | 25.78   | 223   | 0.27   |
| 109 | 9.85  | 33.61   | 3.62 | 210 | 125 | 9.34    | 33.72   | 3.42   | 26.08   | 194   | 0.32   |
| 133 | 9.12  | 33.77   | 3.33 | 187 | 150 | 8.89    | 33.79   | 3.10   | 26.21   | 182   | 0.37   |
| 152 | 8.86  | 33.79   | 3.06 | 181 | 200 | 8.13    | 34.00   | 2.25   | 26.49   | 155   | 0.46   |
| 179 | 8.39  | 33.91   | 2.81 | 165 | 250 | 7.57    | 34.13   | 1.63   | 26.67   | 138   | 0.53   |
| 208 | 8.02  | 34.04   | 2.03 | 151 | 300 | 7.17    | 34.17   | 1.14   | 26.76   | 129   | 0.60   |
| 235 | 7.70  | 34.10 2 | 1.79 | 141 | 400 | 6.52    | 34.24   | 0.70   | 26.91   | 115   | 0.73   |
| 283 | 7.32  | 34.15 4 | 1.26 | 132 | 500 | 5.96    | 34.31   | 0.41   | 27.04   | 103   | 0.84   |
| 334 | 6.86  | 34.19 2 | 0.96 | 124 |     |         |         |        |         |       |        |
| 415 | 6.47  | 34.26 2 | 0.64 | 113 |     |         |         |        |         |       |        |
| 497 | 5.99  | 34.31 4 | 0.42 | 103 |     |         |         |        |         |       |        |
| 579 | 5.48  | 34.35 5 | 0.36 | 94  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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HORIZON; January 14, 1960; 2007 GCT; 32°52.5'N, 122°07.5'W; sounding, 2000+ fm; wind, 270°, force 5; weather, partly cloudy; sea, very rough; wire angle, 20°.

83.80

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 13.90 | 33.42   | 5.63 | 296 | 0   | (13.90) | (33.42) | (5.63) | (25.01) | (296) | (0.00) |
| 12  | 13.88 | 33.42   | 5.55 | 295 | 10  | 13.89   | 33.42   | 5.55   | 25.02   | 295   | 0.03   |
| 31  | 13.86 | 33.40   | 5.56 | 296 | 20  | 13.87   | 33.40   | 5.55   | 25.01   | 296   | 0.06   |
| 58  | 13.88 | 33.39   | 5.65 | 298 | 30  | 13.86   | 33.40   | 5.56   | 25.01   | 296   | 0.09   |
| 68  | 13.85 | 33.40   | 5.59 | 296 | 50  | 13.87   | 33.39   | 5.62   | 25.00   | 297   | 0.15   |
| 81  | 13.84 | 33.40   | 5.62 | 296 | 75  | 13.85   | 33.40   | 5.60   | 25.01   | 296   | 0.22   |
| 97  | 13.10 | 33.38   | 5.26 | 283 | 100 | 12.10   | 33.38   | 4.87   | 25.34   | 265   | 0.29   |
| 108 | 10.92 | 33.40   | 4.43 | 243 | 125 | 10.25   | 33.53   | 3.98   | 25.79   | 222   | 0.36   |
| 130 | 10.08 | 33.58   | 3.84 | 216 | 150 | 9.37    | 33.70   | 3.45   | 26.06   | 196   | 0.41   |
| 148 | 9.42  | 33.69   | 3.48 | 197 | 200 | 8.48    | 33.90   | 2.88   | 26.36   | 168   | 0.50   |
| 175 | 8.94  | 33.78   | 3.25 | 183 | 250 | 7.92    | 34.07   | 1.90   | 26.58   | 147   | 0.58   |
| 201 | 8.47  | 33.90   | 2.86 | 167 | 300 | 7.42    | 34.13   | 1.30   | 26.70   | 135   | 0.66   |
| 228 | 8.19  | 34.01 4 | 2.32 | 155 | 400 | 6.44    | 34.23   | 0.81   | 26.91   | 116   | 0.78   |
| 275 | 7.62  | 34.10 2 | 1.58 | 141 | 500 | 5.68    | 34.31   | 0.40   | 27.07   | 100   | 0.90   |
| 324 | 7.22  | 34.16 0 | 1.10 | 131 |     |         |         |        |         |       |        |
| 400 | 6.44  | 34.22 7 | 0.81 | 116 |     |         |         |        |         |       |        |
| 483 | 5.78  | 34.29 9 | 0.44 | 102 |     |         |         |        |         |       |        |
| 563 | 5.30  | 34.33 3 | 0.27 | 94  |     |         |         |        |         |       |        |

HORIZON; January 15, 1960; 0120 GCT; 32°32.5'N, 122°47.5'W; sounding, 2000+ fm; wind, 280°, force 5; weather, squalls; sea, very rough; wire angle, 39°.

83.90

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 14.65 | 33.19   | 5.75 | 328 | 0   | (14.65) | (33.19) | (5.75) | (24.67) | (328) | (0.00) |
| 9   | 14.67 | 33.17   | 5.71 | 330 | 10  | 14.67   | 33.17   | 5.71   | 24.65   | 330   | 0.03   |
| 25  | 14.66 | 33.18   | 5.72 | 328 | 20  | 14.67   | 33.18   | 5.72   | 24.66   | 329   | 0.07   |
| 47  | 14.68 | 33.20   | 5.71 | 327 | 30  | 14.67   | 33.18   | 5.72   | 24.67   | 328   | 0.10   |
| 55  | 14.50 | 33.21   | 5.68 | 323 | 50  | 14.65   | 33.20   | 5.70   | 24.68   | 327   | 0.16   |
| 67  | 13.91 | 33.23   | 5.77 | 310 | 75  | 13.75   | 33.25   | 5.72   | 24.91   | 305   | 0.24   |
| 78  | 13.71 | 33.28   | 5.69 | 302 | 100 | 13.33   | 33.34   | 5.60   | 25.06   | 291   | 0.32   |
| 87  | 13.58 | 33.35   | 5.68 | 294 | 125 | 10.92   | 33.43   | 4.46   | 25.59   | 240   | 0.39   |
| 103 | 13.20 | 33.33   | 5.53 | 289 | 150 | 9.52    | 33.66   | 3.72   | 26.01   | 201   | 0.44   |
| 115 | 11.57 | 33.38   | 4.80 | 256 | 200 | 8.62    | 33.90   | 3.36   | 26.34   | 170   | 0.54   |
| 134 | 10.44 | 33.49   | 4.18 | 228 | 250 | 7.79    | 33.99   | 3.05   | 26.54   | 151   | 0.62   |
| 153 | 9.42  | 33.68   | 3.66 | 198 | 300 | 6.99    | 34.02   | 2.32   | 26.67   | 138   | 0.69   |
| 173 | 9.13  | 33.79 0 | 3.11 | 185 | 400 | 6.19    | 34.11   | 1.14   | 26.85   | 121   | 0.83   |
| 208 | 8.46  | 33.92 0 | 3.40 | 166 | 500 | (5.54)  | (34.17) |        | (26.98) | (109) | (0.95) |
| 249 | 7.80  | 33.98 6 | 3.08 | 151 |     |         |         |        |         |       |        |
| 316 | 6.80  | 34.02 4 | 2.10 | 135 |     |         |         |        |         |       |        |
| 389 | 6.26  | 34.09 6 | 1.24 | 123 |     |         |         |        |         |       |        |
| 464 | 5.77  | 34.15 6 | 0.76 | 112 |     |         |         |        |         |       |        |

HORIZON; January 15, 1960; 0635, 0702, 0728 GCT; 32°14'N, 123°28.5'W; sounding, 2000+ fm; wind, 280°, force 5; weather, drizzle; sea, high; wire angle, 36°, 37°, 36°.

83.00

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 14.18 | 33.21   | 5.64 | 316 | 0   | (14.18) | (33.21) | (5.64) | (24.80) | (316) | (0.00) |
| 12  | 14.18 | 33.19   | 5.66 | 318 | 10  | 14.18   | 33.20   | 5.66   | 24.78   | 318   | 0.03   |
| 32  | 14.20 | 33.22   | 5.64 | 317 | 20  | 14.20   | 33.21   | 5.65   | 24.79   | 317   | 0.06   |
| 56  | 14.00 | 33.24   | 5.63 | 311 | 30  | 14.20   | 33.22   | 5.64   | 24.79   | 317   | 0.10   |
|     |       |         |      |     | 50  | 14.03   | 33.24   | 5.63   | 24.83   | 313   | 0.16   |
| 79  | 13.52 | 33.23   | 5.58 | 302 | 75  | 13.81   | 33.23   | 5.59   | 24.94   | 303   | 0.24   |
| 90  | 12.68 | 33.21   | 5.31 | 288 | 100 | 11.98   | 33.28   | 5.10   | 25.28   | 270   | 0.31   |
| 100 | 11.98 | 33.28   | 5.10 | 270 | 125 | 10.50   | 33.42   | 4.30   | 25.66   | 234   | 0.37   |
| 123 | 10.63 | 33.40   | 4.36 | 238 | 150 | 9.25    | 33.73   | 3.62   | 26.10   | 192   | 0.43   |
|     |       |         |      |     | 200 | 8.40    | 33.94   | 2.71   | 26.41   | 163   | 0.52   |
| 137 | 9.68  | 33.58   | 4.00 | 209 | 250 | 7.66    | 34.01   | 2.45   | 26.57   | 148   | 0.60   |
| 159 | 9.05  | 33.80   | 3.36 | 184 | 300 | 7.17    | 34.05   | 2.05   | 26.67   | 138   | 0.67   |
| 186 | 8.63  | 33.91 0 | 2.83 | 169 | 400 | 6.14    | 34.13   | 0.90   | 26.87   | 119   | 0.80   |
| 249 | 7.68  | 34.00 8 | 2.46 | 148 | 500 | 5.70    | 34.21   | 0.61   | 26.99   | 108   | 0.92   |
| 302 | 7.15  | 34.04 8 | 2.02 | 138 |     |         |         |        |         |       |        |
| 384 | 6.28  | 34.11 8 | 0.97 | 122 |     |         |         |        |         |       |        |
| 464 | 5.76  | 34.16 0 | 0.75 | 112 |     |         |         |        |         |       |        |
| 532 | 5.67  | 34.26 7 | 0.42 | 103 |     |         |         |        |         |       |        |



SIO

CCOFI  
600I

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

8735

HORIZON; January 13, 1960; 0009 GCT; 33°50.5'N, 118°37.5'W; sounding, 335 fm; wind, 310°, force 6; weather, partly cloudy; sea, very rough; wire angle, 23°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 14.57 | 33.57   | 5.61 | 298 | 0   | (14.57) | (33.57) | (5.61) | (24.98) | (298) | (0.00) |
| 9   | 14.56 | 33.55   | 5.51 | 299 | 10  | 14.56   | 33.55   | 5.51   | 24.98   | 299   | 0.03   |
| 29  | 14.57 | 33.55   | 5.53 | 300 | 20  | 14.56   | 33.55   | 5.52   | 24.98   | 299   | 0.06   |
| 50  | 12.74 | 33.54   | 4.59 | 265 | 30  | 14.57   | 33.55   | 5.53   | 24.98   | 299   | 0.09   |
| 60  | 11.84 | 33.58   | 4.13 | 246 | 50  | 12.74   | 33.54   | 4.59   | 25.34   | 265   | 0.15   |
| 69  | 11.60 | 33.59   | 4.08 | 241 | 75  | 11.40   | 33.60   | 4.06   | 25.64   | 236   | 0.21   |
| 83  | 11.11 | 33.61   | 3.99 | 230 | 100 | 10.53   | 33.65   | 3.67   | 25.82   | 218   | 0.27   |
| 96  | 10.68 | 33.64   | 3.76 | 221 | 125 | 9.76    | 33.74   | 3.15   | 26.03   | 199   | 0.32   |
| 118 | 9.90  | 33.71   | 3.35 | 203 | 150 | 9.41    | 33.83   | 2.81   | 26.16   | 187   | 0.37   |
| 136 | 9.61  | 33.78   | 2.92 | 194 | 200 | 9.05    | 34.06   | 1.90   | 26.40   | 164   | 0.46   |
| 159 | 9.30  | 33.87   | 2.70 | 182 | 250 | 8.65    | 34.18   | 1.45   | 26.55   | 149   | 0.54   |
| 185 | 9.18  | 33.96   | 2.25 | 174 | 300 | 8.24    | 34.21   | 1.19   | 26.64   | 141   | 0.61   |
| 212 | 8.95  | 34.10 8 | 1.73 | 159 | 400 | 7.15    | 34.26   | 0.83   | 26.84   | 122   | 0.75   |
| 247 | 8.68  | 34.17 2 | 1.47 | 150 | 500 | 6.56    | 34.30   | 0.44   | 26.95   | 112   | 0.87   |
| 302 | 8.22  | 34.21 0 | 1.18 | 141 |     |         |         |        |         |       |        |
| 370 | 7.38  | 34.24 0 | 1.05 | 127 |     |         |         |        |         |       |        |
| 439 | 6.97  | 34.27 6 | 0.63 | 119 |     |         |         |        |         |       |        |
| 517 | 6.45  | 34.30 2 | 0.42 | 110 |     |         |         |        |         |       |        |

8740

HORIZON; January 12, 1960; 2105 GCT; 33°40'N, 118°59'W; sounding, 475 fm; wind, 320°, force 7, weather, partly cloudy; sea, very rough; wire angle, 18°.

|     |       |         |      |     |     |       |         |      |         |       |        |
|-----|-------|---------|------|-----|-----|-------|---------|------|---------|-------|--------|
| 6   | 14.48 | 33.55   | 5.42 | 298 | 0   | 14.5  | (33.55) |      | (24.98) | (298) | (0.00) |
| 14  | 14.46 | 33.52   | 5.61 | 300 | 10  | 14.47 | 33.54   | 5.50 | 24.98   | 298   | 0.03   |
| 37  | 14.43 | 33.55   | 5.53 | 297 | 20  | 14.45 | 33.53   | 5.60 | 24.98   | 298   | 0.06   |
| 47  | 14.07 | 33.56   | 5.54 | 289 | 30  | 14.44 | 33.54   | 5.54 | 24.99   | 298   | 0.09   |
| 60  | 13.18 | 33.54   | 4.89 | 273 | 50  | 13.82 | 33.56   | 5.42 | 25.12   | 285   | 0.15   |
| 75  | 11.72 | 33.58   | 4.50 | 243 | 75  | 11.72 | 33.58   | 4.50 | 25.56   | 243   | 0.21   |
| 98  | 10.53 | 33.64   | 3.95 | 219 | 100 | 10.47 | 33.64   | 3.92 | 25.84   | 217   | 0.27   |
| 115 | 9.98  | 33.72   | 3.66 | 204 | 125 | 9.82  | 33.72   | 3.55 | 26.01   | 201   | 0.33   |
| 132 | 9.73  | 33.73   | 3.47 | 199 | 150 | 9.37  | 33.81   | 3.12 | 26.14   | 188   | 0.37   |
| 160 | 9.19  | 33.86   | 2.94 | 181 | 200 | 8.70  | 34.04   | 2.28 | 26.43   | 161   | 0.46   |
| 187 | 8.84  | 33.98   | 2.51 | 167 | 250 | 8.28  | 34.17   | 1.44 | 26.60   | 145   | 0.54   |
| 223 | 8.48  | 34.11   | 1.90 | 152 | 300 | 8.01  | 34.20   | 1.32 | 26.67   | 138   | 0.61   |
| 250 | 8.28  | 34.17 2 | 1.44 | 145 | 400 | 7.10  | 34.26   | 0.91 | 26.85   | 121   | 0.75   |
| 295 | 8.06  | 34.19 8 | 1.33 | 139 | 500 | 6.44  | 34.30   | 0.62 | 26.97   | 110   | 0.87   |
| 356 | 7.35  | 34.25 2 | 0.93 | 125 | 600 | 5.77  | 34.36   | 0.34 | 27.09   | 98    | 0.98   |
| 449 | 6.82  | 34.27 4 | 0.88 | 117 |     |       |         |      |         |       |        |
| 535 | 6.18  | 34.32 8 | 0.43 | 105 |     |       |         |      |         |       |        |
| 608 | 5.74  | 34.35 7 | 0.33 | 97  |     |       |         |      |         |       |        |

8745

HORIZON; January 12, 1960; 1634, 1647, 1715 GCT; 33°29.5'N, 119°19'W; sounding, 885 fm; wind, 320°, force 6; weather, partly cloudy; sea, high; wire angle, 30°, 33°, 36°.

|     |       |         |      |     |     |       |       |      |         |       |        |
|-----|-------|---------|------|-----|-----|-------|-------|------|---------|-------|--------|
| 1   | 13.44 | 33.49   | 5.62 | 301 | 0   | 13.44 | 33.49 | 5.62 | (24.96) | (301) | (0.00) |
|     |       |         |      |     | 10  | 13.44 | 33.49 | 5.68 | 24.96   | 301   | 0.03   |
| 10  | 13.44 | 33.49   | 5.68 | 301 | 20  | 13.43 | 33.51 | 5.54 | 24.97   | 300   | 0.06   |
| 30  | 13.40 | 33.51   | 5.52 | 299 | 30  | 13.40 | 33.51 | 5.52 | 24.98   | 299   | 0.09   |
| 38  | 13.31 | 33.51   | 5.45 | 297 | 50  | 12.12 | 33.44 | 4.80 | 25.38   | 261   | 0.15   |
| 50  | 12.12 | 33.44   | 4.80 | 261 | 75  | 10.64 | 33.51 | 4.20 | 25.70   | 230   | 0.21   |
| 64  | 11.47 | 33.49   | 4.52 | 246 | 100 | 10.22 | 33.61 | 3.87 | 25.85   | 216   | 0.26   |
| 84  | 10.50 | 33.53   | 4.13 | 226 | 125 | 9.67  | 33.72 | 3.38 | 26.03   | 199   | 0.32   |
|     |       |         |      |     | 150 | 9.24  | 33.81 | 2.95 | 26.16   | 186   | 0.37   |
| 97  | 10.28 | 33.59   | 3.93 | 218 | 200 | 8.67  | 34.04 | 1.94 | 26.44   | 160   | 0.45   |
| 112 | 9.96  | 33.67   | 3.63 | 207 | 250 | 8.28  | 34.15 | 1.48 | 26.59   | 146   | 0.53   |
| 135 | 9.50  | 33.75   | 3.22 | 194 | 300 | 7.91  | 34.19 | 1.25 | 26.67   | 138   | 0.60   |
| 158 | 9.13  | 33.83   | 2.85 | 183 | 400 | 7.02  | 34.26 | 0.92 | 26.85   | 121   | 0.74   |
| 188 | 8.79  | 33.96   | 2.12 | 168 | 500 | 6.42  | 34.30 | 0.43 | 26.97   | 110   | 0.86   |
| 212 | 8.56  | 34.08 8 | 1.80 | 154 |     |       |       |      |         |       |        |
| 250 | 8.28  | 34.15 2 | 1.48 | 146 |     |       |       |      |         |       |        |
| 304 | 7.87  | 34.19 4 | 1.23 | 137 |     |       |       |      |         |       |        |
| 386 | 7.15  | 34.24 9 | 1.00 | 123 |     |       |       |      |         |       |        |
| 464 | 6.63  | 34.28 3 | 0.56 | 114 |     |       |       |      |         |       |        |
| 533 | 6.22  | 34.31 4 | 0.36 | 106 |     |       |       |      |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

SIO

CCOFI  
6001

HORIZON; January 12, 1960; 0919 GCT; 33°10'N, 120°00.5'W; sounding, 620 fm; wind, 300°, force 6; weather, overcast; sea, very rough; wire angle, 33°.

87.55

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 14.42 | 33.51   | 5.61 | 300 | 0   | (14.42) | (33.51) | (5.61) | (24.97) | (300) | (0.00) |
| 11  | 14.42 | 33.49   | 5.58 | 301 | 10  | 14.42   | 33.49   | 5.59   | 24.96   | 301   | 0.03   |
| 31  | 14.42 | 33.49   | 5.68 | 301 | 20  | 14.42   | 33.49   | 5.63   | 24.96   | 301   | 0.06   |
| 56  | 13.14 | 33.44   | 5.20 | 280 | 30  | 14.42   | 33.49   | 5.68   | 24.96   | 301   | 0.09   |
| 65  | 12.01 | 33.51   | 4.72 | 254 | 50  | 14.05   | 33.47   | 5.55   | 25.02   | 295   | 0.15   |
| 82  | 11.33 | 33.57   | 4.10 | 237 | 75  | 11.55   | 33.55   | 4.24   | 25.58   | 242   | 0.22   |
| 92  | 11.07 | 33.58   | 4.19 | 232 | 100 | 10.69   | 33.60   | 4.12   | 25.76   | 224   | 0.28   |
| 106 | 10.52 | 33.62   | 4.03 | 220 | 125 | 10.19   | 33.69   | 3.54   | 25.92   | 209   | 0.33   |
| 129 | 10.13 | 33.70   | 3.50 | 208 | 150 | 9.72    | 33.79   | 3.22   | 26.07   | 195   | 0.38   |
| 145 | 9.84  | 33.76   | 3.32 | 199 | 200 | 8.91    | 34.00   | 2.43   | 26.38   | 166   | 0.47   |
| 167 | 9.28  | 33.91   | 2.77 | 179 | 250 | 8.00    | 34.12   | 1.83   | 26.60   | 144   | 0.55   |
| 195 | 9.00  | 33.99   | 2.43 | 169 | 300 | 7.59    | 34.20   | 1.24   | 26.72   | 133   | 0.62   |
| 218 | 8.41  | 34.03 0 | 2.45 | 157 | 400 | 6.60    | 34.22   | 0.87   | 26.88   | 118   | 0.75   |
| 260 | 7.90  | 34.14 0 | 1.65 | 141 | 500 | 6.16    | 34.29   | 0.47   | 26.99   | 108   | 0.87   |
| 315 | 7.47  | 34.20 8 | 1.15 | 130 |     |         |         |        |         |       |        |
| 402 | 6.58  | 34.22 2 | 0.86 | 118 |     |         |         |        |         |       |        |
| 485 | 6.30  | 34.28 6 | 0.53 | 109 |     |         |         |        |         |       |        |
| 556 | 5.82  | 34.33 4 | 0.38 | 100 |     |         |         |        |         |       |        |

HORIZON; January 12, 1960; 0555 GCT; 32°57'N, 120°21'W; sounding, 410 fm; wind, 280°, force 4; weather, rain; sea, very rough; wire angle, 26°.

87.60

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 14.32 | 33.58   | 5.57 | 292 | 0   | (14.32) | (33.58) | (5.57) | (25.05) | (292) | (0.00) |
| 9   | 14.32 | 33.57   | 5.46 | 293 | 10  | 14.32   | 33.57   | 5.46   | 25.04   | 293   | 0.03   |
| 28  | 14.35 | 33.57   | 5.55 | 294 | 20  | 14.34   | 33.57   | 5.54   | 25.03   | 294   | 0.06   |
| 53  | 14.34 | 33.56   | 5.48 | 294 | 30  | 14.35   | 33.57   | 5.54   | 25.03   | 294   | 0.09   |
| 63  | 14.30 | 33.55   | 5.49 | 294 | 50  | 14.34   | 33.56   | 5.48   | 25.03   | 294   | 0.15   |
| 75  | 12.24 | 33.58   | 4.28 | 253 | 75  | 12.24   | 33.58   | 4.28   | 25.46   | 253   | 0.22   |
| 90  | 11.57 | 33.61   | 3.90 | 238 | 100 | 11.00   | 33.68   | 3.52   | 25.77   | 224   | 0.28   |
| 103 | 10.82 | 33.70   | 3.39 | 219 | 125 | 10.22   | 33.78   | 2.91   | 25.98   | 203   | 0.33   |
| 125 | 10.22 | 33.78   | 2.91 | 203 | 150 | 9.83    | 33.88   | 2.52   | 26.12   | 190   | 0.38   |
| 144 | 9.88  | 33.86   | 2.57 | 192 | 200 | 9.43    | 34.06   | 2.10   | 26.33   | 170   | 0.47   |
| 169 | 9.68  | 33.94   | 2.41 | 183 | 250 | 8.90    | 34.17   | 1.57   | 26.51   | 153   | 0.55   |
| 197 | 9.44  | 34.05   | 2.16 | 171 | 300 | 8.29    | 34.20   | 1.30   | 26.63   | 142   | 0.63   |
| 223 | 9.24  | 34.12 0 | 1.81 | 163 | 400 | 7.11    | 34.24   | 0.96   | 26.82   | 124   | 0.77   |
| 269 | 8.66  | 34.19 2 | 1.47 | 148 | 500 | 6.25    | 34.28   | 0.47   | 26.98   | 109   | 0.89   |
| 319 | 8.06  | 34.20 2 | 1.24 | 139 |     |         |         |        |         |       |        |
| 397 | 7.14  | 34.23 6 | 0.98 | 124 |     |         |         |        |         |       |        |
| 477 | 6.44  | 34.26 4 | 0.56 | 113 |     |         |         |        |         |       |        |
| 558 | 5.81  | 34.32 4 | 0.33 | 100 |     |         |         |        |         |       |        |

HORIZON; January 12, 1960; 0053 GCT; 32°39'N, 121°01'W; sounding, 2000+ fm; wind, 240°, force 4; weather, cloudy; sea, rough; wire angle, 23°.

87.70

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 14.46 | 33.65   | 5.59 | 290 | 0   | (14.46) | (33.65) | (5.59) | (25.07) | (290) | (0.00) |
| 11  | 14.46 | 33.66   | 5.65 | 290 | 10  | 14.46   | 33.66   | 5.64   | 25.07   | 290   | 0.03   |
| 30  | 14.46 | 33.65   | 5.66 | 290 | 20  | 14.46   | 33.66   | 5.65   | 25.07   | 290   | 0.06   |
| 56  | 14.46 | 33.68   | 5.65 | 288 | 30  | 14.46   | 33.65   | 5.66   | 25.07   | 290   | 0.09   |
| 65  | 14.43 | 33.66   | 5.62 | 288 | 50  | 14.46   | 33.67   | 5.65   | 25.09   | 288   | 0.14   |
| 78  | 13.48 | 33.66   | 5.02 | 270 | 75  | 14.30   | 33.66   | 5.52   | 25.11   | 286   | 0.22   |
| 91  | 10.62 | 33.58   | 4.02 | 225 | 100 | 9.72    | 33.64   | 3.89   | 25.96   | 206   | 0.28   |
| 103 | 9.70  | 33.66   | 3.85 | 204 | 125 | 9.28    | 33.78   | 3.18   | 26.13   | 189   | 0.33   |
| 125 | 9.28  | 33.78   | 3.18 | 189 | 150 | 8.85    | 33.87   | 2.88   | 26.28   | 175   | 0.38   |
| 142 | 9.00  | 33.84   | 2.98 | 180 | 200 | 8.21    | 34.01   | 2.30   | 26.48   | 156   | 0.46   |
| 167 | 8.56  | 33.94   | 2.64 | 166 | 250 | 7.66    | 34.08   | 1.87   | 26.62   | 143   | 0.54   |
| 194 | 8.30  | 34.00   | 2.33 | 158 | 300 | 7.10    | 34.12   | 1.40   | 26.73   | 132   | 0.61   |
| 218 | 7.92  | 34.03 2 | 2.26 | 150 | 400 | 6.42    | 34.19   | 0.83   | 26.88   | 118   | 0.74   |
| 262 | 7.56  | 34.09 3 | 1.72 | 140 | 500 | 6.00    | 34.31   | 0.40   | 27.04   | 104   | 0.85   |
| 310 | 7.00  | 34.12 2 | 1.33 | 131 |     |         |         |        |         |       |        |
| 387 | 6.48  | 34.17 8 | 0.91 | 120 |     |         |         |        |         |       |        |
| 464 | 6.16  | 34.28 3 | 0.49 | 108 |     |         |         |        |         |       |        |
| 543 | 5.83  | 34.32 9 | 0.33 | 101 |     |         |         |        |         |       |        |



| SIO<br>CCOFI<br>600I | OBSERVED |         |        |                        | COMPUTED                 | INTERPOLATED |         |        |                        | COMPUTED              |                          |             |
|----------------------|----------|---------|--------|------------------------|--------------------------|--------------|---------|--------|------------------------|-----------------------|--------------------------|-------------|
|                      | Z<br>m   | T<br>°C | S<br>‰ | O <sub>2</sub><br>ml/L | δ <sub>T</sub><br>cl/ton | Z<br>m       | T<br>°C | S<br>‰ | O <sub>2</sub><br>ml/L | σ <sub>t</sub><br>g/L | δ <sub>T</sub><br>cl/ton | ΔD<br>dyn m |

8780 HORIZON; January 11, 1960; 1922 GCT; 32°19'N, 121°44'W; sounding, 2000+ fm; wind, 270°, force 4; weather, cloudy; sea, very rough; wire angle, 15°. a)

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 14.79 | 33.38   | 5.69 | 317 | 0   | (14.79) | (33.38) | (5.69) | (24.79) | (317) | (0.00) |
| 12  | 14.78 | 33.36   | 5.73 | 318 | 10  | 14.78   | 33.36   | 5.72   | 24.78   | 318   | 0.03   |
| 30  | 14.74 | 33.37   | 5.73 | 316 | 20  | 14.76   | 33.37   | 5.73   | 24.79   | 317   | 0.06   |
| 57  | 14.68 | 33.37   | 5.69 | 316 | 30  | 14.74   | 33.37   | 5.73   | 24.80   | 316   | 0.10   |
| 65  | 14.56 | 33.38   | 5.58 | 312 | 50  | 14.72   | 33.37   | 5.71   | 24.80   | 316   | 0.16   |
| 77  | 13.58 | 33.30   | 5.56 | 303 | 75  | 14.32   | 33.37   | 5.57   | 24.89   | 307   | 0.24   |
| 90  | 13.17 | 33.33   | 5.45 | 288 | 100 | 11.40   | 33.40   | 4.73   | 25.49   | 251   | 0.31   |
| 100 | 11.40 | 33.40   | 4.73 | 251 | 125 | 9.90    | 33.59   | 4.12   | 25.89   | 212   | 0.37   |
| 122 | 10.04 | 33.57   | 4.20 | 216 | 150 | 9.09    | 33.75   | 3.64   | 26.14   | 188   | 0.42   |
| 139 | 9.32  | 33.68   | 3.80 | 196 | 200 | 8.37    | 33.95   | 3.05   | 26.42   | 162   | 0.50   |
| 164 | 8.88  | 33.82   | 3.56 | 180 | 250 | 7.73    | 34.02   | 2.47   | 26.56   | 148   | 0.58   |
| 188 | 8.58  | 33.89   | 3.45 | 170 | 300 | 7.13    | 34.08   | 1.76   | 26.69   | 136   | 0.66   |
| 213 | 8.15  | 33.99 4 | 2.69 | 155 | 400 | 6.15    | 34.15   | 1.00   | 26.88   | 118   | 0.79   |
| 258 | 7.65  | 34.02 4 | 2.40 | 147 | 500 | 5.68    | 34.22   | 0.54   | 27.00   | 107   | 0.91   |
| 306 | 7.05  | 34.08 0 | 1.70 | 134 |     |         |         |        |         |       |        |
| 380 | 6.30  | 34.13 6 | 1.14 | 120 |     |         |         |        |         |       |        |
| 460 | 5.84  | 34.19 0 | 0.71 | 111 |     |         |         |        |         |       |        |
| 539 | 5.52  | 34.25 1 | 0.42 | 102 |     |         |         |        |         |       |        |

8790 HORIZON; January 11, 1960; 1357 GCT; 31°59'N, 122°23'W; sounding, 2000+ fm; wind, 310°, force 3; weather, partly cloudy; sea, very rough; wire angle, 14°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 14.93 | 33.35   | 5.62 | 322 | 0   | (14.93) | (33.35) | (5.62) | (24.74) | (322) | (0.00) |
| 11  | 14.92 | 33.37   | 5.46 | 320 | 10  | 14.92   | 33.37   | 5.46   | 24.76   | 320   | 0.03   |
| 30  | 14.92 | 33.39   | 5.49 | 318 | 20  | 14.92   | 33.38   | 5.48   | 24.77   | 319   | 0.06   |
| 59  | 14.9  | 33.37   | 5.60 | 319 | 30  | 14.92   | 33.39   | 5.49   | 24.77   | 318   | 0.10   |
| 69  | 14.91 | 33.37   | 5.52 | 320 | 50  | 14.90   | 33.38   | 5.55   | 24.77   | 319   | 0.16   |
| 83  | 12.48 | 33.24   | 5.14 | 282 | 75  | 14.50   | 33.35   | 5.43   | 24.83   | 313   | 0.24   |
| 97  | 12.01 | 33.31   | 5.34 | 268 | 100 | 11.80   | 33.34   | 5.25   | 25.37   | 262   | 0.31   |
| 110 | 10.87 | 33.42   | 4.62 | 241 | 125 | 10.09   | 33.58   | 4.02   | 25.85   | 216   | 0.37   |
| 134 | 9.45  | 33.65   | 3.73 | 201 | 150 | 9.12    | 33.76   | 3.54   | 26.15   | 187   | 0.42   |
| 153 | 9.05  | 33.78   | 3.49 | 185 | 200 | 8.20    | 33.93   | 2.70   | 26.43   | 161   | 0.51   |
| 180 | 8.54  | 33.88   | 2.95 | 170 | 250 | 7.50    | 34.05   | 2.16   | 26.62   | 143   | 0.59   |
| 208 | 8.08  | 33.95   | 2.63 | 158 | 300 | 6.96    | 34.07   | 1.69   | 26.71   | 134   | 0.66   |
| 235 | 7.72  | 34.03 4 | 2.32 | 147 | 400 | 6.33    | 34.18   | 0.82   | 26.88   | 118   | 0.79   |
| 283 | 7.10  | 34.05 6 | 1.88 | 137 | 500 | 5.60    | 34.26   | 0.42   | 27.04   | 103   | 0.91   |
| 335 | 6.74  | 34.10 6 | 1.28 | 128 |     |         |         |        |         |       |        |
| 415 | 6.22  | 34.18 8 | 0.73 | 116 |     |         |         |        |         |       |        |
| 497 | 5.62  | 34.25 2 | 0.43 | 104 |     |         |         |        |         |       |        |
| 578 | 5.34  | 34.32 4 | 0.34 | 95  |     |         |         |        |         |       |        |

87100 HORIZON; January 11, 1960; 0850 GCT; 31°39.5'N, 123°05'W; sounding, 2000+ fm; wind, 300°, force 3; weather, partly cloudy; sea, very rough; wire angle, 16°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 3   | 14.49 | 33.40   | 5.47 | 309 | 0   | (14.49) | (33.40) | (5.47) | (24.88) | (309) | (0.00) |
| 13  | 14.47 | 33.40   | 5.65 | 309 | 10  | 14.48   | 33.40   | 5.60   | 24.88   | 309   | 0.03   |
| 36  | 14.48 | 33.40   | 5.67 | 309 | 20  | 14.47   | 33.40   | 5.65   | 24.88   | 309   | 0.06   |
| 66  | 14.49 | 33.42   | 5.66 | 308 | 30  | 14.47   | 33.40   | 5.66   | 24.88   | 309   | 0.09   |
| 75  | 14.50 | 33.43   | 5.67 | 307 | 50  | 14.49   | 33.41   | 5.66   | 24.88   | 308   | 0.15   |
| 94  | 11.84 | 33.36   | 4.75 | 262 | 75  | 14.50   | 33.43   | 5.67   | 24.89   | 307   | 0.23   |
| 108 | 10.63 | 33.46   | 4.28 | 234 | 100 | 11.27   | 33.38   | 4.54   | 25.49   | 250   | 0.30   |
| 122 | 10.08 | 33.59   | 3.81 | 215 | 125 | 9.97    | 33.61   | 3.80   | 25.89   | 212   | 0.36   |
| 151 | 9.19  | 33.73   | 3.80 | 191 | 150 | 9.22    | 33.73   | 3.80   | 26.10   | 192   | 0.41   |
| 170 | 8.89  | 33.80   | 3.55 | 181 | 200 | 8.52    | 33.89   | 3.14   | 26.34   | 169   | 0.50   |
| 200 | 8.52  | 33.89   | 3.14 | 169 | 250 | 7.50    | 34.03   | 2.20   | 26.61   | 144   | 0.58   |
| 232 | 7.76  | 33.98   | 2.42 | 151 | 300 | 7.05    | 34.08   | 1.64   | 26.71   | 134   | 0.66   |
| 260 | 7.38  | 34.04 4 | 2.10 | 141 | 400 | 6.08    | 34.16   | 0.78   | 26.90   | 116   | 0.78   |
| 307 | 7.00  | 34.09 0 | 1.56 | 133 | 500 | 5.48    | 34.24   | 0.49   | 27.04   | 103   | 0.90   |
| 372 | 6.36  | 34.13 4 | 1.01 | 122 | 600 | 5.11    | 34.31   | 0.37   | 27.13   | 94    | 1.00   |
| 468 | 5.64  | 34.23 3 | 0.51 | 106 |     |         |         |        |         |       |        |
| 556 | 5.26  | 34.27 4 | 0.45 | 98  |     |         |         |        |         |       |        |
| 630 | 5.02  | 34.34 6 | 0.29 | 90  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

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HORIZON; January 9, 1960; 0524 GCT; 33°28.5'N, 117°46.5'W; sounding, 330 fm; wind, direction missing, force 1; weather, cloudy; sea, slight; wire angle, 00°.

90.28

|     |       |         |      |     |     |       |       |      |       |     |      |
|-----|-------|---------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 14.94 | 33.58   | 5.56 | 306 | 0   | 14.94 | 33.58 | 5.56 | 24.91 | 306 | 0.00 |
| 10  | 14.88 | 33.57   | 5.61 | 305 | 10  | 14.88 | 33.57 | 5.61 | 24.92 | 305 | 0.03 |
| 30  | 14.70 | 33.55   | 5.50 | 302 | 20  | 14.80 | 33.56 | 5.55 | 24.93 | 304 | 0.06 |
| 39  | 14.53 | 33.55   | 5.43 | 299 | 30  | 14.70 | 33.55 | 5.50 | 24.94 | 302 | 0.09 |
| 49  | 13.82 | 33.50   | 5.11 | 288 | 50  | 13.73 | 33.50 | 5.03 | 25.10 | 287 | 0.15 |
| 64  | 12.70 | 33.51   | 4.50 | 266 | 75  | 12.06 | 33.52 | 4.47 | 25.45 | 254 | 0.22 |
| 79  | 11.80 | 33.52   | 4.47 | 249 | 100 | 10.84 | 33.62 | 3.82 | 25.76 | 225 | 0.28 |
| 99  | 10.86 | 33.62   | 3.84 | 226 | 125 | 9.93  | 33.70 | 3.39 | 25.97 | 204 | 0.33 |
| 123 | 10.01 | 33.69   | 3.46 | 207 | 150 | 9.23  | 33.84 | 2.90 | 26.19 | 183 | 0.38 |
| 143 | 9.36  | 33.80   | 3.01 | 188 | 200 | 8.93  | 34.08 | 2.06 | 26.43 | 161 | 0.47 |
| 173 | 9.02  | 33.96   | 2.63 | 171 | 250 | 8.61  | 34.18 | 1.49 | 26.56 | 149 | 0.55 |
| 202 | 8.92  | 34.08   | 2.05 | 161 | 300 | 8.22  | 34.23 | 1.29 | 26.66 | 139 | 0.62 |
| 232 | 8.74  | 34.14 8 | 1.63 | 153 | 400 | 7.28  | 34.27 | 0.85 | 26.83 | 123 | 0.76 |
| 271 | 8.47  | 34.21 0 | 1.39 | 144 | 500 | 6.57  | 34.31 | 0.53 | 26.96 | 111 | 0.88 |
| 330 | 7.98  | 34.23 6 | 1.21 | 135 |     |       |       |      |       |     |      |
| 404 | 7.24  | 34.26 7 | 0.84 | 123 |     |       |       |      |       |     |      |
| 479 | 6.70  | 34.29 9 | 0.58 | 114 |     |       |       |      |       |     |      |
| 558 | 6.21  | 34.33 6 | 0.44 | 102 |     |       |       |      |       |     |      |

HORIZON; January 9, 1960; 0825 GCT; 33°21.5'N, 118°03.5'W; sounding, 395 fm; wind, direction missing, force 1; weather, cloudy; sea, slight; wire angle, 01°.

90.32

|     |       |         |      |     |     |       |       |      |       |     |      |
|-----|-------|---------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 15.12 | 33.58   | 5.71 | 309 | 0   | 15.12 | 33.58 | 5.71 | 24.87 | 309 | 0.00 |
| 9   | 15.13 | 33.59   | 5.84 | 308 | 10  | 15.13 | 33.59 | 5.83 | 24.88 | 308 | 0.03 |
| 29  | 15.10 | 33.60   | 5.74 | 307 | 20  | 15.11 | 33.59 | 5.80 | 24.88 | 308 | 0.06 |
| 38  | 15.07 | 33.60   | 5.73 | 306 | 30  | 15.09 | 33.60 | 5.74 | 24.89 | 307 | 0.09 |
| 48  | 15.06 | 33.60   | 5.65 | 306 | 50  | 15.05 | 33.60 | 5.64 | 24.90 | 306 | 0.15 |
| 63  | 12.90 | 33.55   | 4.26 | 267 | 75  | 11.98 | 33.59 | 4.49 | 25.52 | 247 | 0.22 |
| 78  | 11.78 | 33.60   | 4.50 | 243 | 100 | 10.59 | 33.69 | 3.94 | 25.85 | 216 | 0.28 |
| 98  | 10.70 | 33.68   | 3.98 | 219 | 125 | 9.90  | 33.79 | 3.65 | 26.04 | 198 | 0.33 |
| 121 | 9.98  | 33.77   | 3.74 | 200 | 150 | 9.48  | 33.91 | 3.04 | 26.22 | 181 | 0.38 |
| 139 | 9.67  | 33.84   | 3.34 | 190 | 200 | 8.94  | 34.04 | 2.25 | 26.40 | 164 | 0.47 |
| 171 | 9.20  | 33.98   | 2.70 | 172 | 250 | 8.55  | 34.18 | 1.44 | 26.57 | 147 | 0.55 |
| 201 | 8.93  | 34.04   | 2.25 | 164 | 300 | 8.06  | 34.23 | 1.15 | 26.68 | 137 | 0.62 |
| 230 | 8.75  | 34.12 6 | 1.73 | 155 | 400 | 7.15  | 34.27 | 0.74 | 26.84 | 122 | 0.76 |
| 270 | 8.36  | 34.21 0 | 1.28 | 143 | 500 | 6.43  | 34.32 | 0.41 | 26.98 | 109 | 0.88 |
| 329 | 7.82  | 34.24 1 | 1.04 | 133 |     |       |       |      |       |     |      |
| 403 | 7.12  | 34.26 8 | 0.73 | 121 |     |       |       |      |       |     |      |
| 477 | 6.56  | 34.30 6 | 0.46 | 111 |     |       |       |      |       |     |      |
| 556 | 6.20  | 34.33 6 | 0.37 | 104 |     |       |       |      |       |     |      |

HORIZON; January 9, 1960; 1215 GCT; 33°10'N, 118°23.5'W; sounding, 633 fm; wind, 160°, force 1; weather, cloudy; sea, slight; wire angle, 00°.

90.37

|      |       |         |      |     |     |       |       |      |       |     |      |
|------|-------|---------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0    | 15.16 | 33.58   | 5.47 | 310 | 0   | 15.16 | 33.58 | 5.47 | 24.86 | 310 | 0.00 |
| 10   | 15.14 | 33.59   | 5.48 | 308 | 10  | 15.14 | 33.59 | 5.48 | 24.88 | 308 | 0.03 |
| 30   | 14.93 | 33.58   | 5.40 | 305 | 20  | 15.06 | 33.59 | 5.45 | 24.89 | 307 | 0.06 |
| 39   | 14.77 | 33.57   | 5.45 | 302 | 30  | 14.93 | 33.58 | 5.40 | 24.92 | 305 | 0.09 |
| 49   | 14.46 | 33.55   | 5.44 | 298 | 50  | 14.44 | 33.55 | 5.42 | 25.00 | 297 | 0.15 |
| 64   | 14.16 | 33.53   | 5.29 | 293 | 75  | 13.50 | 33.51 | 5.02 | 25.16 | 281 | 0.22 |
| 79   | 12.92 | 33.51   | 4.78 | 270 | 100 | 11.60 | 33.59 | 4.25 | 25.59 | 241 | 0.29 |
| 97   | 11.80 | 33.57   | -    | 246 | 125 | 9.79  | 33.77 | 3.36 | 26.05 | 197 | 0.35 |
| 122  | 9.89  | 33.75   | 3.47 | 200 | 150 | 9.38  | 33.89 | 2.92 | 26.21 | 181 | 0.40 |
| 138p | 9.52  | 33.84   | 3.10 | 188 | 200 | 8.92  | 34.04 | 2.08 | 26.41 | 163 | 0.48 |
| 142  | 9.46  | 33.86   | 3.04 | 185 | 250 | 8.57  | 34.17 | 1.55 | 26.56 | 149 | 0.56 |
| 167p | 9.23  | 33.95   | 2.69 | 175 | 300 | 8.28  | 34.22 | 1.27 | 26.65 | 140 | 0.64 |
| 194p | 8.99  | 34.02 8 | 2.20 | 166 | 400 | 7.46  | 34.26 | 0.88 | 26.79 | 127 | 0.78 |
| 236p | 8.67  | 34.14 4 | 1.69 | 152 | 500 | 6.43  | 34.31 | 0.60 | 26.97 | 109 | 0.90 |
| 294p | 8.32  | 34.21 7 | 1.30 | 142 |     |       |       |      |       |     |      |
| 396  | 7.50  | 34.25 7 | 0.90 | 127 |     |       |       |      |       |     |      |
| 466  | 6.72  | 34.28 4 | 0.70 | 115 |     |       |       |      |       |     |      |
| 547  | 6.17  | 34.32 6 | 0.48 | 104 |     |       |       |      |       |     |      |



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

90.45

HORIZON; January 9, 1960; 1653 GCT; 32°56'N, 118°56.5'W; sounding, 980 fm; wind, 180°, force 4; weather, overcast; sea, moderate; wire angle, 31°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.26 | 33.58   | 5.43 | 312 | 0   | (15.26) | (33.58) | (5.43) | (24.84) | (312) | (0.00) |
| 9   | 15.26 | 33.64   | 5.52 | 308 | 10  | 15.26   | 33.64   | 5.52   | 24.88   | 308   | 0.03   |
| 26  | 15.26 | 33.63   | 5.56 | 308 | 20  | 15.26   | 33.64   | 5.54   | 24.88   | 308   | 0.06   |
| 52  | 15.24 | 33.64   | 5.52 | 307 | 30  | 15.26   | 33.64   | 5.54   | 24.88   | 308   | 0.09   |
| 61  | 13.80 | 33.55   | 5.11 | 284 | 50  | 15.25   | 33.64   | 5.52   | 24.89   | 307   | 0.15   |
| 73  | 12.27 | 33.53   | 4.75 | 257 | 75  | 12.18   | 33.54   | 4.70   | 25.45   | 254   | 0.22   |
| 85  | 11.50 | 33.64   | 4.34 | 235 | 100 | 10.70   | 33.65   | 4.04   | 25.79   | 221   | 0.28   |
| 96  | 10.96 | 33.64   | 4.12 | 226 | 125 | 9.93    | 33.75   | 3.64   | 26.01   | 201   | 0.34   |
| 116 | 10.14 | 33.69   | 3.82 | 209 | 150 | 9.63    | 33.84   | 3.07   | 26.13   | 189   | 0.39   |
| 132 | 9.84  | 33.78   | 3.50 | 197 | 200 | 9.01    | 34.06   | 2.17   | 26.40   | 164   | 0.48   |
| 155 | 9.58  | 33.86   | 3.00 | 187 | 250 | 8.53    | 34.15   | 1.61   | 26.55   | 150   | 0.56   |
| 177 | 9.36  | 33.94   | 2.79 | 178 | 300 | 8.02    | 34.21   | 1.24   | 26.67   | 138   | 0.63   |
| 198 | 9.04  | 34.05 3 | 2.22 | 165 | 400 | 7.29    | 34.26   | 0.84   | 26.82   | 124   | 0.77   |
| 238 | 8.67  | 34.13 5 | 1.73 | 153 | 500 | 6.37    | 34.30   | 0.46   | 26.98   | 109   | 0.89   |
| 282 | 8.17  | 34.19 2 | 1.35 | 141 |     |         |         |        |         |       |        |
| 353 | 7.70  | 34.24 0 | 1.05 | 131 |     |         |         |        |         |       |        |
| 429 | 7.00  | 34.27 1 | 0.70 | 120 |     |         |         |        |         |       |        |
| 509 | 6.31  | 34.30 2 | 0.44 | 108 |     |         |         |        |         |       |        |

90.45

HORIZON; January 9, 1960; 1845 GCT; <sup>a)</sup> 32°56'N, 118°56.5'W; sounding, 990 fm; wind, 180°, force 4; weather, overcast; sea, moderate; wire angle, 29°.

|     |      |         |      |     |
|-----|------|---------|------|-----|
| 389 | 7.18 | 34.25 1 | 0.83 | 123 |
| 392 | 7.14 | 34.24 6 | 0.85 | 123 |
| 395 | 7.12 | 34.25 0 | 0.74 | 122 |
| 419 | 6.96 | 34.26 8 | 0.70 | 117 |
| 421 | 6.92 | 34.27 2 | 0.69 | 116 |
| 425 | 6.91 | 34.27 1 | 0.62 | 116 |
| 450 | 6.72 | 34.28 2 | 0.51 | 114 |
| 454 | 6.71 | 34.28 3 | 0.56 | 114 |
| 456 | 6.70 | 34.28 4 | 0.49 | 114 |
| 480 | 6.48 | 34.30 2 | 0.47 | 111 |
| 483 | 6.46 | 34.30 2 | 0.43 | 110 |
| 485 | 6.42 | 34.29 9 | 0.43 | 110 |
| 510 | 6.30 | 34.31 0 | 0.40 | 107 |
| 513 | 6.28 | 34.31 2 | 0.41 | 107 |
| 516 | 6.28 | -       | -    | -   |
| 541 | 6.14 | 34.31 7 | 0.37 | 105 |
| 544 | 6.14 | 34.31 8 | 0.40 | 105 |
| 547 | 6.14 | 34.31 9 | 0.39 | 105 |

90.50

HORIZON; January 9, 1960; 2138 GCT; 32°44.5'N, 119°19'W; sounding, 68 fm; wind, 200°, force 4; weather, cloudy; sea, rough; wire angle, 07°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 14.62 | 33.60 | 5.75 | 297 | 0   | (14.62) | (33.60) | (5.75) | (25.00) | (297) | (0.00) |
| 11  | 14.60 | 33.62 | 5.67 | 296 | 10  | 14.60   | 33.62   | 5.67   | 25.01   | 296   | 0.03   |
| 32  | 14.40 | 33.60 | 5.67 | 293 | 20  | 14.58   | 33.62   | 5.67   | 25.02   | 295   | 0.06   |
| 52  | 13.72 | 33.55 | 5.20 | 283 | 30  | 14.45   | 33.61   | 5.67   | 25.03   | 294   | 0.09   |
| 76  | 11.16 | 33.55 | 4.37 | 236 | 50  | 13.89   | 33.56   | 5.35   | 25.12   | 285   | 0.15   |
| 102 | 10.39 | 33.72 | 3.81 | 210 | 75  | 11.17   | 33.54   | 4.37   | 25.64   | 236   | 0.21   |
|     |       |       |      |     | 100 | 10.43   | 33.70   | 3.89   | 25.88   | 213   | 0.27   |

a) Test cast.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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HORIZON; January 10, 1960; 0103 GCT; 32°34'N, 119°39'W; sounding, 550 fm; wind, 120°, force 5; weather, cloudy; sea, rough; wire angle, 18°. a)

90.55

|     |       |          |      |     |     |         |         |        |         |       |        |
|-----|-------|----------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 14.74 | 33.58    | 5.80 | 301 | 0   | (14.74) | (33.58) | (5.80) | (24.96) | (301) | (0.00) |
| 8   | 14.74 | 33.57    | 5.66 | 302 | 10  | 14.74   | 33.57   | 5.66   | 24.95   | 302   | 0.03   |
| 31  | 14.63 | 33.58 b) | 5.65 | 299 | 20  | 14.70   | 33.57   | 5.66   | 24.96   | 301   | 0.06   |
| 55  | 13.14 | 33.49 b) | 4.87 | 276 | 30  | 14.64   | 33.58   | 5.65   | 24.98   | 299   | 0.09   |
| 64  | 12.21 | 33.51 b) | 4.68 | 258 | 50  | 13.28   | 33.49   | 4.92   | 25.19   | 279   | 0.15   |
| 81  | 11.54 | 33.55 b) | 4.51 | 242 | 75  | 11.78   | 33.54   | 4.57   | 25.51   | 248   | 0.21   |
| 93  | 10.78 | 33.58 b) | 4.15 | 227 | 100 | 10.25   | 33.63   | 4.04   | 25.87   | 214   | 0.27   |
| 106 | 10.20 | 33.65 b) | 4.03 | 212 | 125 | 9.29    | 33.81   | 3.48   | 26.16   | 186   | 0.32   |
| 131 | 9.18  | 33.82 b) | 3.43 | 184 | 150 | 9.02    | 33.85   | 3.31   | 26.23   | 180   | 0.37   |
| 147 | 9.06  | 33.84 b) | 3.35 | 181 | 200 | 8.17    | 34.02   | 2.56   | 26.50   | 154   | 0.45   |
| 173 | 8.66  | 33.93 b) | 2.89 | 168 | 250 | 7.93    | 34.12   | 1.74   | 26.62   | 143   | 0.53   |
| 204 | 8.13  | 34.03 b) | 2.53 | 152 | 300 | 7.66    | 34.18   | 1.32   | 26.70   | 135   | 0.60   |
| 227 | 8.07  | 34.06 8  | 2.06 | 149 | 400 | 6.86    | 34.26   | 0.70   | 26.88   | 118   | 0.73   |
| 271 | 7.80  | 34.14 6  | 1.55 | 140 | 500 | 6.29    | 34.29   | 0.51   | 26.98   | 108   | 0.85   |
| 326 | 7.55  | 34.21 7  | 1.13 | 131 |     |         |         |        |         |       |        |
| 414 | 6.75  | 34.26 3  | 0.65 | 116 |     |         |         |        |         |       |        |
| 495 | 6.32  | 34.29 4  | 0.52 | 109 |     |         |         |        |         |       |        |
| 564 | 5.92  | 34.33 2  | 0.41 | 102 |     |         |         |        |         |       |        |

HORIZON; January 10, 1960; 0455 GCT; 32°24'N, 119°59'W; sounding, 430 fm; wind, 140°, force 4; weather, rain; sea, rough; wire angle, 15°.

90.60

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 14.58 | 33.51   | 5.50 | 303 | 0   | (14.58) | (33.51) | (5.50) | (24.94) | (303) | (0.00) |
| 12  | 14.57 | 33.53   | 5.52 | 301 | 10  | 14.57   | 33.53   | 5.52   | 24.96   | 301   | 0.03   |
| 31  | 14.56 | 33.53   | 5.55 | 301 | 20  | 14.57   | 33.53   | 5.53   | 24.96   | 301   | 0.06   |
| 40  | 14.58 | 33.53   | 5.54 | 301 | 30  | 14.56   | 33.53   | 5.55   | 24.96   | 301   | 0.09   |
| 55  | 14.56 | 33.53   | 5.55 | 301 | 50  | 14.58   | 33.53   | 5.54   | 24.96   | 301   | 0.15   |
| 70  | 13.82 | 33.53   | 5.13 | 286 | 75  | 12.80   | 33.48   | 4.80   | 25.28   | 270   | 0.22   |
| 94  | 11.38 | 33.56   | 4.32 | 239 | 100 | 11.19   | 33.58   | 4.22   | 25.66   | 234   | 0.29   |
| 112 | 10.75 | 33.62   | 4.05 | 224 | 125 | 10.20   | 33.67   | 3.76   | 25.90   | 211   | 0.34   |
| 130 | 9.98  | 33.68   | 3.66 | 207 | 150 | 9.05    | 33.78   | 3.26   | 26.18   | 185   | 0.39   |
| 152 | 8.99  | 33.79   | 3.22 | 183 | 200 | 8.30    | 33.93   | 2.63   | 26.41   | 163   | 0.48   |
| 181 | 8.55  | 33.89   | 2.83 | 169 | 250 | 7.85    | 34.12   | 1.80   | 26.63   | 142   | 0.56   |
| 213 | 8.14  | 33.96   | 2.44 | 158 | 300 | 7.65    | 34.20   | 1.29   | 26.71   | 134   | 0.63   |
| 242 | 7.90  | 34.09 8 | 1.92 | 144 | 400 | 6.79    | 34.28   | 0.69   | 26.90   | 116   | 0.76   |
| 291 | 7.68  | 34.18 2 | 1.37 | 136 | 500 | 6.07    | 34.31   | 0.47   | 27.02   | 105   | 0.88   |
| 344 | 7.42  | 34.24 8 | 1.03 | 127 | 600 | (5.69)  | (34.37) | (0.31) | (27.11) | (96)  | (0.98) |
| 428 | 6.51  | 34.28 6 | 0.59 | 112 |     |         |         |        |         |       |        |
| 511 | 6.03  | 34.31 6 | 0.46 | 104 |     |         |         |        |         |       |        |
| 595 | 5.70  | 34.36 1 | 0.31 | 96  |     |         |         |        |         |       |        |

HORIZON; January 10, 1960; 1005 GCT; 32°04'N, 120°39'W; sounding, 2000+ fm; wind, 190°, force 2; weather, cloudy; sea, moderate; wire angle, 00°.

90.70

|     |       |         |      |     |     |       |       |      |       |     |      |
|-----|-------|---------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 14.66 | 33.51   | 5.64 | 305 | 0   | 14.66 | 33.51 | 5.64 | 24.92 | 305 | 0.00 |
| 10  | 14.66 | 33.52   | 5.61 | 304 | 10  | 14.66 | 33.52 | 5.61 | 24.93 | 304 | 0.03 |
| 30  | 14.66 | 33.51   | 5.59 | 305 | 20  | 14.66 | 33.51 | 5.60 | 24.92 | 304 | 0.06 |
| 59  | 14.60 | 33.51   | 5.50 | 303 | 30  | 14.66 | 33.51 | 5.59 | 24.92 | 305 | 0.09 |
| 68  | 13.04 | 33.46   | 4.90 | 276 | 50  | 14.64 | 33.51 | 5.55 | 24.93 | 304 | 0.15 |
| 84  | 11.68 | 33.49   | 4.47 | 249 | 75  | 12.24 | 33.47 | 4.67 | 25.38 | 261 | 0.22 |
| 98  | 10.98 | 33.55   | 4.13 | 233 | 100 | 10.88 | 33.56 | 4.07 | 25.70 | 230 | 0.28 |
| 113 | 10.14 | 33.66   | 3.82 | 211 | 125 | 9.71  | 33.71 | 3.67 | 26.01 | 201 | 0.34 |
| 139 | 9.38  | 33.76   | 3.46 | 192 | 150 | 9.20  | 33.81 | 3.18 | 26.17 | 185 | 0.39 |
| 158 | 9.05  | 33.84   | 3.04 | 181 | 200 | 8.36  | 33.98 | 2.63 | 26.44 | 160 | 0.48 |
| 186 | 8.40  | 33.94   | 2.91 | 163 | 250 | 8.11  | 34.16 | 1.56 | 26.62 | 143 | 0.55 |
| 218 | 8.34  | 34.04   | 2.17 | 155 | 300 | 7.65  | 34.22 | 1.16 | 26.73 | 132 | 0.62 |
| 246 | 8.16  | 34.14 9 | 1.63 | 144 | 400 | 6.64  | 34.24 | 0.68 | 26.89 | 117 | 0.75 |
| 296 | 7.70  | 34.21 1 | 1.20 | 133 | 500 | 5.93  | 34.28 | 0.47 | 27.02 | 105 | 0.87 |
| 350 | 7.16  | 34.23 2 | 0.88 | 124 | 600 | 5.46  | 34.34 | 0.28 | 27.12 | 95  | 0.98 |
| 434 | 6.34  | 34.24 6 | 0.60 | 113 |     |       |       |      |       |     |      |
| 518 | 5.85  | 34.29 4 | 0.44 | 103 |     |       |       |      |       |     |      |
| 601 | 5.46  | 34.34 6 | 0.28 | 95  |     |       |       |      |       |     |      |

a) An assumed wire angle of 28° was used in depth determination.

b) Salinity values from 31 to 204 meters doubtful; true values may be lower by no more than 0.10‰.



SIO

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600I

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

90.80

HORIZON; January 10, 1960; 1634 GCT; 31°43'N, 121°19.5'W; sounding, 2000 fm; wind, 270°, force 3; weather, partly cloudy; sea, rough; wire angle, 24°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 14.78 | 33.44   | 5.52 | 312 | 0   | (14.78) | (33.44) | (5.52) | (24.84) | (312) | (0.00) |
| 10  | 14.77 | 33.40   | 5.57 | 314 | 10  | 14.77   | 33.40   | 5.57   | 24.82   | 314   | 0.03   |
| 27  | 14.75 | 33.44   | 5.43 | 312 | 20  | 14.75   | 33.42   | 5.47   | 24.83   | 313   | 0.06   |
| 53  | 14.77 | 33.40   | 5.40 | 314 | 30  | 14.75   | 33.44   | 5.43   | 24.84   | 312   | 0.09   |
| 61  | 14.74 | 33.44   | 5.36 | 311 | 50  | 14.76   | 33.40   | 5.41   | 24.82   | 314   | 0.16   |
| 74  | 14.46 | 33.44   | 5.23 | 305 | 75  | 14.43   | 33.44   | 5.22   | 24.92   | 305   | 0.23   |
| 87  | 12.11 | 33.42   | 5.01 | 262 | 100 | 11.29   | 33.39   | 4.68   | 25.49   | 250   | 0.30   |
| 99  | 11.32 | -       | 4.69 | -   | 125 | 10.07   | 33.35   | 4.09   | 25.68   | 232   | 0.36   |
| 121 | 10.25 | 33.34   | 4.18 | 236 | 150 | 9.32    | 33.73   | 3.58   | 26.09   | 193   | 0.42   |
| 138 | 9.68  | 33.66   | 3.80 | 203 | 200 | 8.32    | 33.95   | 2.66   | 26.43   | 161   | 0.51   |
| 163 | 8.98  | 33.78   | 3.40 | 184 | 250 | 7.76    | 34.10   | 1.68   | 26.62   | 143   | 0.59   |
| 189 | 8.46  | 33.89   | 3.06 | 168 | 300 | 7.12    | 34.15   | 1.30   | 26.75   | 130   | 0.66   |
| 214 | 8.16  | 34.02 6 | 2.16 | 153 | 400 | 6.46    | 34.22   | 0.71   | 26.90   | 116   | 0.78   |
| 258 | 7.66  | 34.10 6 | 1.62 | 141 | 500 | 5.87    | 34.30   | 0.42   | 27.04   | 103   | 0.90   |
| 306 | 7.07  | 34.14 9 | 1.28 | 130 |     |         |         |        |         |       |        |
| 382 | 6.60  | 34.21 0 | 0.78 | 119 |     |         |         |        |         |       |        |
| 459 | 6.04  | 34.26 2 | 0.54 | 108 |     |         |         |        |         |       |        |
| 538 | 5.71  | 34.34 4 | 0.28 | 98  |     |         |         |        |         |       |        |

90.90

HORIZON; January 10, 1960; 2200 GCT; 31°25'N, 121°59'W; sounding, 2000+ fm; wind, 320°, force 4; weather, partly cloudy; sea, rough; wire angle, 17°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 15.06 | 33.40   | 5.75 | 321 | 0   | (15.06) | (33.40) | (5.75) | (24.75) | (321) | (0.00) |
| 13  | 15.06 | 33.40   | 5.75 | 321 | 10  | 15.06   | 33.40   | 5.75   | 24.75   | 321   | 0.03   |
| 32  | 15.02 | 33.39   | 5.67 | 321 | 20  | 15.04   | 33.39   | 5.72   | 24.75   | 321   | 0.06   |
| 60  | 15.03 | 33.39   | 5.65 | 321 | 30  | 15.02   | 33.39   | 5.67   | 24.75   | 321   | 0.10   |
| 70  | 14.96 | 33.39   | 5.70 | 319 | 50  | 15.03   | 33.39   | 5.65   | 24.75   | 321   | 0.16   |
| 83  | 13.18 | 33.25   | 5.61 | 294 | 75  | 14.93   | 33.39   | 5.70   | 24.77   | 319   | 0.24   |
| 97  | 11.88 | 33.28   | 5.23 | 269 | 100 | 11.80   | 33.29   | 5.17   | 25.32   | 266   | 0.31   |
| 110 | 11.12 | 33.39   | 4.74 | 247 | 125 | 10.29   | 33.50   | 4.40   | 25.76   | 225   | 0.38   |
| 131 | 10.08 | 33.53   | 4.34 | 220 | 150 | 9.47    | 33.66   | 4.05   | 26.02   | 200   | 0.43   |
| 150 | 9.47  | 33.66   | 4.05 | 200 | 200 | 8.40    | 33.92   | 3.37   | 26.39   | 165   | 0.52   |
| 176 | 8.88  | 33.84   | 3.95 | 178 | 250 | 7.59    | 34.03   | 2.47   | 26.60   | 145   | 0.60   |
| 203 | 8.34  | 33.93   | 3.30 | 163 | 300 | 7.05    | 34.07   | 1.84   | 26.70   | 135   | 0.68   |
| 229 | 7.88  | 34.01 2 | 2.77 | 151 | 400 | 6.33    | 34.17   | 0.93   | 26.87   | 119   | 0.81   |
| 275 | 7.29  | 34.05 1 | 2.17 | 140 | 500 | (5.72)  | (34.24) | (0.62) | (27.02) | (105) | (0.92) |
| 325 | 6.86  | 34.09 8 | 1.55 | 131 |     |         |         |        |         |       |        |
| 404 | 6.30  | 34.17 2 | 0.91 | 118 |     |         |         |        |         |       |        |
| 484 | 5.79  | 34.23 2 | 0.62 | 107 |     |         |         |        |         |       |        |

90.100

HORIZON; January 11, 1960; 0325 GCT; 31°05'N, 122°39'W; sounding, 2000+ fm; wind, 120°, force 4; weather, partly cloudy; sea, rough; wire angle, 22°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 16.86 | 33.80   | 5.34 | 330 | 0   | (16.86) | (33.80) | (5.34) | (24.65) | (330) | (0.00) |
| 12  | 16.87 | 33.82   | 5.32 | 329 | 10  | 16.87   | 33.82   | 5.32   | 24.66   | 329   | 0.03   |
| 30  | 16.88 | 33.86   | 5.33 | 326 | 20  | 16.87   | 33.83   | 5.32   | 24.67   | 328   | 0.07   |
| 58  | 16.86 | 33.82   | 5.26 | 329 | 30  | 16.88   | 33.86   | 5.33   | 24.69   | 326   | 0.10   |
| 67  | 16.88 | 33.81   | 5.25 | 330 | 50  | 16.87   | 33.83   | 5.27   | 24.67   | 328   | 0.16   |
| 81  | 16.88 | -       | -    | -   | 75  | 16.88   | 33.81   | 5.25   | 24.66   | 329   | 0.25   |
| 95  | 16.82 | 33.81   | 5.26 | 328 | 100 | 16.50   | 33.77   | 5.26   | 24.71   | 324   | 0.33   |
| 106 | 14.04 | 33.47   | 5.30 | 295 | 125 | 12.53   | 33.49   | 5.06   | 25.33   | 265   | 0.40   |
| 131 | 12.18 | 33.51   | 4.99 | 257 | 150 | 10.87   | 33.64   | 4.60   | 25.76   | 224   | 0.47   |
| 149 | 10.90 | 33.64   | 4.61 | 225 | 200 | 9.13    | 33.86   | 3.93   | 26.22   | 180   | 0.57   |
| 173 | 9.82  | 33.73   | 4.29 | 200 | 250 | 8.12    | 33.98   | 3.03   | 26.48   | 156   | 0.66   |
| 227 | 8.56  | 33.94 2 | 3.54 | 165 | 300 | 7.25    | 34.04   | 2.15   | 26.65   | 140   | 0.73   |
| 271 | 7.74  | 34.00 9 | 2.60 | 149 | 400 | 6.33    | 34.16   | 0.91   | 26.87   | 119   | 0.86   |
| 321 | 6.98  | 34.06 6 | 1.80 | 134 | 500 | 5.68    | 34.26   | 0.48   | 27.03   | 104   | 0.98   |
| 399 | 6.34  | 34.15 8 | 0.92 | 120 |     |         |         |        |         |       |        |
| 479 | 5.82  | 34.24 1 | 0.53 | 107 |     |         |         |        |         |       |        |
| 561 | 5.38  | 34.29 0 | 0.38 | 98  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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6001

ORCA; January 9, 1960; 0129 GCT; 32°54.5'N, 117°22'W; sounding, 290 fm; wind, direction missing, force 1; weather, partly cloudy; sea, slight; wire angle, 03°.

93.28

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 15.11 | 33.58 | 5.75 | 308 | 0   | 15.11 | 33.58 | 5.75 | 24.88 | 308 | 0.00 |
| 10  | 14.91 | 33.62 | 5.78 | 302 | 10  | 14.91 | 33.62 | 5.78 | 24.95 | 302 | 0.03 |
| 30  | 14.82 | 33.55 | 5.76 | 305 | 20  | 14.84 | 33.59 | 5.77 | 24.94 | 303 | 0.06 |
| 50  | 14.38 | 33.58 | 5.57 | 294 | 30  | 14.82 | 33.55 | 5.76 | 24.91 | 305 | 0.09 |
| 75  | 12.70 | 33.53 | 4.67 | 264 | 50  | 14.38 | 33.58 | 5.57 | 25.03 | 294 | 0.15 |
| 100 | 11.20 | 33.61 | 4.22 | 232 | 75  | 12.70 | 33.53 | 4.67 | 25.34 | 264 | 0.22 |
| 125 | 10.03 | 33.62 | 3.69 | 212 | 100 | 11.20 | 33.61 | 4.22 | 25.68 | 232 | 0.28 |
| 165 | 9.41  | 33.84 | 3.02 | 186 | 125 | 10.03 | 33.62 | 3.69 | 25.89 | 212 | 0.34 |
| 205 | 9.02  | 33.96 | 2.21 | 171 | 150 | 9.59  | 33.75 | 3.26 | 26.07 | 195 | 0.39 |
| 253 | 8.46  | 34.04 | 1.85 | 156 | 200 | 9.06  | 33.95 | 2.27 | 26.30 | 173 | 0.48 |
| 303 | 8.09  | 34.07 | -    | 150 | 250 | 8.49  | 34.04 | 1.86 | 26.47 | 157 | 0.57 |
| 408 | 7.42  | 34.18 | -    | 132 | 300 | 8.11  | 34.07 | -    | 26.55 | 150 | 0.65 |
|     |       |       |      |     | 400 | 7.47  | 34.17 | -    | 26.72 | 133 | 0.80 |

ORCA; January 9, 1960; 0321 GCT; 32°48.5'N, 117°31.5'W; sounding, 510 fm; wind, direction missing, force 1; weather, cloudy; sea, slight; wire angle, 00°.

93.30

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 15.26 | 33.58 | 5.71 | 311 | 0   | 15.26 | 33.58 | 5.71 | 24.85 | 311 | 0.00 |
| 10  | 14.98 | 33.58 | 5.72 | 306 | 10  | 14.98 | 33.58 | 5.72 | 24.90 | 306 | 0.03 |
| 30  | 14.91 | 33.58 | 5.74 | 304 | 20  | 14.93 | 33.58 | 5.73 | 24.91 | 305 | 0.06 |
| 55  | 13.93 | 33.48 | 5.34 | 292 | 30  | 14.91 | 33.58 | 5.74 | 24.92 | 304 | 0.09 |
| 65  | 13.14 | 33.47 | 5.02 | 278 | 50  | 14.82 | 33.57 | 5.72 | 24.94 | 303 | 0.15 |
| 75  | 12.54 | 33.45 | 4.72 | 268 | 75  | 12.54 | 33.45 | 4.72 | 25.30 | 268 | 0.22 |
| 90  | 11.71 | 33.47 | 4.15 | 251 | 100 | 11.15 | 33.53 | 4.00 | 25.62 | 237 | 0.29 |
| 105 | 10.88 | 33.67 | 3.94 | 222 | 125 | 10.46 | 33.63 | 3.76 | 25.82 | 218 | 0.35 |
| 129 | 10.38 | 33.63 | 3.70 | 217 | 150 | 9.72  | 33.70 | 3.35 | 26.02 | 200 | 0.40 |
| 149 | 9.73  | 33.69 | 3.40 | 202 | 200 | 8.84  | 33.98 | 2.53 | 26.36 | 167 | 0.49 |
| 174 | 9.30  | 33.91 | 2.85 | 179 | 250 | 8.31  | 34.09 | 1.87 | 26.54 | 151 | 0.57 |
| 203 | 8.78  | 33.98 | 2.48 | 166 | 300 | 8.00  | 34.15 | 1.53 | 26.63 | 142 | 0.65 |
| 233 | 8.42  | 34.07 | 2.03 | 154 | 400 | 7.19  | 34.25 | 0.79 | 26.82 | 124 | 0.79 |
| 272 | 8.21  | 34.12 | 1.72 | 147 | 500 | 6.47  | 34.28 | 0.53 | 26.95 | 112 | 0.91 |
| 331 | 7.74  | 34.18 | 1.36 | 136 |     |       |       |      |       |     |      |
| 406 | 7.16  | 34.25 | 0.77 | 123 |     |       |       |      |       |     |      |
| 482 | 6.60  | 34.27 | 0.58 | 114 |     |       |       |      |       |     |      |
| 562 | 6.05  | 34.34 | 0.38 | 102 |     |       |       |      |       |     |      |

ORCA; January 9, 1960; 0900 GCT; 32°29.5'N, 118°11.5'W; sounding, 950 fm; wind, 180°, force 2; weather, overcast; sea, moderate; wire angle, 05°.

93.40

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.56 | 33.58 | 5.62 | 318 | 0   | (15.56) | (33.58) | (5.62) | (24.78) | (318) | (0.00) |
| 11  | 15.56 | 33.57 | 5.71 | 318 | 10  | 15.56   | 33.57   | 5.70   | 24.77   | 318   | 0.03   |
| 31  | 15.49 | 33.56 | 5.62 | 318 | 20  | 15.54   | 33.56   | 5.69   | 24.77   | 318   | 0.06   |
| 56  | 15.38 | 33.60 | 5.59 | 313 | 30  | 15.50   | 33.56   | 5.63   | 24.77   | 318   | 0.10   |
| 65  | 15.26 | 33.53 | 5.58 | 315 | 50  | 15.41   | 33.60   | 5.59   | 24.83   | 313   | 0.16   |
| 75  | 13.02 | 33.38 | 5.19 | 282 | 75  | 13.02   | 33.38   | 5.19   | 25.16   | 282   | 0.23   |
| 90  | 12.21 | 33.44 | 4.77 | 262 | 100 | 11.56   | 33.49   | 4.57   | 25.52   | 247   | 0.30   |
| 104 | 11.28 | 33.52 | 4.50 | 240 | 125 | 10.74   | 33.55   | 4.17   | 25.71   | 229   | 0.36   |
| 129 | 10.66 | 33.56 | 4.11 | 227 | 150 | 9.89    | 33.69   | 3.68   | 25.97   | 204   | 0.42   |
| 148 | 9.95  | 33.68 | 3.72 | 206 | 200 | 8.78    | 33.97   | 2.64   | 26.36   | 167   | 0.51   |
| 173 | 9.36  | 33.79 | 3.33 | 189 | 250 | 8.10    | 34.07   | 1.89   | 26.56   | 149   | 0.59   |
| 202 | 8.74  | 33.98 | 2.58 | 166 | 300 | 7.69    | 34.17   | 1.45   | 26.69   | 136   | 0.66   |
| 232 | 8.27  | 34.02 | 2.07 | 156 | 400 | 6.91    | 34.22   | 0.78   | 26.84   | 122   | 0.80   |
| 270 | 7.95  | 34.14 | 1.75 | 142 | 500 | 6.22    | 34.28   | 0.44   | 26.98   | 109   | 0.92   |
| 329 | 7.47  | 34.18 | 1.17 | 133 |     |         |         |        |         |       |        |
| 403 | 6.89  | 34.22 | 0.77 | 122 |     |         |         |        |         |       |        |
| 478 | 6.38  | 34.26 | 0.49 | 112 |     |         |         |        |         |       |        |
| 558 | 5.88  | 34.33 | 0.35 | 101 |     |         |         |        |         |       |        |



SIO

CCOFI  
600I

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

93.50

ORCA; January 9, 1960; 1454 GCT; 32°06'N, 118°52.5'W; sounding, 800 fm; wind, 170°, force 4; weather, cloudy; sea, moderate; wire angle, 24°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.10 | 33.64 | 5.51 | 325 | 0   | (16.10) | (33.64) | (5.51) | (24.70) | (325) | (0.00) |
| 10  | 16.11 | 33.66 | 5.54 | 324 | 10  | 16.11   | 33.66   | 5.54   | 24.71   | 324   | 0.03   |
| 25  | 16.10 | 33.63 | 5.54 | 326 | 20  | 16.10   | 33.64   | 5.54   | 24.70   | 325   | 0.06   |
| 33  | 15.90 | 33.65 | 5.61 | 320 | 30  | 16.00   | 33.64   | 5.59   | 24.72   | 323   | 0.10   |
| 41  | 15.76 | 33.59 | 5.58 | 321 | 50  | 15.30   | 33.55   | 5.58   | 24.81   | 315   | 0.16   |
| 52  | 14.38 | 33.49 | 5.58 | 300 | 75  | 12.34   | 33.54   | 4.60   | 25.40   | 258   | 0.23   |
| 62  | 13.38 | 33.36 | 5.40 | 290 | 100 | 11.06   | 33.53   | 4.40   | 25.64   | 236   | 0.30   |
| 76  | 12.32 | 33.54 | 4.59 | 257 | 125 | 9.95    | 33.64   | 3.77   | 25.92   | 210   | 0.35   |
| 94  | 11.37 | 33.53 | 4.45 | 241 | 150 | 9.46    | 33.79   | 3.26   | 26.11   | 191   | 0.40   |
| 108 | 10.58 | 33.54 | 4.28 | 227 | 200 | 8.66    | 34.00   | 2.22   | 26.41   | 163   | 0.49   |
| 127 | 9.89  | 33.65 | 3.71 | 207 | 250 | 8.05    | 34.09   | 1.76   | 26.58   | 147   | 0.57   |
| 147 | 9.51  | 33.79 | 3.30 | 191 | 300 | 7.58    | 34.15   | 1.31   | 26.69   | 136   | 0.64   |
| 168 | 9.13  | 33.88 | 2.88 | 179 | 400 | 6.81    | 34.24   | 0.78   | 26.86   | 120   | 0.78   |
| 196 | 8.72  | 33.98 | 2.28 | 165 | 500 | (6.15)  | (34.23) |        | (26.95) | (112) | (0.90) |
| 241 | 8.16  | 34.07 | 1.85 | 150 |     |         |         |        |         |       |        |
| 298 | 7.59  | 34.14 | 1.33 | 137 |     |         |         |        |         |       |        |
| 360 | 7.12  | 34.23 | 0.92 | 124 |     |         |         |        |         |       |        |
| 436 | 6.56  | 34.23 | 0.68 | 116 |     |         |         |        |         |       |        |

93.60

ORCA; January 9, 1960; 2116 GCT; 31°46'N, 119°29'W; sounding, 1500 fm; wind, 190°, force 4; weather, cloudy; sea, very rough; wire angle, 20°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 15.59 | 33.51 | 5.55 | 324 | 0   | (15.59) | (33.51) | (5.55) | (24.72) | (324) | (0.00) |
| 11  | 15.60 | 33.52 | 5.62 | 323 | 10  | 15.60   | 33.52   | 5.61   | 24.72   | 323   | 0.03   |
| 34  | 15.56 | 33.53 | 5.58 | 322 | 20  | 15.58   | 33.52   | 5.60   | 24.74   | 322   | 0.06   |
| 62  | 15.60 | 33.52 | 5.60 | 323 | 30  | 15.57   | 33.53   | 5.59   | 24.74   | 322   | 0.10   |
| 71  | 15.56 | 33.52 | 5.58 | 322 | 50  | 15.58   | 33.52   | 5.59   | 24.74   | 322   | 0.16   |
| 90  | 14.92 | 33.45 | 5.45 | 314 | 75  | 15.47   | 33.51   | 5.55   | 24.75   | 321   | 0.24   |
| 104 | 13.24 | 33.50 | 4.99 | 277 | 100 | 13.75   | 33.49   | 5.14   | 25.09   | 288   | 0.32   |
| 118 | 11.45 | 33.53 | 4.37 | 243 | 125 | 10.96   | 33.57   | 4.16   | 25.69   | 231   | 0.38   |
| 146 | 9.92  | 33.73 | 3.61 | 202 | 150 | 9.82    | 33.75   | 3.54   | 26.03   | 199   | 0.44   |
| 165 | 9.54  | 33.80 | 3.33 | 191 | 200 | 8.98    | 33.99   | 2.54   | 26.34   | 169   | 0.53   |
| 193 | 9.04  | 33.96 | 2.69 | 172 | 250 | 8.52    | 34.11   | 1.94   | 26.52   | 152   | 0.62   |
| 224 | 8.86  | 34.04 | 2.16 | 163 | 300 | 7.89    | 34.20   | 1.29   | 26.68   | 137   | 0.69   |
| 250 | 8.52  | 34.11 | 1.94 | 152 | 400 | 6.88    | 34.26   | 0.70   | 26.87   | 119   | 0.82   |
| 297 | 7.93  | 34.19 | 1.33 | 138 | 500 | 6.04    | 34.30   | 0.38   | 27.02   | 105   | 0.94   |
| 356 | 7.32  | 34.24 | 0.91 | 126 | 600 | 5.51    | 34.34   | 0.39   | 27.11   | 96    | 1.05   |
| 450 | 6.39  | 34.27 | 0.56 | 111 |     |         |         |        |         |       |        |
| 537 | 5.83  | 34.32 | 0.33 | 101 |     |         |         |        |         |       |        |
| 611 | 5.47  | 34.34 | 0.40 | 95  |     |         |         |        |         |       |        |

93.70

ORCA; January 10, 1960; 0250 GCT; 31°29.5'N, 120°05.5'W; sounding, 2000+ fm; wind, 180°, force 4; weather, rain; sea, very rough; wire angle, 16°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.63 | 33.56 | 5.51 | 321 | 0   | (15.63) | (33.56) | (5.51) | (24.75) | (321) | (0.00) |
| 10  | 15.64 | 33.55 | 5.60 | 322 | 10  | 15.64   | 33.55   | 5.60   | 24.74   | 322   | 0.03   |
| 35  | 15.64 | 33.64 | 5.64 | 316 | 20  | 15.64   | 33.58   | 5.62   | 24.76   | 320   | 0.06   |
| 64  | 15.63 | 33.57 | 5.61 | 320 | 30  | 15.64   | 33.63   | 5.64   | 24.80   | 316   | 0.10   |
| 73  | 15.64 | 33.58 | 5.58 | 320 | 50  | 15.63   | 33.61   | 5.63   | 24.79   | 317   | 0.16   |
| 93  | 12.43 | 33.58 | 4.47 | 256 | 75  | 15.64   | 33.58   | 5.57   | 24.76   | 319   | 0.24   |
| 107 | 11.27 | 33.57 | 4.33 | 236 | 100 | 11.72   | 33.57   | 4.35   | 25.56   | 244   | 0.31   |
| 122 | 10.30 | 33.58 | 4.18 | 219 | 125 | 10.13   | 33.59   | 4.13   | 25.85   | 216   | 0.37   |
| 151 | 9.23  | 33.81 | 3.66 | 186 | 150 | 9.26    | 33.81   | 3.66   | 26.16   | 186   | 0.42   |
| 170 | 8.89  | 33.82 | 3.28 | 180 | 200 | 8.43    | 33.95   | 2.80   | 26.41   | 163   | 0.51   |
| 200 | 8.43  | 33.95 | 2.80 | 163 | 250 | 7.82    | 34.07   | 2.09   | 26.59   | 145   | 0.59   |
| 234 | 8.01  | 34.00 | 2.23 | 153 | 300 | 7.37    | 34.10   | 1.50   | 26.68   | 137   | 0.66   |
| 262 | 7.70  | 34.14 | 2.02 | 139 | 400 | 6.47    | 34.17   | 0.85   | 26.86   | 120   | 0.79   |
| 310 | 7.28  | 34.09 | 1.46 | 136 | 500 | 5.94    | 34.27   | 0.45   | 27.01   | 106   | 0.91   |
| 374 | 6.65  | 34.14 | 1.02 | 125 | 600 | 5.38    | 34.33   | 0.42   | 27.11   | 95    | 1.02   |
| 472 | 6.11  | 34.26 | 0.48 | 109 |     |         |         |        |         |       |        |
| 561 | 5.59  | 34.30 | 0.44 | 100 |     |         |         |        |         |       |        |
| 638 | 5.22  | 34.37 | 0.38 | 91  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

SIO  
CCOFI  
600I

ORCA; January 10, 1960; 0911, 0921 GCT; 31°12.5'N, 120°41'W; sounding, 2000 fm; wind, direction missing, force 1; weather, cloudy; sea, moderate; wire angle, 02°, 00°.

93.80

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.08 | 33.46 | 5.62 | 317 | 0   | (15.08) | (33.46) | (5.62) | (24.78) | (317) | (0.00) |
| 11  | 15.09 | 33.42 | 5.71 | 320 | 10  | 15.09   | 33.42   | 5.70   | 24.76   | 320   | 0.03   |
| 31  | 15.09 | 33.43 | 5.67 | 319 | 20  | 15.09   | 33.42   | 5.70   | 24.76   | 320   | 0.06   |
| 61  | 15.04 | 33.43 | 5.67 | 318 | 30  | 15.09   | 33.43   | 5.68   | 24.77   | 319   | 0.10   |
| 71  | 12.84 | 33.24 | 5.43 | 289 | 50  | 15.09   | 33.43   | 5.67   | 24.77   | 318   | 0.16   |
| 86  | 12.40 | 33.38 | 5.11 | 271 | 75  | 12.75   | 33.25   | 5.36   | 25.11   | 286   | 0.24   |
| 100 | 11.24 | 33.45 | 4.79 | 245 | 100 | 11.24   | 33.45   | 4.79   | 25.54   | 245   | 0.30   |
| 115 | 10.48 | 33.53 | 4.45 | 226 | 125 | 10.04   | 33.59   | 4.27   | 25.86   | 215   | 0.36   |
| 140 | 9.48  | 33.69 | 4.03 | 198 | 150 | 9.29    | 33.74   | 3.97   | 26.10   | 192   | 0.41   |
| 160 | 9.13  | 33.78 | 3.95 | 186 | 200 | 8.32    | 33.95   | 2.86   | 26.43   | 161   | 0.50   |
| 190 | 8.56  | 33.92 | 2.90 | 167 | 250 | 7.74    | 34.08   | 1.74   | 26.61   | 144   | 0.58   |
| 220 | 7.86  | 33.98 | 2.84 | 153 | 300 | 7.29    | 34.15   | 1.33   | 26.72   | 133   | 0.65   |
| 248 | 7.76  | 34.07 | 1.78 | 144 | 400 | 6.75    | 34.26   | 0.66   | 26.89   | 117   | 0.78   |
| 298 | 7.30  | 34.14 | 1.35 | 133 | 500 | 6.10    | 34.31   | 0.36   | 27.02   | 105   | 0.90   |
| 353 | 7.09  | 34.22 | 0.83 | 125 | 600 | 5.64    | 34.34   | 0.30   | 27.09   | 98    | 1.00   |
| 438 | 6.44  | 34.29 | 0.59 | 111 |     |         |         |        |         |       |        |
| 523 | 5.98  | 34.31 | 0.32 | 104 |     |         |         |        |         |       |        |
| 608 | 5.61  | 34.34 | 0.30 | 97  |     |         |         |        |         |       |        |

ORCA; January 10, 1960; 1500 GCT; 30°56'N, 121°15'W; sounding, 2246 fm; wind, 290°, force 3; weather, partly cloudy; sea, very rough; wire angle, 10°.

93.90

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.46 | 33.44 | 5.65 | 326 | 0   | (15.46) | (33.44) | (5.65) | (24.69) | (326) | (0.00) |
| 11  | 15.50 | 33.44 | 5.63 | 326 | 10  | 15.50   | 33.44   | 5.64   | 24.69   | 326   | 0.03   |
| 30  | 15.33 | 33.44 | 5.68 | 324 | 20  | 15.44   | 33.44   | 5.65   | 24.70   | 325   | 0.07   |
| 59  | 15.20 | 33.44 | 5.71 | 321 | 30  | 15.33   | 33.44   | 5.68   | 24.71   | 324   | 0.10   |
| 69  | 15.20 | 33.43 | 5.67 | 321 | 50  | 15.22   | 33.44   | 5.70   | 24.75   | 321   | 0.16   |
| 83  | 15.13 | 33.43 | 5.65 | 320 | 75  | 15.18   | 33.43   | 5.66   | 24.75   | 321   | 0.24   |
| 98  | 13.58 | 33.29 | 5.54 | 299 | 100 | 13.32   | 33.29   | 5.47   | 25.03   | 294   | 0.32   |
| 113 | 12.29 | 33.33 | 5.15 | 272 | 125 | 11.42   | 33.43   | 4.87   | 25.49   | 250   | 0.39   |
| 136 | 10.90 | 33.51 | 4.66 | 234 | 150 | 10.03   | 33.61   | 4.16   | 25.88   | 213   | 0.45   |
| 155 | 9.79  | 33.63 | 4.01 | 207 | 200 | 8.80    | 33.87   | 3.50   | 26.28   | 175   | 0.55   |
| 184 | 9.10  | 33.78 | 3.85 | 186 | 250 | 8.09    | 33.98   | 2.52   | 26.48   | 156   | 0.63   |
| 213 | 8.57  | 33.94 | 3.06 | 166 | 300 | 7.48    | 34.07   | 1.87   | 26.63   | 142   | 0.71   |
| 240 | 8.22  | 33.97 | 2.66 | 158 | 400 | 6.42    | 34.18   | 0.83   | 26.88   | 118   | 0.84   |
| 289 | 7.62  | 34.05 | 1.99 | 144 | 500 | 5.79    | 34.27   | 0.45   | 27.02   | 105   | 0.96   |
| 341 | 6.97  | 34.11 | 1.33 | 131 | 600 | (5.36)  | (34.33) | (0.35) | (27.13) | (94)  | (1.07) |
| 425 | 6.24  | 34.21 | 0.68 | 114 |     |         |         |        |         |       |        |
| 508 | 5.76  | 34.27 | 0.44 | 104 |     |         |         |        |         |       |        |
| 593 | 5.38  | 34.33 | 0.35 | 95  |     |         |         |        |         |       |        |

ORCA; January 8, 1960; 2355 GCT; 32°47'N, 117°22'W; sounding, 80 fm; wind, direction missing, force 1; weather, partly cloudy; sea, slight; wire angle, 00°. <sup>a)</sup>

93<sup>5</sup>.29  
4

|    |       |       |      |     |  |  |  |  |  |  |  |
|----|-------|-------|------|-----|--|--|--|--|--|--|--|
| 1  | 15.25 | 33.58 | 5.83 | 311 |  |  |  |  |  |  |  |
| 6  | 14.99 | 33.58 | 5.80 | 306 |  |  |  |  |  |  |  |
| 11 | 14.96 | 33.57 | 5.81 | 306 |  |  |  |  |  |  |  |
| 16 | 14.91 | 33.57 | 5.81 | 305 |  |  |  |  |  |  |  |
| 21 | 14.92 | 33.58 | 5.80 | 305 |  |  |  |  |  |  |  |
| 26 | 14.91 | 33.57 | 5.76 | 305 |  |  |  |  |  |  |  |
| 31 | 14.86 | 33.57 | 5.78 | 304 |  |  |  |  |  |  |  |
| 36 | 14.74 | 33.57 | 5.59 | 301 |  |  |  |  |  |  |  |
| 41 | 14.11 | 33.48 | 5.37 | 295 |  |  |  |  |  |  |  |
| 46 | 13.44 | 33.46 | 5.12 | 284 |  |  |  |  |  |  |  |
| 51 | 13.10 | 33.57 | 4.82 | 269 |  |  |  |  |  |  |  |
| 56 | 13.00 | 33.55 | 4.80 | 269 |  |  |  |  |  |  |  |
| 61 | 12.84 | 33.55 | 4.67 | 266 |  |  |  |  |  |  |  |
| 66 | 12.70 | 33.58 | 4.61 | 261 |  |  |  |  |  |  |  |
| 71 | 12.42 | 33.58 | 4.53 | 257 |  |  |  |  |  |  |  |
| 76 | 12.20 | 33.58 | 4.46 | 252 |  |  |  |  |  |  |  |
| 81 | 11.88 | 33.59 | 4.41 | 245 |  |  |  |  |  |  |  |
| 87 | 11.54 | 33.59 | 4.28 | 240 |  |  |  |  |  |  |  |

a) Shakedown station.



SIO

CCOFI  
6001

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

5  
94.296  
30

HORIZON; January 8, 1960; 2320 GCT; 32°35.5'N, 117°18.5'W; sounding, 55 fm; wind, direction missing, force 1; weather, clear; sea, smooth; wire angle, 02°. a)

|    |       |         |      |     |
|----|-------|---------|------|-----|
| 0  | 15.66 | 33.62   | 5.40 | 317 |
| 4  | 15.60 | 33.61   | 5.22 | 317 |
| 10 | 15.38 | 33.62   | 5.26 | 312 |
| 15 | 15.10 | 33.58   | 5.12 | 309 |
| 19 | 15.02 | 33.58   | 5.28 | 307 |
| 25 | 14.96 | 33.57   | 5.58 | 306 |
| 30 | 14.96 | 33.58   | 5.58 | 306 |
| 35 | 14.98 | 33.58   | 5.56 | 306 |
| 38 | 14.94 | 33.58   | 5.48 | 305 |
| 44 | 14.95 | 33.58 4 | 5.65 | 305 |
| 49 | 14.94 | 33.58 2 | 5.67 | 305 |
| 53 | 14.55 | 33.53 6 | 5.38 | 301 |
| 59 | 13.47 | 33.50 6 | 4.98 | 281 |
| 64 | 13.16 | 33.50 2 | 4.95 | 276 |
| 69 | 12.62 | 33.54 0 | 4.61 | 263 |

97.30

ORCA; January 12, 1960; 0932 GCT; 32°14.5'N, 117°08'W; sounding, 27 fm; wind, 180°, force 6; weather, drizzle; sea, moderate; wire angle, 07°.

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1  | 15.27 | 33.59 | 5.74 | 311 | 0  | (15.27) | (33.59) | (5.74) | (24.85) | (311) | (0.00) |
| 11 | 15.28 | 33.58 | 5.66 | 312 | 10 | 15.28   | 33.58   | 5.66   | 24.84   | 312   | 0.03   |
| 30 | 15.26 | 33.58 | 5.69 | 312 | 20 | 15.27   | 33.58   | 5.67   | 24.84   | 312   | 0.06   |
|    |       |       |      |     | 30 | 15.26   | 33.58   | 5.69   | 24.84   | 312   | 0.09   |

97.32

ORCA; January 12, 1960; 0804 GCT; 32°10.5'N, 117°14.5'W; sounding, 850 fm; wind, 220°, force 3; weather, drizzle; sea, moderate; wire angle, 10°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 15.58 | 33.61 | 5.46 | 316 | 0   | (15.58) | (33.61) | (5.46) | (24.80) | (316) | (0.00) |
| 11  | 15.58 | 33.62 | 5.59 | 316 | 10  | 15.58   | 33.62   | 5.59   | 24.80   | 316   | 0.03   |
| 31  | 15.46 | 33.62 | 5.62 | 313 | 20  | 15.55   | 33.62   | 5.60   | 24.82   | 314   | 0.06   |
| 40  | 15.20 | 33.58 | 5.64 | 311 | 30  | 15.47   | 33.62   | 5.61   | 24.83   | 313   | 0.09   |
| 50  | 15.02 | 33.57 | 5.64 | 308 | 50  | 15.02   | 33.57   | 5.64   | 24.88   | 308   | 0.16   |
| 64  | 13.70 | 33.51 | 5.21 | 285 | 75  | 12.74   | 33.56   | 4.67   | 25.35   | 263   | 0.23   |
| 79  | 12.58 | 33.57 | 4.62 | 260 | 100 | 10.72   | 33.62   | 4.12   | 25.76   | 224   | 0.29   |
| 99  | 10.77 | 33.61 | 4.14 | 225 | 125 | 10.00   | 33.81   | 3.46   | 26.04   | 198   | 0.34   |
| 124 | 10.02 | 33.78 | 3.54 | 200 | 150 | 9.71    | 33.93   | 2.82   | 26.19   | 184   | 0.39   |
| 143 | 9.84  | 33.93 | 2.88 | 186 | 200 | 9.14    | 34.04   | 2.38   | 26.36   | 168   | 0.48   |
| 171 | 9.26  | 33.93 | 2.73 | 177 | 250 | 8.39    | 34.14   | 1.77   | 26.57   | 148   | 0.56   |
| 201 | 9.14  | 34.04 | 2.37 | 167 | 300 | 8.09    | 34.18   | 1.53   | 26.64   | 141   | 0.64   |
| 230 | 8.49  | 34.11 | 1.95 | 152 | 400 | 7.22    | 34.27   | 0.86   | 26.84   | 122   | 0.77   |
| 268 | 8.35  | 34.16 | 1.68 | 146 | 500 | 6.39    | 34.32   | 0.52   | 27.00   | 107   | 0.89   |
| 326 | 7.84  | 34.20 | 1.42 | 136 |     |         |         |        |         |       |        |
| 400 | 7.22  | 34.27 | 0.86 | 122 |     |         |         |        |         |       |        |
| 474 | 6.57  | 34.31 | 0.59 | 111 |     |         |         |        |         |       |        |
| 554 | 6.12  | 34.33 | 0.44 | 104 |     |         |         |        |         |       |        |

97.32

BLACK DOUGLAS; January 13, 1960; 0312 GCT; 32°12'N, 117°15'W; sounding, 700 fm; wind, 290°, force 4; weather, cloudy; sea, rough; wire angle, 07°. a)

|    |         |       |      |     |
|----|---------|-------|------|-----|
| 0  | 15.68   | 33.66 | 5.68 | 315 |
| 5  | 15.66   | 33.68 | 5.64 | 313 |
| 10 | 15.68   | 33.66 | 5.69 | 315 |
| 20 | 15.68   | 33.66 | 5.62 | 315 |
| 25 | 15.69   | 33.66 | 5.57 | 315 |
| 30 | 15.70   | 33.65 | 5.55 | 316 |
| 35 | 15.70   | 33.67 | 5.56 | 314 |
| 41 | 15.70   | 33.65 | 5.35 | 316 |
| 45 | 15.67   | 33.68 | 5.57 | 314 |
| 51 | 15.64   | 33.68 | 5.58 | 312 |
| 55 | 15.40   | 33.67 | 5.57 | 308 |
| 60 | 14.92   | 33.61 | 5.56 | 303 |
| 65 | 14.18b) | 33.60 | 5.28 | 288 |
| 70 | 13.16   | 33.54 | 5.10 | 273 |
| 75 | 12.66   | 33.56 | 4.91 | 262 |
| 80 | 12.34   | 33.56 | 4.84 | 256 |
| 85 | 11.88   | 33.58 | 4.59 | 246 |

40

a) Shakedown station.

b) Mean value of 14.12 and 14.23°C.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

SIO  
CCOFI  
600i

ORCA; January 12, 1960; 0245 GCT; 31°55'N, 117°49.5'W; sounding, 650 fm; wind, 290°, force 3; weather, cloudy; sea, very rough; wire angle, 04°.

9740

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.44 | 33.74 | 5.43 | 326 | 0   | (16.44) | (33.74) | (5.43) | (24.69) | (326) | (0.00) |
| 11  | 16.46 | 33.77 | 5.41 | 324 | 10  | 16.46   | 33.77   | 5.41   | 24.71   | 324   | 0.03   |
| 31  | 16.47 | 33.69 | 5.50 | 329 | 20  | 16.46   | 33.74   | 5.45   | 24.69   | 326   | 0.06   |
| 60  | 15.56 | 33.62 | 5.46 | 315 | 30  | 16.47   | 33.69   | 5.49   | 24.66   | 329   | 0.10   |
| 71  | 15.32 | 33.63 | 5.29 | 309 | 50  | 16.43   | 33.68   | 5.50   | 24.66   | 329   | 0.16   |
| 86  | 13.74 | 33.62 | 4.78 | 278 | 75  | 15.21   | 33.63   | 5.23   | 24.89   | 307   | 0.24   |
| 100 | 12.48 | 33.64 | 4.28 | 253 | 100 | 12.48   | 33.64   | 4.28   | 25.46   | 253   | 0.31   |
| 114 | 11.50 | 33.68 | 3.81 | 232 | 125 | 11.10   | 33.73   | 3.64   | 25.79   | 222   | 0.37   |
| 140 | 10.71 | 33.78 | 3.50 | 211 | 150 | 10.38   | 33.82   | 3.32   | 26.00   | 202   | 0.43   |
| 159 | 10.08 | 33.86 | 3.15 | 195 | 200 | 9.17    | 33.99   | 2.66   | 26.32   | 171   | 0.52   |
| 189 | 9.36  | 33.93 | 2.82 | 178 | 250 | 8.68    | 34.16   | 1.84   | 26.54   | 151   | 0.60   |
| 218 | 8.86  | 34.07 | 2.36 | 161 | 300 | 8.18    | 34.25   | 1.35   | 26.68   | 137   | 0.68   |
| 247 | 8.70  | 34.15 | 1.86 | 152 | 400 | 6.98    | 34.25   | 0.97   | 26.85   | 121   | 0.81   |
| 297 | 8.22  | 34.25 | 1.37 | 138 | 500 | 6.27    | 34.31   | 0.49   | 26.99   | 108   | 0.93   |
| 352 | 7.23  | 34.19 | 1.23 | 129 | 600 | 5.68    | 34.34   | 0.50   | 27.09   | 98    | 1.04   |
| 436 | 6.80  | 34.29 | 0.76 | 115 |     |         |         |        |         |       |        |
| 521 | 6.11  | 34.31 | 0.47 | 105 |     |         |         |        |         |       |        |
| 606 | 5.67  | 34.34 | 0.51 | 98  |     |         |         |        |         |       |        |

ORCA; January 11, 1960; 2119 GCT; 31°37'N, 118°30.5'W; sounding, 1200 fm; wind, 300°, force 4; weather, cloudy; sea, high; wire angle, 13°.

9750

|     |       |        |      |     |     |         |         |        |         |       |        |
|-----|-------|--------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.71 | 33.73  | 5.48 | 310 | 0   | (15.71) | (33.73) | (5.48) | (24.86) | (310) | (0.00) |
| 11  | 15.73 | 33.67u | 5.52 | -   | 10  | 15.73   | 33.73   | 5.52   | 24.86   | 310   | 0.03   |
| 36  | 15.73 | 33.73  | 5.52 | 311 | 20  | 15.73   | 33.73   | 5.52   | 24.86   | 311   | 0.06   |
| 65  | 13.98 | 33.68  | 4.72 | 278 | 30  | 15.73   | 33.73   | 5.52   | 24.86   | 311   | 0.09   |
| 74  | 13.03 | 33.64  | 4.46 | 263 | 50  | 15.73   | 33.73   | 5.49   | 24.86   | 310   | 0.16   |
| 94  | 11.52 | 33.76  | 3.87 | 227 | 75  | 12.99   | 33.64   | 4.44   | 25.37   | 262   | 0.23   |
| 106 | 11.08 | 33.69  | 3.47 | 224 | 100 | 11.20   | 33.69   | 3.65   | 25.75   | 225   | 0.29   |
| 123 | 10.60 | 33.77  | 3.09 | 210 | 125 | 10.53   | 33.77   | 3.05   | 25.92   | 209   | 0.34   |
| 151 | 10.07 | 33.86  | 2.85 | 195 | 150 | 10.08   | 33.86   | 2.86   | 26.07   | 195   | 0.40   |
| 170 | 9.78  | 33.96  | 2.57 | 183 | 200 | 9.57    | 34.12   | 2.07   | 26.36   | 168   | 0.49   |
| 197 | 9.58  | 34.10  | 2.12 | 169 | 250 | 8.99    | 34.26   | 1.62   | 26.56   | 148   | 0.57   |
| 231 | 9.25  | 34.24  | 1.82 | 154 | 300 | 8.32    | 34.25   | 1.37   | 26.66   | 139   | 0.64   |
| 256 | 8.92  | 34.27  | 1.55 | 146 | 400 | 7.23    | 34.33   | 0.76   | 26.88   | 118   | 0.78   |
| 305 | 8.25  | 34.25  | 1.36 | 138 | 500 | 6.17    | 34.30   | 0.45   | 27.00   | 106   | 0.89   |
| 367 | 7.66  | 34.34  | 0.92 | 123 | 600 | 5.68    | 34.35   | 0.36   | 27.11   | 96    | 1.00   |
| 464 | 6.39  | 34.29  | 0.53 | 110 |     |         |         |        |         |       |        |
| 552 | 5.90  | 34.34  | 0.36 | 100 |     |         |         |        |         |       |        |
| 626 | 5.54  | 34.36  | 0.36 | 95  |     |         |         |        |         |       |        |

ORCA; January 11, 1960; 1406 GCT; 31°18'N, 119°12'W; sounding, 1900 fm; wind, 300°, force 5; weather, cloudy; sea, very rough; wire angle, 35°.

9760

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 16.36 | 33.81 | 5.39 | 318 | 0   | (16.36) | (33.81) | (5.39) | (24.78) | (318) | (0.00) |
| 11  | 16.38 | 33.78 | 5.44 | 321 | 10  | 16.38   | 33.78   | 5.44   | 24.75   | 321   | 0.03   |
| 28  | 16.38 | 33.80 | 5.41 | 319 | 20  | 16.38   | 33.79   | 5.43   | 24.75   | 321   | 0.06   |
| 53  | 15.44 | 33.70 | 5.17 | 307 | 30  | 16.38   | 33.80   | 5.40   | 24.77   | 319   | 0.10   |
| 62  | 13.41 | 33.61 | 4.54 | 273 | 50  | 16.37   | 33.80   | 5.40   | 24.77   | 319   | 0.16   |
| 73  | 12.69 | 33.62 | 4.35 | 258 | 75  | 12.59   | 33.62   | 4.33   | 25.43   | 256   | 0.23   |
| 86  | 11.82 | 33.61 | 4.23 | 243 | 100 | 10.98   | 33.65   | 4.01   | 25.75   | 225   | 0.29   |
| 98  | 11.06 | 33.64 | 4.04 | 228 | 125 | 9.95    | 33.74   | 3.55   | 26.00   | 202   | 0.35   |
| 118 | 10.16 | 33.73 | 3.63 | 206 | 150 | 9.22    | 33.86   | 3.35   | 26.21   | 182   | 0.40   |
| 134 | 9.77  | 33.75 | 3.47 | 198 | 200 | 8.40    | 34.06   | 2.40   | 26.49   | 155   | 0.48   |
| 159 | 8.90  | 33.89 | 3.31 | 174 | 250 | 7.81    | 34.12   |        | 26.63   | 142   | 0.56   |
| 183 | 8.66  | 33.99 | 2.82 | 163 | 300 | 7.48    | 34.19   |        | 26.73   | 132   | 0.63   |
| 207 | 8.30  | 34.07 | 2.23 | 152 | 400 | 6.78    | 34.29   | 0.69   | 26.91   | 115   | 0.76   |
| 365 | 7.15  | 34.27 | 0.82 | 121 | 500 | 5.94    | 34.32   | 0.38   | 27.05   | 102   | 0.87   |
| 442 | 6.32  | 34.30 | 0.55 | 108 |     |         |         |        |         |       |        |
| 525 | 5.80  | 34.33 | 0.32 | 100 |     |         |         |        |         |       |        |



SIO

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6001

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

9760

ORCA; January 11, 1960; 1527 GCT; <sup>a)</sup> 31°18'N, 119°12'W; sounding, 1900 fm; wind, 300°, force 5; weather, cloudy; sea, very rough; wire angle, 20°.

|     |      |       |      |     |
|-----|------|-------|------|-----|
| 412 | 6.84 | 34.30 | 0.60 | 115 |
| 415 | 6.67 | 34.29 | 0.60 | 114 |
| 417 | 6.58 | 34.28 | 0.57 | 113 |
| 441 | 6.50 | 34.29 | 0.45 | 112 |
| 443 | 6.44 | 34.29 | 0.48 | 111 |
| 446 | 6.44 | 34.31 | 0.45 | 110 |
| 470 | 6.08 | 34.29 | 0.43 | 106 |
| 473 | 6.08 | 34.29 | 0.45 | 106 |
| 476 | 6.10 | 34.27 | 0.45 | 108 |
| 499 | 5.96 | 34.33 | 0.43 | 102 |
| 503 | 5.94 | 34.31 | 0.40 | 103 |
| 505 | 5.92 | 34.31 | 0.39 | 103 |
| 530 | 5.79 | 34.33 | 0.37 | 100 |
| 532 | 5.80 | 34.33 | 0.36 | 100 |
| 535 | 5.78 | 34.34 | 0.35 | 99  |
| 560 | 5.60 | 34.36 | 0.28 | 96  |
| 563 | 5.60 | 34.34 | 0.30 | 97  |
| 566 | 5.58 | 34.36 | 0.34 | 95  |

9770

ORCA; January 11, 1960; 0745 GCT; 30°54'N, 119°50'W; sounding, 1950 fm; wind, 320°, force 6; weather, cloudy; sea, high; wire angle, 11°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.07 | 33.49 | 5.60 | 314 | 0   | (15.07) | (33.49) | (5.60) | (24.82) | (314) | (0.00) |
| 11  | 15.09 | 33.51 | 5.60 | 314 | 10  | 15.09   | 33.51   | 5.60   | 24.82   | 314   | 0.03   |
| 30  | 15.09 | 33.49 | 5.62 | 315 | 20  | 15.09   | 33.50   | 5.61   | 24.82   | 314   | 0.06   |
| 60  | 14.95 | 33.50 | 5.63 | 311 | 30  | 15.09   | 33.49   | 5.62   | 24.81   | 315   | 0.09   |
| 69  | 14.86 | 33.49 | 5.56 | 310 | 50  | 15.02   | 33.50   | 5.63   | 24.83   | 313   | 0.16   |
| 85  | 12.66 | 33.26 | 5.34 | 284 | 75  | 14.71   | 33.47   | 5.50   | 24.88   | 308   | 0.23   |
| 99  | 11.90 | 33.34 | 5.03 | 264 | 100 | 11.89   | 33.34   | 5.03   | 25.34   | 264   | 0.31   |
| 114 | 11.02 | 33.50 | 4.49 | 237 | 125 | 10.24   | 33.61   | 4.05   | 25.84   | 217   | 0.37   |
| 137 | 9.86  | 33.77 | 3.60 | 198 | 150 | 9.48    | 33.84   | 3.29   | 26.16   | 187   | 0.42   |
| 156 | 9.32  | 33.87 | 3.17 | 182 | 200 | 8.50    | 33.98   | 2.53   | 26.42   | 162   | 0.51   |
| 186 | 8.74  | 33.95 | 2.69 | 168 | 250 | 7.83    | 34.11   | 2.00   | 26.62   | 143   | 0.59   |
| 215 | 8.24  | 34.01 | 2.37 | 156 | 300 | 7.28    | 34.19   | 1.39   | 26.76   | 129   | 0.66   |
| 243 | 7.92  | 34.09 | 2.08 | 145 | 400 | 6.59    | 34.28   | 0.64   | 26.94   | 113   | 0.78   |
| 293 | 7.34  | 34.18 | 1.48 | 131 | 500 | 5.99    | 34.34   | 0.36   | 27.06   | 101   | 0.90   |
| 346 | 6.90  | 34.24 | 0.94 | 120 | 600 | (5.45)  | (34.38) | (0.32) | (27.16) | (92)  | (1.00) |
| 431 | 6.48  | 34.31 | 0.53 | 110 |     |         |         |        |         |       |        |
| 514 | 5.89  | 34.36 | 0.35 | 99  |     |         |         |        |         |       |        |
| 599 | 5.46  | 34.38 | 0.32 | 92  |     |         |         |        |         |       |        |

9780

ORCA; January 11, 1960; 0135 GCT; 30°30'N, 120°29.5'W; sounding, 2000+ fm; wind, 320°, force 4; weather, partly cloudy; sea, high; wire angle, 21°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.60 | 33.40 | 5.58 | 332 | 0   | (15.60) | (33.40) | (5.58) | (24.63) | (332) | (0.00) |
| 10  | 15.64 | 33.39 | 5.56 | 334 | 10  | 15.64   | 33.39   | 5.56   | 24.61   | 334   | 0.03   |
| 28  | 15.64 | 33.40 | 5.53 | 333 | 20  | 15.64   | 33.40   | 5.54   | 24.61   | 334   | 0.07   |
| 56  | 15.60 | 33.43 | 5.51 | 330 | 30  | 15.63   | 33.40   | 5.53   | 24.62   | 333   | 0.10   |
| 65  | 15.59 | 33.40 | 5.45 | 332 | 50  | 15.61   | 33.42   | 5.51   | 24.64   | 331   | 0.17   |
| 78  | 15.06 | 33.38 | 5.56 | 323 | 75  | 15.54   | 33.40   | 5.47   | 24.64   | 331   | 0.25   |
| 92  | 13.36 | 33.40 | 5.26 | 287 | 100 | 12.83   | 33.46   | 5.18   | 25.25   | 273   | 0.33   |
| 105 | 12.60 | 33.49 | 5.15 | 266 | 125 | 11.19   | 33.56   | 4.67   | 25.65   | 235   | 0.39   |
| 127 | 11.07 | 33.57 | 4.64 | 233 | 150 | 9.62    | 33.73   | 4.00   | 26.04   | 198   | 0.44   |
| 145 | 9.86  | 33.69 | 4.10 | 204 | 200 | 8.51    | 33.95   | 3.44   | 26.40   | 164   | 0.54   |
| 172 | 8.90  | 33.89 | 3.68 | 174 | 250 | 7.80    | 34.06   | 2.73   | 26.59   | 146   | 0.62   |
| 201 | 8.50  | 33.95 | 3.44 | 164 | 300 | 7.08    | 34.12   | 1.80   | 26.73   | 132   | 0.69   |
| 224 | 8.16  | 34.04 | 3.16 | 152 | 400 | 6.50    | 34.27   | 0.86   | 26.94   | 113   | 0.82   |
| 270 | 7.56  | 34.06 | 2.43 | 143 | 500 | 5.96    | 34.32   | 0.43   | 27.05   | 102   | 0.93   |
| 320 | 6.80  | 34.16 | 1.37 | 125 |     |         |         |        |         |       |        |
| 399 | 6.50  | 34.27 | 0.86 | 113 |     |         |         |        |         |       |        |
| 480 | 6.08  | 34.31 | 0.49 | 105 |     |         |         |        |         |       |        |
| 564 | 5.49  | 34.36 | 0.32 | 94  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

SIO  
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6001

ORCA; January 10, 1960; 2000 GCT; 30°18'N, 121°08'W; sounding, 1950 fm; wind, 320°, force 3; weather, cloudy; sea, high; wire angle, 15°.

97.90

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.55 | 33.41 | 5.65 | 330 | 0   | (15.55) | (33.41) | (5.65) | (24.65) | (330) | (0.00) |
| 10  | 15.55 | 33.40 | 5.69 | 331 | 10  | 15.55   | 33.40   | 5.69   | 24.64   | 331   | 0.03   |
| 29  | 15.48 | 33.42 | 5.67 | 328 | 20  | 15.51   | 33.41   | 5.68   | 24.65   | 330   | 0.07   |
| 58  | 15.46 | 33.42 | 5.64 | 328 | 30  | 15.48   | 33.42   | 5.67   | 24.67   | 328   | 0.10   |
| 67  | 15.47 | 33.44 | 5.62 | 326 | 50  | 15.46   | 33.42   | 5.64   | 24.67   | 328   | 0.16   |
| 82  | 12.97 | 33.22 | 5.51 | 293 | 75  | 15.00   | 33.40   | 5.60   | 24.76   | 320   | 0.25   |
| 96  | 11.94 | 33.30 | 5.09 | 268 | 100 | 11.79   | 33.33   | 5.02   | 25.36   | 263   | 0.32   |
| 110 | 11.42 | 33.39 | 4.83 | 252 | 125 | 10.66   | 33.50   | 4.44   | 25.69   | 231   | 0.38   |
| 134 | 10.18 | 33.55 | 4.18 | 220 | 150 | 9.62    | 33.61   | 3.95   | 25.95   | 206   | 0.44   |
| 152 | 9.56  | 33.62 | 3.92 | 204 | 200 | 8.62    | 33.91   | 3.35   | 26.34   | 169   | 0.53   |
| 180 | 9.08  | 33.79 | 3.69 | 184 | 250 | 7.64    | 34.02   | 2.23   | 26.58   | 147   | 0.61   |
| 208 | 8.40  | 33.95 | 3.22 | 163 | 300 | 7.02    | 34.07   | 1.68   | 26.70   | 135   | 0.69   |
| 236 | 7.83  | 33.99 | 2.48 | 152 | 400 | 6.15    | 34.13   | 0.89   | 26.86   | 120   | 0.82   |
| 283 | 7.24  | 34.06 | 1.86 | 138 | 500 | 5.77    | 34.29   | 0.43   | 27.05   | 102   | 0.94   |
| 335 | 6.53  | 34.09 | 1.32 | 127 | 600 | (5.43)  | (34.35) |        | (27.12) | (95)  | (1.04) |
| 416 | 6.10  | 34.14 | 0.79 | 118 |     |         |         |        |         |       |        |
| 500 | 5.77  | 34.29 | 0.43 | 102 |     |         |         |        |         |       |        |
| 584 | 5.48  | 34.34 | 0.40 | 96  |     |         |         |        |         |       |        |

ORCA; January 12, 1960; 1641 GCT; 31°40.5'N, 116°47'W; sounding, 260 fm; wind, 280°, force 1; weather, partly cloudy; sea, very rough; wire angle, 06°.

100.30

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 14.68 | 33.48 | 5.63 | 308 | 0   | 14.68 | 33.48 | 5.63 | 24.88 | 308 | 0.00 |
| 10  | 14.90 | 33.53 | 5.66 | 308 | 10  | 14.90 | 33.53 | 5.66 | 24.88 | 308 | 0.03 |
| 30  | 14.93 | 33.56 | 5.53 | 307 | 20  | 14.92 | 33.55 | 5.55 | 24.88 | 307 | 0.06 |
| 50  | 14.53 | 33.56 | 5.29 | 298 | 30  | 14.93 | 33.56 | 5.53 | 24.89 | 307 | 0.09 |
| 74  | 13.20 | 33.63 | 4.34 | 267 | 50  | 14.53 | 33.56 | 5.29 | 24.98 | 298 | 0.15 |
| 98  | 11.52 | 33.66 | 3.73 | 234 | 75  | 13.12 | 33.63 | 4.30 | 25.33 | 265 | 0.22 |
| 123 | 10.72 | 33.77 | 3.21 | 212 | 100 | 11.45 | 33.66 | 3.71 | 25.67 | 233 | 0.29 |
| 162 | 9.73  | 33.98 | 2.49 | 180 | 125 | 10.66 | 33.78 | 3.16 | 25.91 | 210 | 0.34 |
| 201 | 9.24  | 34.07 | 2.11 | 167 | 150 | 10.02 | 33.91 | 2.71 | 26.12 | 190 | 0.39 |
| 251 | 8.70  | 34.14 | 1.80 | 153 | 200 | 9.25  | 34.07 | 2.12 | 26.37 | 167 | 0.48 |
| 301 | 7.90  | 34.20 | 1.38 | 137 | 250 | 8.71  | 34.14 | 1.81 | 26.51 | 153 | 0.57 |
|     |       |       |      |     | 300 | 7.91  | 34.20 | 1.39 | 26.68 | 137 | 0.64 |

ORCA; January 13, 1960; 2300 GCT; 31°18.5'N, 117°25'W; sounding, 1050 fm; wind, 290°, force 3; weather, partly cloudy; sea, high; wire angle, 05°.

100.40

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.80 | 33.66 | 5.40 | 317 | 0   | (15.80) | (33.66) | (5.40) | (24.78) | (317) | (0.00) |
| 11  | 15.78 | 33.65 | 5.46 | 318 | 10  | 15.78   | 33.65   | 5.46   | 24.78   | 318   | 0.03   |
| 30  | 15.74 | 33.65 | 5.42 | 317 | 20  | 15.76   | 33.65   | 5.44   | 24.79   | 317   | 0.06   |
| 60  | 14.46 | 33.59 | 4.83 | 295 | 30  | 15.74   | 33.65   | 5.42   | 24.79   | 317   | 0.10   |
| 70  | 13.70 | 33.62 | 4.50 | 277 | 50  | 15.57   | 33.64   | 5.33   | 24.83   | 313   | 0.16   |
| 85  | 12.82 | 33.68 | 4.15 | 256 | 75  | 13.10   | 33.63   | 4.30   | 25.33   | 265   | 0.23   |
| 99  | 12.25 | 33.69 | 3.96 | 245 | 100 | 12.20   | 33.69   | 3.92   | 25.56   | 244   | 0.30   |
| 115 | 11.44 | 33.71 | 3.69 | 229 | 125 | 11.02   | 33.75   | 3.52   | 25.82   | 219   | 0.35   |
| 139 | 10.55 | 33.84 | 3.25 | 204 | 150 | 10.21   | 33.89   | 2.94   | 26.07   | 195   | 0.41   |
| 159 | 9.96  | 33.93 | 2.73 | 188 | 200 | 8.98    | 34.02   | 2.33   | 26.38   | 166   | 0.50   |
| 189 | 9.30  | 34.02 | 2.43 | 171 | 250 | 8.07    | 34.07   | 1.96   | 26.56   | 149   | 0.58   |
| 217 | 8.56  | 34.03 | 2.16 | 159 | 300 | 7.57    | 34.15   | 1.52   | 26.69   | 136   | 0.65   |
| 247 | 8.10  | 34.07 | 1.99 | 149 | 400 | 6.73    | 34.21   | 0.92   | 26.85   | 121   | 0.78   |
| 296 | 7.61  | 34.15 | 1.57 | 137 | 500 | 6.21    | 34.30   | 0.48   | 27.00   | 107   | 0.90   |
| 350 | 7.08  | 34.16 | 1.24 | 129 | 600 | 5.62    | 34.33   | 0.35   | 27.09   | 98    | 1.01   |
| 434 | 6.56  | 34.25 | 0.71 | 115 |     |         |         |        |         |       |        |
| 518 | 6.12  | 34.31 | 0.46 | 105 |     |         |         |        |         |       |        |
| 603 | 5.60  | 34.33 | 0.35 | 98  |     |         |         |        |         |       |        |



SIO  
CCOFI  
600I

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

100.50

ORCA; January 14, 1960; 0452 GCT; 30°58'N, 118°03.5'W; sounding, 2025 fm; wind, 290°, force 4; weather, partly cloudy; sea, high; wire angle, 07°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 15.56 | 33.67 | 5.51 | 311 | 0   | (15.56) | (33.67) | (5.51) | (24.85) | (311) | (0.00) |
| 12  | 15.58 | 33.68 | 5.53 | 311 | 10  | 15.58   | 33.68   | 5.53   | 24.85   | 311   | 0.03   |
| 31  | 15.58 | 33.66 | 5.53 | 312 | 20  | 15.58   | 33.67   | 5.53   | 24.85   | 311   | 0.06   |
| 61  | 14.64 | 33.64 | 5.02 | 295 | 30  | 15.58   | 33.66   | 5.53   | 24.84   | 312   | 0.09   |
| 71  | 13.46 | 33.63 | 4.62 | 272 | 50  | 15.57   | 33.66   | 5.52   | 24.84   | 312   | 0.16   |
| 85  | 11.95 | 33.67 | 4.21 | 241 | 75  | 13.09   | 33.64   | 4.51   | 25.34   | 264   | 0.23   |
| 100 | 11.28 | 33.69 | 3.87 | 228 | 100 | 11.28   | 33.69   | 3.87   | 25.72   | 228   | 0.29   |
| 115 | 10.56 | 33.70 | 3.69 | 216 | 125 | 10.22   | 33.72   | 3.57   | 25.94   | 208   | 0.35   |
| 140 | 9.80  | 33.80 | 3.28 | 195 | 150 | 9.54    | 33.86   | 3.07   | 26.17   | 186   | 0.40   |
| 160 | 9.34  | 33.92 | 2.86 | 179 | 200 | 9.12    | 34.03   | 2.38   | 26.36   | 168   | 0.48   |
| 190 | 9.16  | 33.98 | 2.58 | 172 | 250 | 8.54    | 34.14   | 1.74   | 26.55   | 150   | 0.57   |
| 220 | 9.08  | 34.13 | 2.00 | 160 | 300 | 8.04    | 34.26   | 1.22   | 26.71   | 134   | 0.64   |
| 249 | 8.56  | 34.14 | 1.76 | 150 | 400 | 7.35    | 34.30   | 0.73   | 26.84   | 122   | 0.77   |
| 297 | 8.05  | 34.25 | 1.26 | 135 | 500 | 6.27    | 34.30   | 0.48   | 26.99   | 108   | 0.89   |
| 353 | 7.84  | 34.31 | 0.97 | 128 | 600 | 5.67    | 34.33   | 0.35   | 27.08   | 99    | 1.00   |
| 437 | 6.93  | 34.30 | 0.58 | 116 |     |         |         |        |         |       |        |
| 522 | 6.10  | 34.30 | 0.45 | 106 |     |         |         |        |         |       |        |
| 607 | 5.64  | 34.33 | 0.34 | 98  |     |         |         |        |         |       |        |

100.60

ORCA; January 13, 1960; 1121, 1344 GCT; 30°39'N, 118°39.5'W; sounding, 1750 fm; wind, 290°, force 3; weather, cloudy; sea, very rough; wire angle, 16°, 15°.

|       |       |           |      |     |      |         |         |        |         |       |        |
|-------|-------|-----------|------|-----|------|---------|---------|--------|---------|-------|--------|
| 1     | 15.50 | 33.53     | 5.52 | 320 | 0    | (15.50) | (33.53) | (5.52) | (24.76) | (320) | (0.00) |
| 10    | 15.46 | 33.53     | 5.50 | 320 | 10   | 15.46   | 33.53   | 5.50   | 24.76   | 320   | 0.03   |
| 29    | 15.48 | 33.53     | 5.45 | 320 | 20   | 15.47   | 33.53   | 5.47   | 24.76   | 320   | 0.06   |
| 58    | 15.46 | 33.51     | 5.49 | 321 | 30   | 15.48   | 33.53   | 5.45   | 24.76   | 320   | 0.10   |
| 67    | 15.39 | 33.53     | 5.39 | 318 | 50   | 15.47   | 33.52   | 5.48   | 24.75   | 321   | 0.16   |
| 80    | 13.04 | 33.37     | 5.17 | 283 | 75   | 14.70   | 33.48   | 5.31   | 24.89   | 307   | 0.24   |
| 94    | 12.83 | 33.50     | 4.92 | 270 | 100  | 12.65   | 33.53   | 4.80   | 25.34   | 264   | 0.31   |
| 108   | 12.15 | 33.57     | 4.55 | 252 | 125  | 11.09   | 33.63   | 4.06   | 25.71   | 229   | 0.37   |
| 131   | 10.78 | 33.64     | 3.97 | 223 | 150  | 9.86    | 33.65   | 3.85   | 25.94   | 207   | 0.43   |
| 150   | 9.86  | 33.65     | 3.85 | 207 | 200  | 8.61    | 33.91   | 2.76   | 26.34   | 169   | 0.52   |
| 178   | 9.08  | 33.82     | 3.31 | 182 | 250  | 7.76    | 34.03   | 1.97   | 26.57   | 148   | 0.60   |
| 205   | 8.51  | 33.92     | 2.66 | 166 | 300  | 7.33    | 34.10   | 1.45   | 26.69   | 136   | 0.68   |
| 232   | 8.04  | 34.00     | 2.17 | 154 | 400  | 6.57    | 34.18   | 0.76   | 26.86   | 120   | 0.81   |
| 278   | 7.41  | 34.06     | 1.70 | 140 | 500  | 6.00    | 34.31   | 0.35   | 27.03   | 104   | 0.93   |
| 330   | 7.26  | 34.16     | 1.14 | 131 | 600  | 5.54    | 34.36   | 0.32   | 27.12   | 95    | 1.04   |
| 410   | 6.38  | 34.17     | 0.69 | 118 | 700  | 5.00    | 34.41   | 0.31   | 27.23   | 85    | 1.13   |
| 492   | 6.06  | 34.30     | 0.37 | 106 | 800  | 4.61    | 34.48   | 0.37   | 27.33   | 76    | 1.22   |
| 577   | 5.57  | 34.36     | 0.35 | 95  | 1000 | 3.91    | 34.50   | 0.59   | 27.42   | 67    | 1.38   |
|       |       |           |      |     | 1200 | 3.40    | 34.52   | 0.78   | 27.49   | 60    | 1.52   |
| 385a) | 6.84  | 34.20 1   | 0.85 | 122 | 1500 | 2.83    | 34.57   | 1.16   | 27.58   | 52    | 1.72   |
| 481   | 6.17  | 34.28 2   | 0.43 | 108 | 2000 | 2.09    | 34.64   | 1.87   | 27.70   | 41    | 2.00   |
| 578   | 5.74  | 34.34 3   | 0.29 | 98  | 2500 | 1.82    | 34.66   | 2.29   | 27.74   | 36    | 2.24   |
| 674   | 5.14  | 34.38 1   | 0.31 | 88  |      |         |         |        |         |       |        |
| 768   | 4.72  | 34.47 1b) | 0.34 | 77  |      |         |         |        |         |       |        |
| 960   | 4.02  | 34.49 1   | 0.53 | 69  |      |         |         |        |         |       |        |
| 1152  | 3.51  | -         | 0.72 | -   |      |         |         |        |         |       |        |
| 1342  | 3.14  | 34.55 5   | 0.94 | 56  |      |         |         |        |         |       |        |
| 1534  | 2.77  | 34.58 2   | 1.21 | 50  |      |         |         |        |         |       |        |
| 1727  | 2.45  | 34.62 3   | 1.49 | 44  |      |         |         |        |         |       |        |
| 1919  | 2.20  | 34.63 1   | 1.81 | 42  |      |         |         |        |         |       |        |
| 2113  | 1.98  | 34.65 0   | 1.96 | 39  |      |         |         |        |         |       |        |
| 2210  | 1.98  | 34.63 1u  | 2.02 | -   |      |         |         |        |         |       |        |
| 2308  | 1.94  | 34.65 1   | 2.18 | 38  |      |         |         |        |         |       |        |
| 2405  | 1.86  | 34.66 1   | 2.17 | 37  |      |         |         |        |         |       |        |
| 2505  | 1.82  | 34.66 1   | 2.29 | 36  |      |         |         |        |         |       |        |
| 2604  | 1.75  | 34.68 3u  | 2.34 | -   |      |         |         |        |         |       |        |
| 2704  | 1.74  | 34.66 9   | 2.40 | 36  |      |         |         |        |         |       |        |

a) Overlapping casts; reconciliation of property curves when necessary.

b) The use of this value results in an unusual density structure, but nevertheless the value was accepted in drawing the property curve.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

SIO  
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6001

ORCA; January 14, 1960; 2130 GCT; 30°20.5'N, 119°27.5'W; sounding, 2150 fm; wind, 220°, force 5; weather, cloudy; sea, very rough; wire angle, 23°.

100.70

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.44 | 33.40 | 5.63 | 329 | 0   | (15.44) | (33.40) | (5.63) | (24.66) | (329) | (0.00) |
| 10  | 15.46 | 33.40 | 5.67 | 329 | 10  | 15.46   | 33.40   | 5.67   | 24.66   | 329   | 0.03   |
| 33  | 15.40 | 33.39 | 5.64 | 329 | 20  | 15.42   | 33.39   | 5.66   | 24.66   | 329   | 0.07   |
| 51  | 15.38 | 33.40 | 5.60 | 328 | 30  | 15.41   | 33.39   | 5.65   | 24.66   | 329   | 0.10   |
| 69  | 15.40 | 33.40 | 5.63 | 328 | 50  | 15.38   | 33.40   | 5.61   | 24.67   | 328   | 0.16   |
| 87  | 13.28 | 33.22 | 5.53 | 299 | 75  | 15.39   | 33.40   | 5.63   | 24.67   | 328   | 0.25   |
| 100 | 13.38 | 33.48 | 5.33 | 281 | 100 | 13.38   | 33.48   | 5.33   | 25.16   | 281   | 0.32   |
| 114 | 12.60 | 33.53 | 5.14 | 263 | 125 | 11.93   | 33.56   | 5.01   | 25.51   | 248   | 0.39   |
| 142 | 10.98 | 33.62 | 4.83 | 228 | 150 | 10.50   | 33.64   | 4.63   | 25.82   | 218   | 0.45   |
| 159 | 10.02 | 33.67 | 4.38 | 209 | 200 | 8.96    | 33.85   | 3.70   | 26.25   | 178   | 0.55   |
| 185 | 9.35  | 33.77 | 3.90 | 190 | 250 | 7.89    | 33.96   | 2.72   | 26.50   | 154   | 0.64   |
| 216 | 8.55  | 33.91 | 3.49 | 168 | 300 | 7.27    | 34.04   | 1.98   | 26.65   | 140   | 0.71   |
| 242 | 8.03  | 33.95 | 2.92 | 157 | 400 | 6.62    | 34.18   | 0.94   | 26.85   | 121   | 0.85   |
| 286 | 7.38  | 34.01 | 2.17 | 144 | 500 | 6.06    | 34.29   | 0.42   | 27.01   | 106   | 0.97   |
| 345 | 7.02  | 34.13 | 1.48 | 130 | 600 | (5.59)  | (34.34) | (0.30) | (27.11) | (96)  | (1.08) |
| 437 | 6.39  | 34.22 | 0.65 | 115 |     |         |         |        |         |       |        |
| 523 | 5.94  | 34.31 | 0.36 | 103 |     |         |         |        |         |       |        |
| 597 | 5.60  | 34.34 | 0.30 | 96  |     |         |         |        |         |       |        |

ORCA; January 15, 1960; 0310 GCT; 31°01.5'N, 119°58'W; sounding, 2200 fm; wind, 320°, force 4; weather, rain; sea, very rough; wire angle, 09°.

100.80

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.79 | 33.50 | 5.43 | 329 | 0   | (15.79) | (33.50) | (5.43) | (24.66) | (329) | (0.00) |
| 11  | 15.80 | 33.47 | 5.40 | 331 | 10  | 15.80   | 33.47   | 5.40   | 24.64   | 331   | 0.03   |
| 31  | 15.80 | 33.47 | 5.51 | 331 | 20  | 15.80   | 33.47   | 5.45   | 24.64   | 331   | 0.07   |
| 60  | 15.76 | 33.46 | 5.43 | 331 | 30  | 15.80   | 33.47   | 5.51   | 24.64   | 331   | 0.10   |
| 70  | 15.80 | 33.46 | 5.42 | 332 | 50  | 15.76   | 33.47   | 5.46   | 24.64   | 331   | 0.17   |
| 85  | 15.72 | 33.47 | 5.51 | 329 | 75  | 15.79   | 33.46   | 5.45   | 24.63   | 332   | 0.25   |
| 100 | 14.16 | 33.42 | 5.44 | 301 | 100 | 14.16   | 33.42   | 5.44   | 24.96   | 301   | 0.33   |
| 114 | 12.92 | 33.53 | 5.12 | 269 | 125 | 11.50   | 33.55   | 5.00   | 25.38   | 260   | 0.40   |
| 138 | 11.91 | 33.64 | 4.78 | 242 | 150 | 10.96   | 33.64   | 4.60   | 25.75   | 226   | 0.46   |
| 158 | 10.34 | 33.66 | 4.47 | 214 | 200 | 8.75    | 33.90   | 3.65   | 26.32   | 172   | 0.56   |
| 187 | 9.13  | 33.83 | 3.91 | 182 | 250 | 7.85    | 34.03   | 2.70   | 26.56   | 149   | 0.64   |
| 216 | 8.42  | 33.96 | 3.34 | 162 | 300 | 7.19    | 34.06   | 1.75   | 26.68   | 137   | 0.72   |
| 244 | 7.96  | 34.02 | 2.83 | 151 | 400 | 6.53    | 34.20   | 0.82   | 26.87   | 119   | 0.85   |
| 292 | 7.26  | 34.05 | 1.87 | 140 | 500 | 5.89    | 34.30   | 0.51   | 27.04   | 103   | 0.97   |
| 346 | 6.92  | 34.15 | 1.28 | 127 | 600 | (5.18)  | (34.33) | (0.33) | (27.14) | (93)  | (1.07) |
| 429 | 6.33  | 34.22 | 0.63 | 115 |     |         |         |        |         |       |        |
| 514 | 5.78  | 34.31 | 0.48 | 101 |     |         |         |        |         |       |        |
| 598 | 5.20  | 34.33 | 0.33 | 93  |     |         |         |        |         |       |        |

ORCA; January 15, 1960; 0855 GCT; 29°42'N, 120°31'W; sounding, 2200 fm; wind, 320°, force 4; weather, cloudy; sea, rough; wire angle, 20°.

100.90

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 15.83 | 33.49 | 5.51 | 331 | 0   | (15.83) | (33.49) | (5.51) | (24.64) | (331) | (0.00) |
| 11  | 15.84 | 33.48 | 5.53 | 331 | 10  | 15.84   | 33.48   | 5.53   | 24.64   | 331   | 0.03   |
| 30  | 15.85 | 33.49 | 5.51 | 331 | 20  | 15.85   | 33.49   | 5.52   | 24.64   | 331   | 0.07   |
| 58  | 15.84 | 33.51 | 5.53 | 329 | 30  | 15.85   | 33.49   | 5.51   | 24.64   | 331   | 0.10   |
| 67  | 15.86 | 33.48 | 5.51 | 332 | 50  | 15.85   | 33.50   | 5.52   | 24.65   | 330   | 0.17   |
| 81  | 15.64 | 33.48 | 5.60 | 327 | 75  | 15.79   | 33.48   | 5.54   | 24.65   | 330   | 0.25   |
| 94  | 14.90 | 33.48 | 5.60 | 312 | 100 | 14.46   | 33.48   | 5.56   | 24.94   | 302   | 0.33   |
| 108 | 13.42 | 33.47 | 5.36 | 283 | 125 | 12.21   | 33.39   | 5.13   | 25.32   | 266   | 0.40   |
| 131 | 12.12 | 33.39 | 5.10 | 265 | 150 | 10.57   | 33.54   | 4.47   | 25.74   | 226   | 0.46   |
| 148 | 10.76 | 33.52 | 4.57 | 231 | 200 | 8.84    | 33.83   | 3.36   | 26.25   | 178   | 0.57   |
| 175 | 9.37  | 33.70 | 3.74 | 196 | 250 | 7.87    | 33.96   | 2.83   | 26.50   | 154   | 0.65   |
| 204 | 8.76  | 33.85 | 3.32 | 175 | 300 | 7.14    | 34.03   | 1.84   | 26.65   | 140   | 0.73   |
| 230 | 8.18  | 33.92 | 3.13 | 162 | 400 | 6.32    | 34.13   | 0.91   | 26.84   | 121   | 0.86   |
| 276 | 7.49  | 34.00 | 2.32 | 146 | 500 | 5.61    | 34.22   | 0.52   | 27.01   | 106   | 0.98   |
| 327 | 6.82  | 34.05 | 1.44 | 134 |     |         |         |        |         |       |        |
| 406 | 6.28  | 34.13 | 0.88 | 121 |     |         |         |        |         |       |        |
| 487 | 5.69  | 34.21 | 0.55 | 108 |     |         |         |        |         |       |        |
| 572 | 5.28  | 34.26 | 0.39 | 99  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

103.30

ORCA; January 17, 1960; 1105 GCT; 31°04'N, 116°26'W; sounding, 45 fm; wind, 020°, force 2; weather, clear; sea, moderate; wire angle, 00°.

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1  | 14.80 | 33.57 | 5.72 | 303 | 0  | (14.80) | (33.57) | (5.72) | (24.94) | (303) | (0.00) |
| 11 | 14.80 | 33.58 | 5.75 | 302 | 10 | 14.80   | 33.58   | 5.75   | 24.95   | 302   | 0.03   |
| 31 | 14.74 | 33.55 | 5.65 | 304 | 20 | 14.80   | 33.57   | 5.70   | 24.94   | 303   | 0.06   |
| 41 | 14.02 | 33.62 | 4.84 | 284 | 30 | 14.75   | 33.55   | 5.65   | 24.93   | 304   | 0.09   |

103.35

ORCA; January 17, 1960; 0758 GCT; 30°53.5'N, 116°45.5'W; sounding, 1150 fm; wind, 270°, force 2; weather, partly cloudy; sea, high; wire angle, 05°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 15.82 | 33.68 | 5.49 | 316 | 0   | (15.82) | (33.68) | (5.49) | (24.80) | (316) | (0.00) |
| 12  | 15.84 | 33.69 | 5.43 | 316 | 10  | 15.84   | 33.69   | 5.43   | 24.80   | 316   | 0.03   |
| 32  | 15.84 | 33.75 | 5.43 | 312 | 20  | 15.84   | 33.72   | 5.43   | 24.81   | 314   | 0.06   |
| 61  | 15.58 | 33.68 | 5.43 | 311 | 30  | 15.84   | 33.74   | 5.43   | 24.84   | 312   | 0.09   |
| 71  | 14.36 | 33.69 | 4.65 | 285 | 50  | 15.82   | 33.74   | 5.43   | 24.85   | 311   | 0.16   |
| 85  | 13.03 | 33.71 | 4.01 | 258 | 75  | 13.80   | 33.70   | 4.33   | 25.24   | 274   | 0.23   |
| 100 | 11.86 | 33.79 | 3.68 | 231 | 100 | 11.86   | 33.79   | 3.68   | 25.69   | 231   | 0.29   |
| 114 | 11.16 | 33.89 | 3.05 | 211 | 125 | 10.73   | 33.97   | 2.57   | 26.04   | 198   | 0.35   |
| 139 | 10.34 | 34.07 | 2.07 | 184 | 150 | 10.22   | 34.13   | 1.89   | 26.26   | 177   | 0.40   |
| 159 | 10.14 | 34.20 | 1.71 | 171 | 200 | 9.91    | 34.31   | 1.24   | 26.45   | 159   | 0.48   |
| 188 | 10.00 | 34.29 | 1.32 | 162 | 250 | 9.30    | 34.36   | 0.94   | 26.59   | 146   | 0.56   |
| 217 | 9.74  | 34.33 | 1.17 | 155 | 300 | 8.61    | 34.35   | 0.83   | 26.69   | 136   | 0.63   |
| 245 | 9.38  | 34.36 | 0.97 | 147 | 400 | 7.58    | 34.33   | 0.54   | 26.83   | 123   | 0.77   |
| 294 | 8.68  | 34.35 | 0.86 | 137 | 500 | 6.71    | 34.36   | 0.35   | 26.98   | 109   | 0.89   |
| 348 | 8.08  | 34.30 | 0.73 | 132 | 600 | 5.88    | 34.36   | 0.29   | 27.08   | 99    | 1.00   |
| 431 | 7.30  | 34.34 | 0.44 | 119 |     |         |         |        |         |       |        |
| 515 | 6.58  | 34.36 | 0.33 | 107 |     |         |         |        |         |       |        |
| 600 | 5.88  | 34.36 | 0.29 | 99  |     |         |         |        |         |       |        |

103.40

ORCA; January 17, 1960; 0442 GCT; 30°45.5'N, 117°05.5'W; sounding, 900 fm; wind, 300°, force 4; weather, partly cloudy; sea, high; wire angle, 10°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 16.08 | 33.73 | 5.49 | 318 | 0   | (16.08) | (33.73) | (5.49) | (24.77) | (318) | (0.00) |
| 12  | 16.10 | 33.73 | 5.50 | 319 | 10  | 16.09   | 33.73   | 5.50   | 24.77   | 319   | 0.03   |
| 31  | 16.10 | 33.71 | 5.48 | 320 | 20  | 16.10   | 33.72   | 5.49   | 24.76   | 319   | 0.06   |
| 60  | 16.04 | 33.72 | 5.48 | 318 | 30  | 16.10   | 33.71   | 5.48   | 24.76   | 320   | 0.10   |
| 71  | 14.30 | 33.65 | 4.67 | 287 | 50  | 16.09   | 33.71   | 5.48   | 24.77   | 319   | 0.16   |
| 85  | 13.12 | 33.65 | 4.43 | 264 | 75  | 13.70   | 33.65   | 4.54   | 25.23   | 275   | 0.23   |
| 100 | 12.17 | 33.70 | 4.09 | 243 | 100 | 12.17   | 33.70   | 4.09   | 25.56   | 243   | 0.30   |
| 115 | 11.70 | 33.77 | 3.53 | 229 | 125 | 11.39   | 33.83   | 3.14   | 25.81   | 219   | 0.36   |
| 139 | 10.82 | 33.95 | 2.68 | 201 | 150 | 10.31   | 34.00   | 2.58   | 26.14   | 188   | 0.41   |
| 158 | 10.06 | 34.02 | 2.51 | 183 | 200 | 9.66    | 34.24   | 1.70   | 26.43   | 161   | 0.50   |
| 187 | 9.80  | 34.17 | 1.93 | 168 | 250 | 8.50    | 34.18   | 1.73   | 26.58   | 147   | 0.58   |
| 215 | 9.36  | 34.27 | 1.60 | 153 | 300 | 8.14    | 34.23   | 1.28   | 26.67   | 138   | 0.65   |
| 243 | 8.58  | 34.18 | 1.76 | 148 | 400 | 7.13    | 34.31   | 0.66   | 26.88   | 118   | 0.78   |
| 291 | 8.21  | 34.22 | 1.36 | 140 | 500 | 6.28    | 34.35   | 0.36   | 27.02   | 105   | 0.90   |
| 346 | 7.78  | 34.30 | 0.94 | 128 | 600 | (5.70)  | (34.38) | (0.31) | (27.12) | (95)  | (1.01) |
| 428 | 6.85  | 34.31 | 0.55 | 114 |     |         |         |        |         |       |        |
| 512 | 6.21  | 34.35 | 0.36 | 103 |     |         |         |        |         |       |        |
| 597 | 5.72  | 34.38 | 0.31 | 95  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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ORCA; January 16, 1960; 2255 GCT; 30°30'N, 117°42'W; sounding, 1500 fm; wind, 310°, force 5; weather, cloudy; sea, high; wire angle, 18°.

103.50

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 16.02 | 33.72 | 5.49 | 318 | 0   | (16.02) | (33.72) | (5.49) | (24.78) | (318) | (0.00) |
| 11  | 16.04 | 33.71 | 5.62 | 319 | 10  | 16.04   | 33.71   | 5.62   | 24.77   | 319   | 0.03   |
| 35  | 16.04 | 33.73 | 5.68 | 318 | 20  | 16.04   | 33.71   | 5.65   | 24.77   | 319   | 0.06   |
| 64  | 16.02 | 33.73 | 5.64 | 317 | 30  | 16.04   | 33.72   | 5.67   | 24.78   | 318   | 0.10   |
| 74  | 14.48 | 33.65 | 5.20 | 290 | 50  | 16.03   | 33.73   | 5.66   | 24.79   | 317   | 0.16   |
| 92  | 12.94 | 33.66 | 4.77 | 260 | 75  | 14.25   | 33.65   | 5.12   | 25.12   | 286   | 0.23   |
| 106 | 11.50 | 33.66 | 4.29 | 234 | 100 | 12.00   | 33.66   | 4.46   | 25.57   | 242   | 0.30   |
| 120 | 10.78 | 33.78 | 3.78 | 212 | 125 | 10.49   | 33.80   | 3.70   | 25.96   | 206   | 0.36   |
| 148 | 9.42  | 33.86 | 3.47 | 185 | 150 | 9.38    | 33.87   | 3.40   | 26.20   | 183   | 0.41   |
| 166 | 9.17  | 33.92 | 3.13 | 176 | 200 | 8.77    | 34.07   | 2.54   | 26.45   | 159   | 0.49   |
| 194 | 8.80  | 34.04 | 2.62 | 162 | 250 | 8.41    | 34.21   | 1.76   | 26.62   | 143   | 0.57   |
| 227 | 8.62  | 34.18 | 2.07 | 149 | 300 | 7.91    | 34.29   | 1.17   | 26.75   | 130   | 0.64   |
| 254 | 8.36  | 34.22 | 1.68 | 142 | 400 | 7.06    | 34.34   | 0.66   | 26.91   | 116   | 0.77   |
| 300 | 7.91  | 34.29 | 1.17 | 130 | 500 | 6.30    | 34.35   | 0.40   | 27.03   | 104   | 0.89   |
| 362 | 7.38  | 34.33 | 0.84 | 120 | 600 | 5.64    | 34.39   | 0.35   | 27.14   | 94    | 0.99   |
| 457 | 6.62  | 34.34 | 0.45 | 109 |     |         |         |        |         |       |        |
| 546 | 6.00  | 34.37 | 0.38 | 100 |     |         |         |        |         |       |        |
| 620 | 5.52  | 34.40 | 0.34 | 92  |     |         |         |        |         |       |        |

ORCA; January 16, 1960; 1633 GCT; 30°07'N, 118°28'W; sounding, 1650 fm; wind, 310°, force 5; weather, cloudy; sea, very high; wire angle, 25°.

103.60

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 15.76 | 33.64 | 5.48 | 318 | 0   | (15.76) | (33.64) | (5.48) | (24.78) | (318) | (0.00) |
| 10  | 15.77 | 33.64 | 5.49 | 318 | 10  | 15.77   | 33.64   | 5.49   | 24.78   | 318   | 0.03   |
| 34  | 15.78 | 33.63 | 5.46 | 318 | 20  | 15.78   | 33.64   | 5.47   | 24.78   | 318   | 0.06   |
| 61  | 15.77 | 33.63 | 5.46 | 318 | 30  | 15.78   | 33.63   | 5.46   | 24.78   | 318   | 0.10   |
| 70  | 15.78 | 33.68 | 5.43 | 315 | 50  | 15.78   | 33.63   | 5.46   | 24.78   | 318   | 0.16   |
| 88  | 13.34 | 33.46 | 5.33 | 282 | 75  | 15.78   | 33.68   | 5.42   | 24.81   | 315   | 0.24   |
| 101 | 12.66 | 33.53 | 5.07 | 264 | 100 | 12.67   | 33.53   | 5.08   | 25.34   | 265   | 0.31   |
| 113 | 12.09 | 33.64 | 4.89 | 245 | 125 | 10.90   | 33.71   | 4.49   | 25.81   | 220   | 0.37   |
| 140 | 10.34 | 33.75 | 4.16 | 208 | 150 | 10.30   | 33.77   | 3.92   | 25.96   | 205   | 0.43   |
| 159 | 10.26 | 33.78 | 3.86 | 204 | 200 | 9.10    | 33.97   | 3.04   | 26.32   | 172   | 0.52   |
| 185 | 9.30  | 33.89 | 3.45 | 180 | 250 | 8.42    | 34.14   | 2.02   | 26.56   | 149   | 0.60   |
| 217 | 8.88  | 34.04 | 2.64 | 163 | 300 | 7.82    | 34.15   | 1.67   | 26.66   | 139   | 0.68   |
| 243 | 8.52  | 34.13 | 2.10 | 151 | 400 | 6.74    | 34.27   | 0.90   | 26.91   | 116   | 0.81   |
| 288 | 7.95  | 34.13 | 1.79 | 143 | 500 | 6.12    | 34.34   | 0.39   | 27.04   | 103   | 0.93   |
| 348 | 7.30  | 34.31 | 1.13 | 120 | 600 | 5.56    | 34.38   | 0.30   | 27.12   | 94    | 1.03   |
| 442 | 6.38  | 34.26 | 0.67 | 112 |     |         |         |        |         |       |        |
| 528 | 6.00  | 34.37 | 0.34 | 100 |     |         |         |        |         |       |        |
| 603 | 5.54  | 34.38 | 0.29 | 93  |     |         |         |        |         |       |        |

ORCA; January 15, 1960; 1941 GCT; 29°23.5'N, 119°40'W; sounding, 2200 fm; wind, 320°, force 5; weather, cloudy; sea, very high; wire angle, 34°.

103.80

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.90 | 33.48 | 5.37 | 333 | 0   | (15.90) | (33.48) | (5.37) | (24.62) | (333) | (0.00) |
| 10  | 15.90 | 33.51 | 5.42 | 330 | 10  | 15.90   | 33.51   | 5.42   | 24.65   | 330   | 0.03   |
| 30  | 15.91 | 33.52 | 5.44 | 330 | 20  | 15.90   | 33.52   | 5.43   | 24.65   | 330   | 0.07   |
| 54  | 15.90 | 33.50 | 5.42 | 331 | 30  | 15.91   | 33.52   | 5.44   | 24.65   | 330   | 0.10   |
| 63  | 15.91 | 33.49 | 5.44 | 332 | 50  | 15.90   | 33.50   | 5.42   | 24.64   | 331   | 0.17   |
| 79  | 15.90 | 33.50 | 5.44 | 331 | 75  | 15.90   | 33.50   | 5.44   | 24.64   | 331   | 0.25   |
| 91  | 15.85 | 33.51 | 5.47 | 329 | 100 | 15.40   | 33.67   | 5.51   | 24.88   | 308   | 0.33   |
| 101 | 15.21 | 33.69 | 5.51 | 302 | 125 | 14.01   | 33.80   | 5.21   | 25.28   | 270   | 0.40   |
| 125 | 14.01 | 33.80 | 5.21 | 270 | 150 | 11.47   | 33.69   | 4.57   | 25.68   | 232   | 0.47   |
| 140 | 12.18 | 33.68 | 4.61 | 244 | 200 | 9.20    | 33.86   | 3.83   | 26.21   | 182   | 0.57   |
| 164 | 10.71 | 33.70 | 4.54 | 217 | 250 | 8.27    | 34.05   | 2.91   | 26.51   | 153   | 0.66   |
| 191 | 9.52  | 33.81 | 4.11 | 190 | 300 | 7.73    | 34.15   | 1.93   | 26.66   | 139   | 0.73   |
| 213 | 8.84  | 33.91 | 3.51 | 172 | 400 | 6.75    | 34.22   | 1.03   | 26.86   | 120   | 0.87   |
| 252 | 8.24  | 34.06 | 2.87 | 152 | 500 | 6.01    | 34.32   | 0.49   | 27.04   | 103   | 0.98   |
| 305 | 7.68  | 34.15 | 1.87 | 138 |     |         |         |        |         |       |        |
| 390 | 6.85  | 34.21 | 1.10 | 122 |     |         |         |        |         |       |        |
| 474 | 6.15  | 34.29 | 0.60 | 107 |     |         |         |        |         |       |        |
| 546 | 5.86  | 34.38 | 0.42 | 97  |     |         |         |        |         |       |        |



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| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

103.90

ORCA; January 15, 1960; 1440 GCT; 29°04'N, 120°00'W; sounding, 2000+ fm; wind, 320°, force 5; weather, cloudy; sea, very rough; wire angle, 25°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 16.29 | 33.55 | 5.43 | 336 | 0   | (16.29) | (33.55) | (5.43) | (24.59) | (336) | (0.00) |
| 11  | 16.30 | 33.53 | 5.55 | 338 | 10  | 16.30   | 33.53   | 5.55   | 24.57   | 338   | 0.03   |
| 29  | 16.31 | 33.55 | 5.68 | 337 | 20  | 16.30   | 33.54   | 5.63   | 24.58   | 337   | 0.07   |
| 56  | 16.30 | 33.53 | 5.51 | 338 | 30  | 16.31   | 33.55   | 5.68   | 24.58   | 337   | 0.10   |
| 65  | 16.33 | 33.57 | 5.54 | 335 | 50  | 16.30   | 33.53   | 5.54   | 24.57   | 338   | 0.17   |
| 78  | 16.33 | 33.58 | 5.51 | 334 | 75  | 16.33   | 33.58   | 5.52   | 24.60   | 335   | 0.25   |
| 91  | 15.72 | 33.82 | 5.49 | 304 | 100 | 15.28   | 33.86   | 5.37   | 25.05   | 292   | 0.33   |
| 104 | 14.96 | 33.86 | 5.33 | 285 | 125 | 13.37   | 33.75   | 5.33   | 25.37   | 261   | 0.40   |
| 126 | 13.28 | 33.75 | 5.33 | 260 | 150 | 11.28   | 33.73   | 4.64   | 25.76   | 224   | 0.46   |
| 143 | 11.84 | 33.75 | 4.76 | 233 | 200 | 9.18    | 33.76   | 4.03   | 26.14   | 188   | 0.57   |
| 168 | 10.22 | 33.72 | 4.47 | 208 | 250 | 8.37    | 33.97   | 3.12   | 26.43   | 161   | 0.66   |
| 195 | 9.28  | 33.75 | 4.08 | 191 | 300 | 7.64    | 34.03   | 2.34   | 26.58   | 146   | 0.74   |
| 221 | 8.82  | 33.86 | 3.79 | 175 | 400 | 6.84    | 34.20   | 1.03   | 26.83   | 123   | 0.88   |
| 265 | 8.13  | 34.00 | 2.82 | 155 | 500 | 6.19    | 34.28   | 0.52   | 26.99   | 108   | 1.00   |
| 314 | 7.48  | 34.04 | 2.17 | 143 |     |         |         |        |         |       |        |
| 394 | 6.88  | 34.19 | 1.10 | 124 |     |         |         |        |         |       |        |
| 474 | 6.35  | 34.27 | 0.60 | 111 |     |         |         |        |         |       |        |
| 556 | 5.78  | 34.31 | 0.35 | 101 |     |         |         |        |         |       |        |

107.32

ORCA; January 17, 1960; 2106 GCT; 30°26'N, 116°11'W; sounding, 250 fm; wind, direction missing, force 1; weather, clear; sea, moderate; wire angle, 03°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.10 | 33.57 | 5.69 | 309 | 0   | (15.10) | (33.57) | (5.69) | (24.87) | (309) | (0.00) |
| 11  | 15.02 | 33.58 | 5.82 | 307 | 10  | 15.02   | 33.58   | 5.81   | 24.89   | 307   | 0.03   |
| 31  | 15.00 | 33.65 | 5.64 | 302 | 20  | 15.00   | 33.61   | 5.74   | 24.92   | 304   | 0.06   |
| 51  | 14.18 | 33.72 | 4.66 | 280 | 30  | 15.00   | 33.64   | 5.66   | 24.95   | 302   | 0.09   |
| 76  | 12.29 | 33.86 | 3.39 | 233 | 50  | 14.40   | 33.71   | 4.89   | 25.12   | 285   | 0.15   |
| 100 | 11.37 | 33.89 | 2.85 | 215 | 75  | 12.35   | 33.86   | 3.42   | 25.66   | 234   | 0.22   |
| 125 | 10.59 | 33.96 | 2.56 | 196 | 100 | 11.37   | 33.88   | 2.85   | 25.86   | 215   | 0.27   |
| 165 | 9.91  | 34.11 | 2.05 | 174 | 125 | 10.59   | 33.96   | 2.56   | 26.06   | 196   | 0.32   |
| 205 | 9.27  | 34.27 | 1.54 | 152 | 150 | 10.15   | 34.04   | 2.24   | 26.20   | 183   | 0.37   |
| 254 | 8.80  | 34.28 | 1.27 | 144 | 200 | 9.33    | 34.27   | 1.56   | 26.51   | 153   | 0.46   |
| 304 | 8.20  | 34.29 | 1.10 | 134 | 250 | 8.83    | 34.28   | 1.28   | 26.60   | 145   | 0.53   |
|     |       |       |      |     | 300 | 8.26    | 34.29   | 1.12   | 26.70   | 135   | 0.61   |

107.35

ORCA; January 17, 1960; 2353 GCT; 30°19.5'N, 116°22.5'W; sounding, 1025 fm; wind, direction missing, force 1; weather, clear; sea, rough; wire angle, 03°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.24 | 33.79 | 5.52 | 318 | 0   | (16.24) | (33.79) | (5.52) | (24.78) | (318) | (0.00) |
| 11  | 16.02 | 33.79 | 5.54 | 313 | 10  | 16.03   | 33.79   | 5.54   | 24.83   | 313   | 0.03   |
| 31  | 16.00 | 33.78 | 5.51 | 313 | 20  | 16.00   | 33.78   | 5.52   | 24.83   | 313   | 0.06   |
| 55  | 15.60 | 33.74 | 5.33 | 307 | 30  | 16.00   | 33.78   | 5.51   | 24.83   | 313   | 0.09   |
| 65  | 13.72 | 33.68 | 4.21 | 273 | 50  | 16.00   | 33.78   | 5.51   | 24.83   | 313   | 0.16   |
| 75  | 13.04 | 33.71 | 3.84 | 258 | 75  | 13.04   | 33.71   | 3.84   | 25.40   | 258   | 0.23   |
| 90  | 12.16 | 33.78 | 3.34 | 236 | 100 | 11.88   | 33.83   | 3.08   | 25.72   | 228   | 0.29   |
| 104 | 11.73 | 33.86 | 2.92 | 223 | 125 | 10.96   | 33.96   | 2.44   | 26.00   | 202   | 0.34   |
| 129 | 10.81 | 33.98 | 2.37 | 198 | 150 | 10.40   | 34.05   | 2.13   | 26.16   | 187   | 0.39   |
| 149 | 10.42 | 34.04 | 2.14 | 187 | 200 | 9.70    | 34.19   | 1.48   | 26.39   | 165   | 0.48   |
| 173 | 9.97  | 34.13 | 1.76 | 173 | 250 | 8.95    | 34.32   | 1.06   | 26.61   | 144   | 0.56   |
| 204 | 9.64  | 34.20 | 1.43 | 163 | 300 | 8.47    | 34.31   | 0.98   | 26.68   | 137   | 0.63   |
| 232 | 9.11  | 34.30 | 1.11 | 147 | 400 | 7.38    | 34.32   | 0.69   | 26.85   | 121   | 0.77   |
| 271 | 8.78  | 34.32 | 1.01 | 141 | 500 | 6.46    | 34.32   | 0.39   | 26.98   | 109   | 0.89   |
| 330 | 8.08  | 34.29 | 0.94 | 133 |     |         |         |        |         |       |        |
| 405 | 7.32  | 34.32 | 0.66 | 120 |     |         |         |        |         |       |        |
| 479 | 6.64  | 34.32 | 0.42 | 111 |     |         |         |        |         |       |        |
| 558 | 5.94  | 34.33 | 0.32 | 102 |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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ORCA; January 18, 1960; 0340 GCT; 30°08.5'N, 116°42.5'W; sounding, 1600 fm; wind, 280°, force 1; weather, clear; sea, rough; wire angle, 06°.

10740

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 15.96 | 33.72 | 5.46 | 316 | 0   | (15.96) | (33.72) | (5.46) | (24.80) | (316) | (0.00) |
| 11  | 15.94 | 33.72 | 5.50 | 316 | 10  | 15.94   | 33.72   | 5.49   | 24.80   | 316   | 0.03   |
| 31  | 15.92 | 33.72 | 5.40 | 315 | 20  | 15.93   | 33.72   | 5.46   | 24.81   | 315   | 0.06   |
| 56  | 15.90 | 33.71 | 5.43 | 316 | 30  | 15.92   | 33.72   | 5.41   | 24.81   | 315   | 0.09   |
| 66  | 13.79 | 33.55 | 4.91 | 284 | 50  | 15.90   | 33.71   | 5.42   | 24.80   | 316   | 0.16   |
| 76  | 13.04 | 33.57 | 4.62 | 268 | 75  | 13.10   | 33.57   | 4.65   | 25.29   | 269   | 0.23   |
| 90  | 12.14 | 33.66 | 4.03 | 245 | 100 | 11.99   | 33.74   | 3.54   | 25.64   | 236   | 0.30   |
| 105 | 11.93 | 33.77 | 3.39 | 233 | 125 | 11.38   | 33.86   | 2.96   | 25.84   | 217   | 0.35   |
| 130 | 11.20 | 33.88 | 2.81 | 212 | 150 | 10.64   | 33.98   | 2.25   | 26.07   | 195   | 0.40   |
| 150 | 10.64 | 33.98 | 2.25 | 195 | 200 | 9.85    | 34.21   | 1.57   | 26.38   | 165   | 0.50   |
| 174 | 10.18 | 34.11 | 1.89 | 178 | 250 | 9.29    | 34.29   | 1.20   | 26.54   | 151   | 0.58   |
| 203 | 9.80  | 34.22 | 1.52 | 164 | 300 | 8.65    | 34.30   | 1.00   | 26.65   | 140   | 0.65   |
| 233 | 9.47  | 34.26 | 1.31 | 156 | 400 | 7.35    | 34.31   | 0.57   | 26.85   | 121   | 0.79   |
| 270 | 9.09  | 34.31 | 1.11 | 146 | 500 | 6.53    | 34.34   | 0.43   | 26.99   | 108   | 0.91   |
| 329 | 8.20  | 34.29 | 0.89 | 135 |     |         |         |        |         |       |        |
| 404 | 7.31  | 34.31 | 0.55 | 120 |     |         |         |        |         |       |        |
| 477 | 6.70  | 34.33 | 0.47 | 111 |     |         |         |        |         |       |        |
| 558 | 6.08  | 34.36 | 0.33 | 101 |     |         |         |        |         |       |        |

ORCA; January 18, 1960; 0933 GCT; 29°48.5'N, 117°21'W; sounding, 1575 fm; wind, direction missing, force 1; weather, clear; sea, moderate; wire angle, 04°.

10750

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.75 | 33.62 | 5.60 | 319 | 0   | (15.75) | (33.62) | (5.60) | (24.77) | (319) | (0.00) |
| 11  | 15.76 | 33.62 | 5.61 | 319 | 10  | 15.76   | 33.62   | 5.61   | 24.77   | 319   | 0.03   |
| 31  | 15.77 | 33.63 | 5.58 | 319 | 20  | 15.77   | 33.62   | 5.60   | 24.77   | 319   | 0.06   |
| 56  | 15.74 | 33.61 | 5.58 | 320 | 30  | 15.77   | 33.63   | 5.59   | 24.77   | 319   | 0.10   |
| 65  | 15.74 | 33.60 | 5.58 | 320 | 50  | 15.75   | 33.62   | 5.58   | 24.77   | 319   | 0.16   |
| 75  | 14.26 | 33.51 | 5.51 | 296 | 75  | 14.26   | 33.51   | 5.51   | 25.01   | 296   | 0.24   |
| 91  | 13.13 | 33.53 | 5.21 | 273 | 100 | 12.30   | 33.59   | 5.00   | 25.45   | 254   | 0.31   |
| 104 | 11.90 | 33.61 | 4.88 | 244 | 125 | 10.59   | 33.65   | 4.52   | 25.82   | 219   | 0.37   |
| 129 | 10.36 | 33.66 | 4.44 | 214 | 150 | 10.00   | 33.77   | 3.81   | 26.02   | 200   | 0.42   |
| 148 | 10.04 | 33.77 | 3.84 | 201 | 200 | 8.64    | 33.92   | 3.06   | 26.35   | 168   | 0.51   |
| 173 | 9.14  | 33.82 | 3.56 | 183 | 250 | 8.66    | 34.16   | 1.78   | 26.54   | 150   | 0.59   |
| 203 | 8.62  | 33.93 | 3.02 | 167 | 300 | 8.35    | 34.32   | 1.03   | 26.71   | 134   | 0.67   |
| 233 | 8.66  | 34.08 | 2.28 | 156 | 400 | 7.29    | 34.29   | 0.66   | 26.84   | 122   | 0.80   |
| 271 | 8.65  | -     | 1.31 | -   | 500 | 6.49    | 34.34   | 0.43   | 26.99   | 108   | 0.92   |
| 330 | 7.98  | 34.32 | 0.83 | 129 |     |         |         |        |         |       |        |
| 403 | 7.26  | 34.29 | 0.64 | 122 |     |         |         |        |         |       |        |
| 479 | 6.64  | 34.33 | 0.46 | 110 |     |         |         |        |         |       |        |
| 559 | 6.04  | 34.38 | 0.32 | 100 |     |         |         |        |         |       |        |

ORCA; January 18, 1960; 1557, 1617 GCT; 29°25'N, 117°57.5'W; sounding, 1800 fm; wind, 300°, force 2; weather, partly cloudy; sea, moderate; wire angle, 02°, 03°.

10760

|     |       |       |        |     |     |         |         |        |         |       |        |
|-----|-------|-------|--------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.69 | 33.53 | 5.68   | 324 | 0   | (15.69) | (33.53) | (5.68) | (24.72) | (324) | (0.00) |
| 12  | 15.71 | 33.55 | 5.77   | 323 | 10  | 15.71   | 33.55   | 5.76   | 24.73   | 323   | 0.03   |
| 32  | 15.70 | 33.53 | 5.78   | 324 | 20  | 15.71   | 33.54   | 5.77   | 24.72   | 324   | 0.06   |
| 56  | 15.70 | 33.54 | 5.73   | 324 | 30  | 15.70   | 33.53   | 5.78   | 24.72   | 324   | 0.10   |
| 66  | 15.72 | 33.57 | 5.78   | 322 | 50  | 15.70   | 33.54   | 5.75   | 24.72   | 324   | 0.16   |
| 76  | 15.70 | 33.55 | 5.77   | 323 | 75  | 15.70   | 33.55   | 5.77   | 24.73   | 323   | 0.24   |
| 92  | 14.60 | 33.67 | 5.67   | 292 | 100 | 13.55   | 33.63   | 5.47   | 25.25   | 273   | 0.32   |
| 105 | 13.09 | 33.62 | 5.36   | 265 | 125 | 12.09   | 33.64   | 5.06   | 25.54   | 245   | 0.38   |
| 130 | 11.42 | 33.63 | 4.88   | 235 | 150 | 9.97    | 33.73   | 4.54   | 26.00   | 202   | 0.44   |
|     |       |       |        |     | 200 | 8.81    | 33.92   | 3.81   | 26.33   | 170   | 0.54   |
| 151 | 9.90  | 33.74 | 4.53   | 201 | 250 | 8.34    | 34.06   |        | 26.50   | 154   | 0.62   |
| 175 | 9.20  | 33.86 | 4.10   | 181 | 300 | 7.87    | 34.14   |        | 26.64   | 141   | 0.70   |
| 206 | 8.73  | 33.94 | 3.72   | 168 | 400 | 7.00    | 34.25   | 1.00   | 26.85   | 121   | 0.83   |
| 236 | 8.40  | 34.02 | 2.97   | 158 | 500 | 6.22    | 34.32   | 0.54   | 27.01   | 106   | 0.95   |
| 274 | 8.21  | 34.11 | 2.14a) | 148 |     |         |         |        |         |       |        |
| 333 | 7.40  | 34.18 | 1.49a) | 132 |     |         |         |        |         |       |        |
| 409 | 6.96  | 34.26 | 0.92   | 120 |     |         |         |        |         |       |        |
| 484 | 6.35  | 34.32 | 0.57   | 108 |     |         |         |        |         |       |        |
| 564 | 5.79  | 34.32 | 0.41   | 100 |     |         |         |        |         |       |        |

a) Oxygen samples at 274 and 333 meters appear to have been reversed; they are assumed to be listed in correct order.



SIO

CCOFI  
6001

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

107.70

ORCA; January 18, 1960; 2156 GCT; 29°12'N, 118°40'W; sounding, 560 fm; wind, 320°, force 1; weather, cloudy; sea, rough; wire angle, 00°.

|     |       |        |      |     |     |         |         |        |         |       |        |
|-----|-------|--------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.58 | 33.85  | 5.47 | 320 | 0   | (16.58) | (33.85) | (5.47) | (24.75) | (320) | (0.00) |
| 11  | 16.58 | 33.91u | 5.48 | -   | 10  | 16.58   | 33.85   | 5.48   | 24.75   | 321   | 0.03   |
| 31  | 16.56 | 33.84  | 5.45 | 321 | 20  | 16.57   | 33.84   | 5.47   | 24.75   | 321   | 0.06   |
| 56  | 16.55 | 33.86  | 5.42 | 319 | 30  | 16.56   | 33.84   | 5.45   | 24.75   | 321   | 0.10   |
| 65  | 16.57 | 33.86  | 5.43 | 319 | 50  | 16.55   | 33.86   | 5.43   | 24.76   | 319   | 0.16   |
| 75  | 16.57 | 33.87  | 5.43 | 319 | 75  | 16.57   | 33.87   | 5.43   | 24.75   | 319   | 0.24   |
| 90  | 16.57 | 33.87  | 5.39 | 319 | 100 | 15.30   | 33.83   | 4.73   | 25.03   | 294   | 0.32   |
| 105 | 14.44 | 33.82  | 4.28 | 277 | 125 | 12.90   | 33.84   | 3.40   | 25.53   | 246   | 0.39   |
| 131 | 12.64 | 33.87  | 3.16 | 239 | 150 | 12.14   | 33.99   | 2.58   | 25.80   | 221   | 0.44   |
| 150 | 12.14 | 33.99  | 2.58 | 221 | 200 | 10.80   | 34.08   | 2.07   | 26.11   | 191   | 0.55   |
| 174 | 11.38 | 34.04  | 2.35 | 204 | 250 | 9.85    | 34.40   | 1.36   | 26.52   | 152   | 0.64   |
| 205 | 10.70 | 34.09  | 2.12 | 188 | 300 | 9.20    | 34.41   | 1.02   | 26.64   | 140   | 0.71   |
| 235 | 10.10 | 34.34  | 1.54 | 160 | 400 | 7.97    | 34.42   | 0.62   | 26.85   | 121   | 0.85   |
| 273 | 9.48  | 34.42  | 1.13 | 144 | 500 | 7.13    | 34.40   | 0.41   | 26.95   | 111   | 0.97   |
| 333 | 8.94  | 34.40  | 0.92 | 137 |     |         |         |        |         |       |        |
| 408 | 7.84  | 34.42  | 0.59 | 120 |     |         |         |        |         |       |        |
| 483 | 7.28  | 34.40  | 0.43 | 114 |     |         |         |        |         |       |        |
| 563 | 6.52  | 34.43  | 0.34 | 101 |     |         |         |        |         |       |        |

107.80

ORCA; January 19, 1960; 0321 GCT; 28°52'N, 119°19'W; sounding, 2150 fm; wind, calm; weather, partly cloudy; sea, moderate; wire angle, 05°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.42 | 33.82 | 5.37 | 319 | 0   | (16.42) | (33.82) | (5.37) | (24.76) | (319) | (0.00) |
| 11  | 16.44 | 33.82 | 5.39 | 320 | 10  | 16.43   | 33.82   | 5.39   | 24.76   | 320   | 0.03   |
| 31  | 16.44 | 33.82 | 5.40 | 320 | 20  | 16.44   | 33.82   | 5.40   | 24.76   | 320   | 0.06   |
| 55  | 16.44 | 33.82 | 5.36 | 320 | 30  | 16.44   | 33.82   | 5.40   | 24.76   | 320   | 0.10   |
| 65  | 16.44 | 33.82 | 5.37 | 320 | 50  | 16.44   | 33.82   | 5.37   | 24.76   | 320   | 0.16   |
| 75  | 16.44 | 33.80 | 5.33 | 321 | 75  | 16.44   | 33.80   | 5.33   | 24.75   | 321   | 0.24   |
| 89  | 13.98 | 33.75 | 4.48 | 273 | 100 | 12.89   | 33.75   | 4.02   | 25.47   | 252   | 0.31   |
| 103 | 12.65 | 33.75 | 3.92 | 248 | 125 | 11.47   | 33.80   | 3.70   | 25.78   | 222   | 0.37   |
| 129 | 11.21 | 33.83 | 3.63 | 216 | 150 | 10.82   | 33.98   | 2.58   | 26.03   | 199   | 0.43   |
| 148 | 10.85 | 33.96 | 2.63 | 200 | 200 | 10.31   | 34.24   | 1.65   | 26.32   | 171   | 0.52   |
| 173 | 10.49 | 34.12 | 2.10 | 182 | 250 | 9.63    | 34.35   | 1.07   | 26.52   | 152   | 0.60   |
| 203 | 10.28 | 34.26 | 1.56 | 168 | 300 | 8.95    | 34.38   | 0.90   | 26.66   | 139   | 0.68   |
| 231 | 9.93  | 34.34 | 1.17 | 157 | 400 | 7.62    | 34.42   | 0.68   | 26.89   | 117   | 0.81   |
| 270 | 9.32  | 34.34 | 1.00 | 147 | 500 | 6.69    | 34.40   | 0.32   | 27.02   | 105   | 0.93   |
| 329 | 8.56  | 34.40 | 0.81 | 131 |     |         |         |        |         |       |        |
| 403 | 7.58  | 34.42 | 0.67 | 116 |     |         |         |        |         |       |        |
| 478 | 6.84  | 34.40 | 0.37 | 108 |     |         |         |        |         |       |        |
| 557 | 6.35  | 34.41 | 0.24 | 100 |     |         |         |        |         |       |        |

107.90

ORCA; January 19, 1960; 0850 GCT; 28°31'N, 119°57'W; sounding, 2275 fm; wind, 300°, force 2; weather, cloudy; sea, moderate; wire angle, 11°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.62 | 33.78 | 5.42 | 326 | 0   | (16.62) | (33.78) | (5.42) | (24.69) | (326) | (0.00) |
| 11  | 16.64 | 33.77 | 5.54 | 328 | 10  | 16.64   | 33.77   | 5.53   | 24.67   | 328   | 0.03   |
| 31  | 16.64 | 33.77 | 5.48 | 328 | 20  | 16.64   | 33.77   | 5.51   | 24.67   | 328   | 0.07   |
| 56  | 16.69 | 33.78 | 5.48 | 328 | 30  | 16.64   | 33.77   | 5.49   | 24.67   | 328   | 0.10   |
| 66  | 16.69 | 33.78 | 5.46 | 328 | 50  | 16.68   | 33.78   | 5.48   | 24.67   | 328   | 0.16   |
| 75  | 16.70 | 33.80 | 5.41 | 326 | 75  | 16.70   | 33.80   | 5.41   | 24.69   | 326   | 0.25   |
| 89  | 14.76 | 33.67 | 5.48 | 295 | 100 | 14.32   | 33.70   | 5.28   | 25.14   | 284   | 0.32   |
| 104 | 13.90 | 33.70 | 5.08 | 275 | 125 | 12.10   | 33.62   | 4.87   | 25.52   | 247   | 0.39   |
| 128 | 12.08 | 33.63 | 4.86 | 246 | 150 | 10.63   | 33.68   | 4.59   | 25.84   | 217   | 0.45   |
| 147 | 10.74 | 33.68 | 4.63 | 219 | 200 | 9.00    | 33.86   | 3.94   | 26.24   | 178   | 0.55   |
| 171 | 9.88  | 33.71 | 4.28 | 203 | 250 | 8.57    | 34.09   | 2.18   | 26.49   | 155   | 0.64   |
| 200 | 9.00  | 33.86 | 3.94 | 178 | 300 | 7.62    | 34.11   | 1.85   | 26.65   | 140   | 0.71   |
| 229 | 8.98  | 34.04 | 2.37 | 164 | 400 | 6.80    | 34.23   | 0.90   | 26.86   | 120   | 0.85   |
| 266 | 8.24  | 34.13 | 2.05 | 147 | 500 | 6.28    | 34.34   | 0.40   | 27.02   | 105   | 0.96   |
| 325 | 7.20  | 34.09 | 1.68 | 136 |     |         |         |        |         |       |        |
| 397 | 6.82  | 34.23 | 0.91 | 120 |     |         |         |        |         |       |        |
| 471 | 6.44  | 34.30 | 0.45 | 110 |     |         |         |        |         |       |        |
| 551 | 6.04  | 34.40 | 0.34 | 98  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

SIO  
CCOFI  
6001

ORCA; January 21, 1960; 1837 GCT; 29°50.5'N, 115°52.5'W; sounding, 50 fm; wind, 090°, force 3; weather, cloudy; sea, slight; wire angle, 00°.

110.33

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 2  | 15.08 | 33.65 | 5.74 | 303 | 0  | (15.08) | (33.65) | (5.74) | (24.94) | (303) | (0.00) |
| 12 | 15.05 | 33.61 | 5.73 | 306 | 10 | 15.05   | 33.61   | 5.73   | 24.91   | 306   | 0.03   |
| 31 | 15.02 | 33.67 | 5.65 | 300 | 20 | 15.04   | 33.62   | 5.72   | 24.92   | 305   | 0.06   |
| 52 | 14.24 | 33.69 | 4.39 | 283 | 30 | 15.02   | 33.67   | 5.66   | 24.96   | 301   | 0.09   |
| 77 | 12.34 | 33.79 | 3.14 | 240 | 50 | 14.45   | 33.69   | 4.72   | 25.10   | 287   | 0.15   |
|    |       |       |      |     | 75 | 12.55   | 33.78   | 3.25   | 25.55   | 244   | 0.22   |

ORCA; January 21, 1960; 1652 GCT; 29°47'N, 116°01.5'W; sounding, 650 fm; wind, 080°, force 3; weather, partly cloudy; sea, slight; wire angle, 13°.

110.35

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.70 | 33.69 | 5.62 | 313 | 0   | (15.70) | (33.69) | (5.62) | (24.83) | (313) | (0.00) |
| 10  | 15.72 | 33.68 | 5.61 | 314 | 10  | 15.72   | 33.68   | 5.61   | 24.82   | 314   | 0.03   |
| 30  | 15.69 | 33.68 | 5.55 | 313 | 20  | 15.75   | 33.69   | 5.59   | 24.82   | 314   | 0.06   |
| 60  | 14.44 | 33.66 | 4.62 | 289 | 30  | 15.69   | 33.68   | 5.55   | 24.83   | 313   | 0.09   |
| 70  | 13.80 | 33.68 | 4.15 | 275 | 50  | 15.21   | 33.67   | 5.16   | 24.92   | 304   | 0.16   |
| 84  | 12.52 | 33.69 | 3.80 | 250 | 75  | 13.34   | 33.68   | 3.98   | 25.33   | 266   | 0.23   |
| 98  | 11.46 | 33.86 | 2.72 | 218 | 100 | 11.41   | 33.88   | 2.64   | 25.85   | 216   | 0.29   |
| 112 | 11.18 | 33.97 | 2.18 | 205 | 125 | 10.83   | 34.01   | 2.17   | 26.06   | 196   | 0.34   |
| 136 | 10.52 | 34.04 | 2.15 | 189 | 150 | 10.22   | 34.06   | 2.13   | 26.20   | 182   | 0.39   |
| 155 | 10.12 | 34.07 | 2.10 | 180 | 200 | 9.65    | 34.28   | 1.31   | 26.47   | 157   | 0.48   |
| 183 | 9.88  | 34.21 | 1.54 | 166 | 250 | 9.09    | 34.32   | 0.90   | 26.59   | 146   | 0.55   |
| 211 | 9.47  | 34.31 | 1.21 | 152 | 300 | 8.28    | 34.33   | 0.84   | 26.72   | 133   | 0.62   |
| 238 | 9.27  | 34.32 | 0.94 | 148 | 400 | 7.45    | 34.30   | 0.66   | 26.83   | 123   | 0.76   |
| 284 | 8.44  | 34.34 | 0.87 | 134 | 500 | 6.48    | 34.34   | 0.39   | 26.99   | 108   | 0.88   |
| 336 | 7.98  | 34.29 | 0.79 | 131 | 600 | (5.92)  | (34.34) |        | (27.07) | (100) | (0.99) |
| 419 | 7.30  | 34.31 | 0.62 | 120 |     |         |         |        |         |       |        |
| 501 | 6.47  | 34.34 | 0.38 | 108 |     |         |         |        |         |       |        |
| 586 | 5.96  | 34.34 | 0.29 | 101 |     |         |         |        |         |       |        |

ORCA; January 21, 1960; 1339 GCT; 29°40'N, 116°22'W; sounding, 1200 fm; wind, 080°, force 1; weather, clear; sea, slight; wire angle, 07°.

110.40

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 15.95 | 33.81 | 5.49 | 309 | 0   | 15.95 | 33.81 | 5.49 | 24.87 | 309 | 0.00 |
| 10  | 15.96 | 33.78 | 5.51 | 312 | 10  | 15.96 | 33.78 | 5.51 | 24.84 | 312 | 0.03 |
| 30  | 15.97 | 33.80 | 5.51 | 310 | 20  | 15.96 | 33.79 | 5.51 | 24.85 | 311 | 0.06 |
| 56  | 15.95 | 33.79 | 5.46 | 311 | 30  | 15.97 | 33.80 | 5.51 | 24.86 | 310 | 0.09 |
| 65  | 15.03 | 33.78 | 4.55 | 292 | 50  | 15.96 | 33.79 | 5.46 | 24.85 | 311 | 0.16 |
| 75  | 14.46 | 33.79 | 4.25 | 280 | 75  | 14.46 | 33.78 | 4.25 | 25.18 | 280 | 0.23 |
| 89  | 13.16 | 33.79 | 3.53 | 254 | 100 | 12.38 | 33.78 | 3.37 | 25.58 | 241 | 0.30 |
| 104 | 12.11 | 33.78 | 3.32 | 236 | 125 | 10.97 | 33.91 | 2.82 | 25.95 | 206 | 0.35 |
| 128 | 10.90 | 33.92 | 2.77 | 204 | 150 | 10.74 | 34.01 | 2.33 | 26.07 | 195 | 0.40 |
| 148 | 10.76 | 34.00 | 2.35 | 196 | 200 | 9.82  | 34.16 | 1.75 | 26.34 | 169 | 0.50 |
| 172 | 10.32 | 34.09 | 2.01 | 182 | 250 | 9.23  | 34.27 | 1.30 | 26.54 | 151 | 0.58 |
| 201 | 9.80  | 34.16 | 1.73 | 168 | 300 | 8.52  | 34.28 | 1.10 | 26.66 | 139 | 0.65 |
| 230 | 9.43  | 34.23 | 1.46 | 158 | 400 | 7.33  | 34.28 | 0.64 | 26.83 | 123 | 0.79 |
| 269 | 9.04  | 34.31 | 1.17 | 146 | 500 | 6.48  | 34.33 | 0.44 | 26.99 | 108 | 0.91 |
| 325 | 8.09  | 34.26 | 1.06 | 135 |     |       |       |      |       |     |      |
| 399 | 7.34  | 34.28 | 0.65 | 124 |     |       |       |      |       |     |      |
| 472 | 6.70  | 34.32 | 0.48 | 112 |     |       |       |      |       |     |      |
| 552 | 6.09  | 34.34 | 0.37 | 103 |     |       |       |      |       |     |      |



| SIO           | OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|---------------|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
|               | Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| CCOFI<br>600I | m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

110.50

ORCA; January 21, 1960; 0743 GCT; 29°18'N, 117°01.5'W; sounding, 1700 fm; wind, direction missing, force 1; weather, clear; sea, slight; wire angle, 00°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.99 | 33.74 | 5.58 | 315 | 0   | (15.99) | (33.74) | (5.58) | (24.81) | (315) | (0.00) |
| 11  | 16.03 | 33.77 | 5.66 | 314 | 10  | 16.03   | 33.77   | 5.66   | 24.82   | 314   | 0.03   |
| 31  | 16.00 | 33.80 | 5.65 | 311 | 20  | 16.02   | 33.78   | 5.66   | 24.83   | 313   | 0.06   |
| 55  | 16.02 | 33.82 | 5.64 | 311 | 30  | 16.00   | 33.80   | 5.65   | 24.85   | 311   | 0.09   |
| 65  | 16.04 | 33.84 | 5.60 | 309 | 50  | 16.01   | 33.81   | 5.64   | 24.85   | 311   | 0.16   |
| 75  | 15.58 | 33.77 | 5.51 | 304 | 75  | 15.58   | 33.77   | 5.51   | 24.92   | 304   | 0.23   |
| 90  | 13.32 | 33.59 | 5.22 | 272 | 100 | 12.39   | 33.62   | 5.00   | 25.46   | 253   | 0.30   |
| 104 | 12.05 | 33.64 | 4.87 | 245 | 125 | 10.62   | 33.67   | 4.24   | 25.83   | 218   | 0.36   |
| 129 | 10.36 | 33.68 | 4.09 | 212 | 150 | 9.77    | 33.81   | 3.26   | 26.08   | 194   | 0.42   |
| 149 | 9.78  | 33.81 | 3.27 | 194 | 200 | 9.73    | 34.18   | 1.82   | 26.38   | 166   | 0.51   |
| 173 | 9.60  | 33.97 | 2.70 | 179 | 250 | 9.02    | 34.25   | 1.40   | 26.56   | 149   | 0.59   |
| 203 | 9.74  | 34.20 | 1.71 | 164 | 300 | 8.42    | 34.30   | 1.09   | 26.68   | 137   | 0.66   |
| 233 | 9.20  | 34.23 | 1.54 | 154 | 400 | 7.22    | 34.30   | 0.67   | 26.86   | 120   | 0.80   |
| 272 | 8.82  | 34.29 | 1.17 | 144 | 500 | 6.32    | 34.31   | 0.45   | 26.99   | 108   | 0.92   |
| 331 | 7.90  | 34.29 | 1.00 | 130 |     |         |         |        |         |       |        |
| 406 | 7.18  | 34.30 | 0.64 | 120 |     |         |         |        |         |       |        |
| 481 | 6.48  | 34.30 | 0.48 | 110 |     |         |         |        |         |       |        |
| 561 | 5.94  | 34.36 | 0.33 | 100 |     |         |         |        |         |       |        |

110.60

ORCA; January 20, 1960; 0735 GCT; 28°54.5'N, 117°38.5'W; sounding, 1910 fm; wind, direction missing, force 1; weather, clear; sea, moderate; wire angle, 07°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 15.62 | 33.51 | 5.52 | 324 | 0   | (15.62) | (33.51) | (5.52) | (24.71) | (324) | (0.00) |
| 11  | 15.64 | 33.49 | 5.56 | 326 | 10  | 15.64   | 33.49   | 5.56   | 24.69   | 326   | 0.03   |
| 30  | 15.63 | 33.50 | 5.57 | 325 | 20  | 15.64   | 33.49   | 5.56   | 24.69   | 326   | 0.07   |
| 56  | 15.66 | 33.48 | 5.55 | 327 | 30  | 15.63   | 33.50   | 5.57   | 24.70   | 325   | 0.10   |
| 66  | 15.68 | 33.53 | 5.54 | 324 | 50  | 15.64   | 33.49   | 5.56   | 24.68   | 327   | 0.16   |
| 75  | 15.67 | 33.50 | 5.53 | 326 | 75  | 15.67   | 33.50   | 5.53   | 24.69   | 326   | 0.24   |
| 89  | 13.84 | 33.37 | 5.56 | 298 | 100 | 13.00   | 33.47   | 5.26   | 25.23   | 275   | 0.32   |
| 105 | 13.24 | 33.56 | 5.22 | 273 | 125 | 11.99   | 33.79   | 3.77   | 25.67   | 233   | 0.38   |
| 129 | 11.68 | 33.77 | 3.56 | 228 | 150 | 9.89    | 33.68   | 4.33   | 25.96   | 205   | 0.44   |
| 147 | 9.96  | 33.66 | 4.34 | 208 | 200 | 9.53    | 33.97   | 2.62   | 26.24   | 179   | 0.54   |
| 172 | 9.46  | 33.76 | 4.19 | 192 | 250 | 8.79    | 34.06   | 2.29   | 26.44   | 160   | 0.62   |
| 201 | 9.54  | 33.97 | 2.61 | 178 | 300 | 7.87    | 34.11   | 1.73   | 26.62   | 143   | 0.70   |
| 237 | 9.04  | 34.02 | 2.43 | 167 | 400 | 6.90    | 34.19   | 0.91   | 26.82   | 124   | 0.84   |
| 268 | 8.21  | 34.07 | 2.01 | 151 | 500 | 6.51    | 34.30   | 0.45   | 26.96   | 110   | 0.96   |
| 326 | 7.63  | 34.14 | 1.51 | 138 |     |         |         |        |         |       |        |
| 400 | 6.90  | 34.19 | 0.91 | 124 |     |         |         |        |         |       |        |
| 476 | 6.72  | 34.30 | 0.49 | 114 |     |         |         |        |         |       |        |
| 556 | 5.80  | 34.29 | 0.41 | 103 |     |         |         |        |         |       |        |

110.60

ORCA; January 20, 1960; 0955 GCT; <sup>a)</sup> 28°54.5'N, 117°38.5'W; sounding, 1910 fm; wind, direction missing, force 1; weather, clear; sea, moderate; wire angle, 04°.

|     |       |         |      |     |
|-----|-------|---------|------|-----|
| 70  | 15.63 | 33.47 1 | 5.54 | 327 |
| 90  | 13.64 | 33.34 6 | 5.53 | 297 |
| 95  | 13.88 | 33.52 4 | 5.38 | 288 |
| 100 | 13.64 | 33.56 4 | 5.21 | 280 |
| 105 | 12.96 | 33.53 3 | 5.06 | 270 |
| 110 | 13.02 | 33.70 0 | 4.08 | 258 |
| 115 | 12.67 | 33.71 7 | 3.83 | 250 |
| 120 | 12.18 | 33.71 9 | 3.85 | 242 |
| 125 | 11.81 | 33.77 7 | 3.46 | 231 |
| 130 | 11.58 | 33.80 3 | 3.24 | 224 |
| 135 | 11.54 | 33.85 3 | 2.85 | 220 |
| 140 | 11.43 | 33.88 2 | 2.76 | 216 |
| 145 | 11.34 | 33.91 8 | 2.61 | 212 |
| 150 | 11.28 | 33.93 3 | 2.56 | 210 |
| 155 | 11.14 | 33.94 3 | 2.58 | 206 |
| 160 | 11.25 | 34.00 8 | 2.26 | 204 |
| 199 | 10.10 | 34.10 2 | 2.01 | 178 |
| 219 | 9.72  | 34.14 4 | 1.86 | 168 |

a) This special cast was made for close coverage of temperature inversions indicated by the bathythermograph observation. Note that the values of δ<sub>t</sub> are very close to those of the regular cast for this station although the temperature and salinity values differ below 125 meters.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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ORCA; January 20, 1960; 0136 GCT; 28°36'N, 118°19.5'W; sounding, 1940 fm; wind, 030°, force 1; weather, partly cloudy; sea, rough; wire angle, 00°.

110.70

|     |       |        |      |     |     |       |       |      |       |     |      |
|-----|-------|--------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 16.10 | 33.69  | 5.33 | 322 | 0   | 16.10 | 33.69 | 5.33 | 24.74 | 322 | 0.00 |
| 11  | 16.12 | 33.69  | 5.40 | 322 | 10  | 16.12 | 33.69 | 5.40 | 24.74 | 322 | 0.03 |
| 30  | 16.11 | 33.70  | 5.41 | 321 | 20  | 16.12 | 33.69 | 5.40 | 24.74 | 322 | 0.06 |
| 55  | 16.02 | 33.66  | 5.37 | 322 | 30  | 16.11 | 33.70 | 5.41 | 24.75 | 321 | 0.10 |
| 65  | 16.02 | 33.75u | 5.34 | -   | 50  | 16.04 | 33.67 | 5.38 | 24.74 | 322 | 0.16 |
| 75  | 15.98 | 33.66  | 5.35 | 321 | 75  | 15.98 | 33.66 | 5.35 | 24.75 | 321 | 0.24 |
| 89  | 14.44 | 33.62  | 5.09 | 292 | 100 | 13.62 | 33.67 | 4.39 | 25.26 | 272 | 0.32 |
| 104 | 13.39 | 33.69  | 4.14 | 266 | 125 | 12.29 | 33.82 | 3.05 | 25.63 | 236 | 0.38 |
| 128 | 12.12 | 33.84  | 2.88 | 231 | 150 | 11.70 | 33.98 | 2.21 | 25.88 | 213 | 0.44 |
| 148 | 11.74 | 33.98  | 2.21 | 214 | 200 | 10.77 | 34.14 | 1.76 | 26.17 | 186 | 0.54 |
| 174 | 11.00 | 34.00  | 2.21 | 200 | 250 | 9.92  | 34.29 | 1.22 | 26.44 | 160 | 0.63 |
| 203 | 10.74 | 34.16  | 1.68 | 184 | 300 | 9.06  | 34.30 | 1.04 | 26.58 | 147 | 0.71 |
| 232 | 10.32 | 34.29  | 1.31 | 167 | 400 | 7.91  | 34.33 | 0.51 | 26.78 | 127 | 0.85 |
| 271 | 9.42  | 34.29  | 1.14 | 153 | 500 | 6.81  | 34.35 | 0.37 | 26.95 | 111 | 0.98 |
| 330 | 8.71  | 34.30  | 0.90 | 141 |     |       |       |      |       |     |      |
| 405 | 7.85  | 34.33  | 0.49 | 126 |     |       |       |      |       |     |      |
| 480 | 7.00  | 34.34  | 0.40 | 114 |     |       |       |      |       |     |      |
| 560 | 6.26  | 34.39  | 0.28 | 101 |     |       |       |      |       |     |      |

ORCA; January 19, 1960; 2017 GCT; 28°21'N, 118°57.5'W; sounding, 2175 fm; wind, 320°, force 1; weather, cloudy; sea, rough; wire angle, 00°.

110.80

|     |       |        |      |     |     |         |         |        |         |       |        |
|-----|-------|--------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.83 | 33.75  | 5.43 | 334 | 0   | (16.83) | (33.75) | (5.43) | (24.61) | (334) | (0.00) |
| 11  | 16.62 | 33.84u | 5.46 | -   | 10  | 16.63   | 33.77   | 5.45   | 24.68   | 327   | 0.03   |
| 32  | 16.60 | 33.77  | 5.47 | 327 | 20  | 16.61   | 33.77   | 5.46   | 24.68   | 327   | 0.07   |
| 56  | 16.58 | 33.72  | 5.45 | 330 | 30  | 16.60   | 33.77   | 5.47   | 24.68   | 327   | 0.10   |
| 67  | 16.63 | 33.77  | 5.44 | 327 | 50  | 16.58   | 33.73   | 5.46   | 24.66   | 329   | 0.16   |
| 77  | 16.58 | 33.77  | 5.46 | 326 | 75  | 16.60   | 33.77   | 5.45   | 24.69   | 326   | 0.25   |
| 92  | 14.67 | 33.68  | 4.99 | 292 | 100 | 13.85   | 33.74   | 4.77   | 25.27   | 271   | 0.32   |
| 106 | 13.40 | 33.78  | 4.68 | 260 | 125 | 12.79   | 33.78   | 4.47   | 25.62   | 237   | 0.39   |
| 131 | 11.88 | 33.78  | 4.42 | 231 | 150 | 10.63   | 33.82   | 3.97   | 25.94   | 207   | 0.44   |
| 150 | 10.63 | 33.82  | 3.97 | 207 | 200 | 9.50    | 34.01   | 2.85   | 26.28   | 175   | 0.54   |
| 175 | 10.09 | 33.86  | 3.60 | 195 | 250 | 8.80    | 34.19   | 1.86   | 26.54   | 151   | 0.62   |
| 204 | 9.39  | 34.03  | 2.69 | 172 | 300 | 8.29    | 34.28   | 1.29   | 26.69   | 136   | 0.70   |
| 234 | 8.94  | 34.14  | 2.11 | 156 | 400 | 7.29    | 34.37   | 0.61   | 26.90   | 116   | 0.83   |
| 272 | 8.62  | 34.25  | 1.54 | 144 | 500 | 6.60    | 34.43   | 0.38   | 27.05   | 102   | 0.94   |
| 331 | 7.97  | 34.32  | 1.06 | 129 |     |         |         |        |         |       |        |
| 405 | 7.25  | 34.37  | 0.59 | 115 |     |         |         |        |         |       |        |
| 480 | 6.76  | 34.42  | 0.40 | 105 |     |         |         |        |         |       |        |
| 560 | 6.08  | 34.45  | 0.33 | 94  |     |         |         |        |         |       |        |

ORCA; January 19, 1960; 1401 GCT; 27°53'N, 119°36'W; sounding, 2290 fm; wind, 320°, force 1; weather, partly cloudy; sea, moderate; wire angle, 05°.

110.90

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.62 | 33.84 | 5.49 | 322 | 0   | (16.62) | (33.84) | (5.49) | (24.74) | (322) | (0.00) |
| 11  | 16.66 | 33.86 | 5.50 | 321 | 10  | 16.65   | 33.86   | 5.50   | 24.75   | 321   | 0.03   |
| 31  | 16.64 | 33.82 | 5.54 | 324 | 20  | 16.65   | 33.84   | 5.52   | 24.73   | 323   | 0.06   |
| 56  | 16.66 | 33.84 | 5.62 | 323 | 30  | 16.64   | 33.82   | 5.54   | 24.72   | 324   | 0.10   |
| 65  | 16.68 | 33.84 | 5.56 | 323 | 50  | 16.65   | 33.83   | 5.60   | 24.72   | 323   | 0.16   |
| 75  | 16.62 | 33.84 | 5.52 | 322 | 75  | 16.62   | 33.84   | 5.52   | 24.74   | 322   | 0.24   |
| 90  | 13.04 | 33.68 | 4.19 | 260 | 100 | 12.42   | 33.68   | 3.84   | 25.50   | 249   | 0.32   |
| 105 | 12.13 | 33.69 | 3.64 | 242 | 125 | 11.12   | 33.81   | 3.48   | 25.85   | 216   | 0.37   |
| 129 | 10.95 | 33.84 | 3.47 | 211 | 150 | 10.14   | 33.93   | 3.01   | 26.11   | 191   | 0.42   |
| 150 | 10.14 | 33.93 | 3.01 | 191 | 200 | 9.58    | 34.13   | 2.25   | 26.36   | 167   | 0.52   |
| 174 | 9.82  | 33.98 | 2.77 | 182 | 250 | 8.65    | 34.30   | 1.49   | 26.65   | 140   | 0.60   |
| 202 | 9.55  | 34.14 | 2.19 | 166 | 300 | 8.29    | 34.39   | 1.05   | 26.78   | 128   | 0.66   |
| 231 | 8.81  | 34.21 | 1.76 | 149 | 400 | 7.24    | 34.41   | 0.53   | 26.94   | 113   | 0.79   |
| 270 | 8.52  | 34.40 | 1.19 | 130 | 500 | 6.06    | 34.35   | 0.41   | 27.05   | 102   | 0.90   |
| 329 | 7.98  | 34.35 | 0.90 | 126 |     |         |         |        |         |       |        |
| 403 | 7.21  | 34.41 | 0.51 | 112 |     |         |         |        |         |       |        |
| 478 | 6.24  | 34.34 | 0.43 | 104 |     |         |         |        |         |       |        |
| 557 | 5.73  | 34.42 | 0.31 | 92  |     |         |         |        |         |       |        |



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

113.30

ORCA; January 22, 1960; 0115 GCT; 29°22'N, 115°17'W; sounding, 35 fm; wind, 290°, force 3; weather, partly cloudy; sea, slight; wire angle, 03°.

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1  | 15.93 | 33.85 | 5.73 | 306 | 0  | (15.93) | (33.85) | (5.73) | (24.90) | (306) | (0.00) |
| 11 | 15.66 | 33.85 | 5.77 | 300 | 10 | 15.67   | 33.85   | 5.77   | 24.96   | 300   | 0.03   |
| 31 | 15.72 | 33.86 | 5.64 | 300 | 20 | 15.68   | 33.85   | 5.77   | 24.95   | 300   | 0.06   |
| 42 | 15.80 | 33.89 | 5.62 | 300 | 30 | 15.72   | 33.86   | 5.65   | 24.96   | 300   | 0.09   |

113.35

ORCA; January 22, 1960; 0408 GCT; 29°12'N, 115°38.5'W; sounding, 825 fm; wind, 290°, force 2; weather, clear; sea, slight; wire angle, 25°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.03 | 33.74 | 5.51 | 316 | 0   | (16.03) | (33.74) | (5.51) | (24.79) | (316) | (0.00) |
| 10  | 16.05 | 33.73 | 5.55 | 318 | 10  | 16.05   | 33.73   | 5.55   | 24.78   | 318   | 0.03   |
| 28  | 15.96 | 33.75 | 5.54 | 314 | 20  | 16.01   | 33.73   | 5.55   | 24.80   | 316   | 0.06   |
| 56  | 15.42 | 33.68 | 5.66 | 308 | 30  | 15.92   | 33.74   | 5.56   | 24.83   | 313   | 0.09   |
| 65  | 14.90 | 33.66 | 5.31 | 298 | 50  | 15.46   | 33.68   | 5.65   | 24.87   | 309   | 0.16   |
| 78  | 13.47 | 33.58 | 4.83 | 276 | 75  | 13.48   | 33.57   | 4.85   | 25.22   | 276   | 0.23   |
| 91  | 12.54 | 33.76 | 3.22 | 245 | 100 | 12.21   | 33.80   | 2.89   | 25.64   | 236   | 0.30   |
| 104 | 12.10 | 33.81 | 2.80 | 233 | 125 | 11.26   | 33.98   | 2.41   | 25.96   | 206   | 0.35   |
| 125 | 11.26 | 33.98 | 2.41 | 206 | 150 | 10.82   | 34.14   | 1.90   | 26.16   | 186   | 0.41   |
| 143 | 10.96 | 34.13 | 1.95 | 190 | 200 | 10.18   | 34.26   | 1.37   | 26.36   | 167   | 0.49   |
| 167 | 10.50 | 34.16 | 1.78 | 180 | 250 | 9.17    | 34.29   | 1.16   | 26.56   | 149   | 0.57   |
| 191 | 10.30 | 34.23 | 1.46 | 171 | 300 | 8.61    | 34.34   | 0.95   | 26.68   | 137   | 0.65   |
| 215 | 9.94  | 34.30 | 1.24 | 160 | 400 | 7.68    | 34.33   | 0.47   | 26.82   | 124   | 0.78   |
| 256 | 9.03  | 34.29 | 1.15 | 147 | 500 | 6.68    | 34.34   | 0.31   | 26.96   | 110   | 0.90   |
| 303 | 8.59  | 34.34 | 0.93 | 136 |     |         |         |        |         |       |        |
| 376 | 7.98  | 34.34 | 0.51 | 127 |     |         |         |        |         |       |        |
| 453 | 7.04  | 34.32 | 0.39 | 116 |     |         |         |        |         |       |        |
| 535 | 6.42  | 34.36 | 0.25 | 105 |     |         |         |        |         |       |        |

113.40

ORCA; January 22, 1960; 0705 GCT; 29°02.5'N, 115°57.5'W; sounding, 950 fm; wind, 310°, force 2; weather, clear; sea, slight; wire angle, 08°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.49 | 33.78 | 5.45 | 323 | 0   | (16.49) | (33.78) | (5.45) | (24.73) | (323) | (0.00) |
| 10  | 16.50 | 33.76 | 5.43 | 325 | 10  | 16.50   | 33.76   | 5.43   | 24.70   | 325   | 0.03   |
| 30  | 16.53 | 33.75 | 5.46 | 326 | 20  | 16.51   | 33.75   | 5.45   | 24.69   | 326   | 0.06   |
| 60  | 15.66 | 33.69 | 5.40 | 312 | 30  | 16.53   | 33.75   | 5.46   | 24.69   | 326   | 0.10   |
| 71  | 14.55 | 33.58 | 5.26 | 298 | 50  | 16.36   | 33.74   | 5.45   | 24.71   | 324   | 0.16   |
| 84  | 13.11 | 33.55 | 4.95 | 271 | 75  | 14.03   | 33.57   | 5.16   | 25.09   | 288   | 0.24   |
| 99  | 12.42 | 33.64 | 4.26 | 252 | 100 | 12.39   | 33.64   | 4.24   | 25.48   | 251   | 0.31   |
| 115 | 11.20 | 33.63 | 3.63 | 231 | 125 | 10.61   | 33.70   | 3.39   | 25.86   | 215   | 0.37   |
| 139 | 10.22 | 33.82 | 3.19 | 200 | 150 | 10.31   | 33.92   | 2.82   | 26.08   | 194   | 0.42   |
| 158 | 10.40 | 34.00 | 2.37 | 190 | 200 | 10.09   | 34.19   | 1.68   | 26.32   | 171   | 0.51   |
| 188 | 10.14 | 34.18 | 1.75 | 172 | 250 | 9.62    | 34.36   | 1.06   | 26.54   | 151   | 0.59   |
| 217 | 10.04 | 34.20 | 1.59 | 169 | 300 | 8.91    | 34.37   | 0.85   | 26.66   | 139   | 0.67   |
| 245 | 9.68  | 34.34 | 1.10 | 153 | 400 | 7.58    | 34.38   | 0.44   | 26.87   | 119   | 0.80   |
| 294 | 8.99  | 34.37 | 0.89 | 140 | 500 | 6.62    | 34.37   | 0.33   | 27.00   | 107   | 0.92   |
| 345 | 8.28  | 34.40 | 0.56 | 127 | 600 | (5.88)  | (34.39) | (0.28) | (27.11) | (96)  | (1.03) |
| 428 | 7.26  | 34.36 | 0.41 | 116 |     |         |         |        |         |       |        |
| 513 | 6.52  | 34.38 | 0.29 | 105 |     |         |         |        |         |       |        |
| 597 | 5.90  | 34.39 | 0.28 | 97  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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ORCA; January 22, 1960; 1256 GCT; 28°37.5'N, 116°32'W; sounding, 1900 fm; wind, 330°, force 3; weather, clear; sea, slight; wire angle, 15°.

113.50

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 16.51 | 33.75 | 5.42 | 326 | 0   | (16.51) | (33.75) | (5.42) | (24.69) | (326) | (0.00) |
| 11  | 16.50 | 33.73 | 5.45 | 327 | 10  | 16.50   | 33.73   | 5.45   | 24.68   | 327   | 0.03   |
| 29  | 16.52 | 33.73 | 5.43 | 327 | 20  | 16.50   | 33.73   | 5.44   | 24.68   | 327   | 0.07   |
| 58  | 16.50 | 33.73 | 5.43 | 327 | 30  | 16.52   | 33.73   | 5.43   | 24.68   | 327   | 0.10   |
| 67  | 16.52 | 33.74 | 5.42 | 327 | 50  | 16.50   | 33.73   | 5.43   | 24.68   | 327   | 0.16   |
| 82  | 14.61 | 33.68 | 4.52 | 291 | 75  | 15.28   | 33.71   | 4.79   | 24.94   | 303   | 0.24   |
| 95  | 13.62 | 33.63 | 4.65 | 275 | 100 | 13.31   | 33.63   | 4.61   | 25.29   | 269   | 0.32   |
| 109 | 12.78 | 33.64 | 4.46 | 258 | 125 | 11.90   | 33.72   | 3.75   | 25.64   | 236   | 0.38   |
| 133 | 11.48 | 33.75 | 3.43 | 227 | 150 | 10.78   | 33.76   | 3.31   | 25.87   | 214   | 0.44   |
| 150 | 10.78 | 33.76 | 3.31 | 214 | 200 | 10.05   | 34.14   | 1.80   | 26.29   | 174   | 0.53   |
| 178 | 10.00 | 33.95 | 2.66 | 187 | 250 | 9.32    | 34.25   | 1.32   | 26.50   | 154   | 0.62   |
| 205 | 10.06 | 34.17 | 1.65 | 172 | 300 | 8.78    | 34.33   | 0.89   | 26.65   | 140   | 0.70   |
| 232 | 9.58  | 34.22 | 1.46 | 160 | 400 | 7.72    | 34.35   | 0.46   | 26.83   | 123   | 0.83   |
| 279 | 8.94  | 34.29 | 1.06 | 146 | 500 | 6.61    | 34.33   | 0.31   | 26.97   | 110   | 0.95   |
| 330 | 8.58  | 34.38 | 0.64 | 133 | 600 | (5.84)  | (34.34) |        | (27.07) | (100) | (1.06) |
| 412 | 7.54  | 34.34 | 0.45 | 122 |     |         |         |        |         |       |        |
| 497 | 6.64  | 34.33 | 0.32 | 110 |     |         |         |        |         |       |        |
| 580 | 5.96  | 34.34 | 0.25 | 101 |     |         |         |        |         |       |        |

ORCA; January 22, 1960; 1835, 2028 GCT; 28°14.5'N, 117°16.5'W; sounding, 2100 fm; wind, 310°, force 3; weather, partly cloudy; sea, rough; wire angle, 10°, 15°.

113.60

|       |       |         |      |     |      |         |         |        |         |       |        |
|-------|-------|---------|------|-----|------|---------|---------|--------|---------|-------|--------|
| 1     | 16.34 | 33.68   | 5.39 | 328 | 0    | (16.34) | (33.68) | (5.39) | (24.68) | (328) | (0.00) |
| 11    | 16.28 | 33.66   | 5.48 | 328 | 10   | 16.28   | 33.66   | 5.48   | 24.68   | 328   | 0.03   |
| 30    | 16.28 | 33.65   | 5.47 | 328 | 20   | 16.28   | 33.65   | 5.47   | 24.68   | 328   | 0.07   |
| 61    | 16.26 | 33.69   | 5.47 | 325 | 30   | 16.28   | 33.65   | 5.47   | 24.68   | 328   | 0.10   |
| 70    | 16.28 | 33.69   | 5.47 | 326 | 50   | 16.27   | 33.68   | 5.47   | 24.69   | 326   | 0.16   |
| 85    | 16.26 | 33.68   | 5.42 | 326 | 75   | 16.28   | 33.69   | 5.45   | 24.70   | 326   | 0.25   |
| 99    | 13.69 | 33.57   | 5.24 | 280 | 100  | 13.69   | 33.58   | 5.23   | 25.18   | 280   | 0.32   |
| 114   | 12.98 | 33.64   | 4.93 | 262 | 125  | 12.41   | 33.66   | 4.72   | 25.49   | 250   | 0.39   |
| 138   | 11.48 | 33.68   | 4.40 | 232 | 150  | 10.58   | 33.71   | 4.03   | 25.86   | 215   | 0.45   |
| 156   | 10.20 | 33.72   | 3.83 | 207 | 200  | 9.08    | 33.94   | 2.90   | 26.30   | 174   | 0.55   |
| 185   | 9.36  | 33.86   | 3.19 | 184 | 250  | 8.73    | 34.12   | 1.86   | 26.50   | 154   | 0.63   |
| 214   | 8.83  | 34.00   | 2.61 | 165 | 300  | 8.08    | 34.22   | 1.35   | 26.67   | 138   | 0.71   |
| 241   | 8.83  | 34.11   | 1.97 | 157 | 400  | 7.45    | 34.36   | 0.58   | 26.87   | 119   | 0.84   |
| 289   | 8.18  | 34.19   | 1.46 | 142 | 500  | 6.61    | 34.38   | 0.36   | 27.01   | 106   | 0.96   |
| 342   | 7.80  | 34.32   | 0.92 | 126 | 600  | 5.73    | 34.35   | 0.28   | 27.10   | 97    | 1.07   |
| 424   | 7.26  | 34.36   | 0.47 | 116 | 700  | 5.16    | 34.38   | 0.30   | 27.20   | 88    | 1.17   |
| 508   | 6.54  | 34.38   | 0.35 | 105 | 800  | 4.69    | 34.42   | 0.36   | 27.28   | 80    | 1.26   |
| 590   | 5.82  | 34.36   | 0.28 | 98  | 1000 | 3.99    | 34.50   | 0.58   | 27.41   | 68    | 1.42   |
|       |       |         |      |     | 1200 | 3.51    | 34.53   | 0.76   | 27.48   | 61    | 1.57   |
| 391a) | 7.82  | 34.35 7 | 0.46 | 124 | 1500 | 2.81    | 34.59   | 1.18   | 27.60   | 50    | 1.76   |
| 489   | 6.55  | 34.31 8 | 0.39 | 110 | 2000 | 2.13    | 34.63   | 1.86   | 27.69   | 41    | 2.05   |
| 588   | 5.80  | 34.35 6 | 0.28 | 98  | 2500 | 1.80    | 34.66   | 2.40   | 27.74   | 37    | 2.28   |
| 780   | 4.78  | 34.41 8 | 0.34 | 82  | 3000 | 1.64    | 34.67   | 2.63   | 27.76   | 34    | 2.51   |
| 971   | 4.08  | 34.49 1 | 0.56 | 69  |      |         |         |        |         |       |        |
| 1163  | 3.60  | 34.52 9 | 0.70 | 62  |      |         |         |        |         |       |        |
| 1353  | 3.13  | 34.56 9 | 0.98 | 54  |      |         |         |        |         |       |        |
| 1546  | 2.72  | 34.59 6 | 1.24 | 49  |      |         |         |        |         |       |        |
| 1737  | 2.44  | 34.61 5 | 1.55 | 45  |      |         |         |        |         |       |        |
| 1932  | 2.21  | 34.62 9 | 1.76 | 42  |      |         |         |        |         |       |        |
| 2125  | 2.03  | 34.64 4 | 2.04 | 40  |      |         |         |        |         |       |        |
| 2319  | 1.92  | 34.65 5 | 2.23 | 38  |      |         |         |        |         |       |        |
| 2515  | 1.80  | 34.66 2 | 2.40 | 37  |      |         |         |        |         |       |        |
| 2711  | 1.70  | 34.66 8 | 2.51 | 35  |      |         |         |        |         |       |        |
| 2809  | 1.68  | 34.66 9 | 2.66 | 35  |      |         |         |        |         |       |        |
| 2908  | 1.66  | 34.67 2 | 2.59 | 34  |      |         |         |        |         |       |        |
| 3010  | 1.64  | 34.67 2 | 2.64 | 34  |      |         |         |        |         |       |        |
| 3110  | 1.64  | 34.66 9 | 2.69 | 34  |      |         |         |        |         |       |        |

a) Overlapping casts; reconciliation of property curves when necessary.



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

113.70

ORCA; January 23, 1960; 0203 GCT; 27°57'N, 117°55'W; sounding, 1700 fm; wind, 320°, force 2; weather, partly cloudy; sea, high; wire angle, 04°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 17.48 | 33.94 | 5.35 | 334 | 0   | 17.48 | 33.94 | 5.35 | 24.61 | 334 | 0.00 |
| 10  | 17.49 | 33.93 | 5.39 | 335 | 10  | 17.49 | 33.93 | 5.39 | 24.60 | 335 | 0.03 |
| 31  | 17.42 | 33.93 | 5.35 | 334 | 20  | 17.46 | 33.93 | 5.37 | 24.61 | 334 | 0.07 |
| 56  | 17.39 | 33.93 | 5.34 | 333 | 30  | 17.42 | 33.93 | 5.35 | 24.61 | 334 | 0.10 |
| 66  | 17.40 | 33.93 | 5.39 | 333 | 50  | 17.40 | 33.93 | 5.34 | 24.62 | 333 | 0.17 |
| 76  | 17.25 | 33.91 | 5.31 | 331 | 75  | 17.28 | 33.91 | 5.32 | 24.64 | 331 | 0.25 |
| 91  | 15.20 | 33.86 | 5.25 | 290 | 100 | 15.02 | 33.86 | 5.23 | 25.10 | 287 | 0.33 |
| 106 | 14.25 | 33.84 | 5.03 | 272 | 125 | 12.71 | 33.73 | 4.72 | 25.49 | 250 | 0.40 |
| 130 | 12.40 | 33.71 | 4.66 | 246 | 150 | 11.02 | 33.73 | 4.16 | 25.80 | 220 | 0.46 |
| 150 | 11.02 | 33.73 | 4.16 | 220 | 200 | 9.46  | 33.92 | 2.89 | 26.22 | 180 | 0.56 |
| 175 | 9.94  | 33.80 | 3.45 | 197 | 250 | 8.94  | 34.12 | 2.04 | 26.46 | 158 | 0.64 |
| 205 | 9.38  | 33.95 | 2.77 | 177 | 300 | 8.35  | 34.23 | 1.38 | 26.64 | 141 | 0.72 |
| 234 | 9.13  | 34.05 | 2.31 | 166 | 400 | 7.34  | 34.34 | 0.62 | 26.87 | 119 | 0.86 |
| 272 | 8.64  | 34.19 | 1.73 | 148 | 500 | 6.46  | 34.37 | 0.38 | 27.01 | 106 | 0.98 |
| 331 | 8.06  | 34.27 | 1.01 | 134 |     |       |       |      |       |     |      |
| 405 | 7.30  | 34.34 | 0.59 | 118 |     |       |       |      |       |     |      |
| 480 | 6.64  | 34.36 | 0.40 | 108 |     |       |       |      |       |     |      |
| 560 | 5.96  | 34.40 | 0.34 | 96  |     |       |       |      |       |     |      |

113.80

ORCA; January 23, 1960; 0653 GCT; 27°41.5'N, 118°30.5'W; sounding, 2200 fm; wind, 340°, force 3; weather, clear; sea, high; wire angle, 11°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.70 | 33.84 | 5.37 | 324 | 0   | (16.70) | (33.84) | (5.37) | (24.72) | (324) | (0.00) |
| 11  | 16.70 | 33.82 | 5.51 | 325 | 10  | 16.70   | 33.82   | 5.50   | 24.70   | 325   | 0.03   |
| 30  | 16.68 | 33.79 | 5.44 | 327 | 20  | 16.69   | 33.80   | 5.47   | 24.69   | 326   | 0.06   |
| 56  | 16.60 | 33.82 | 5.39 | 323 | 30  | 16.68   | 33.79   | 5.44   | 24.68   | 327   | 0.10   |
| 66  | 16.50 | 33.84 | 5.37 | 319 | 50  | 16.62   | 33.80   | 5.41   | 24.71   | 324   | 0.16   |
| 75  | 15.63 | 33.79 | 5.25 | 304 | 75  | 15.63   | 33.79   | 5.25   | 24.92   | 304   | 0.24   |
| 90  | 13.84 | 33.74 | 4.37 | 271 | 100 | 13.20   | 33.72   | 4.37   | 25.38   | 260   | 0.31   |
| 105 | 12.60 | 33.71 | 4.39 | 250 | 125 | 11.66   | 33.77   | 3.42   | 25.72   | 228   | 0.38   |
| 129 | 11.47 | 33.78 | 3.22 | 224 | 150 | 10.00   | 33.72   | 4.06   | 25.97   | 204   | 0.43   |
| 149 | 10.04 | 33.71 | 4.07 | 206 | 200 | 9.47    | 34.06   | 2.27   | 26.33   | 170   | 0.52   |
| 173 | 9.40  | 33.86 | 3.28 | 184 | 250 | 8.66    | 34.19   | 1.60   | 26.56   | 149   | 0.61   |
| 202 | 9.48  | 34.08 | 2.20 | 169 | 300 | 7.81    | 34.19   | 1.52   | 26.69   | 136   | 0.68   |
| 231 | 9.48  | 34.25 | 1.39 | 156 | 400 | 7.28    | 34.34   | 0.55   | 26.88   | 118   | 0.81   |
| 268 | 7.90  | 34.13 | 1.90 | 142 | 500 | 6.44    | 34.32   | 0.36   | 26.98   | 108   | 0.93   |
| 325 | 7.74  | 34.23 | 1.16 | 132 |     |         |         |        |         |       |        |
| 398 | 7.30  | 34.34 | 0.56 | 118 |     |         |         |        |         |       |        |
| 472 | 6.61  | 34.32 | 0.41 | 110 |     |         |         |        |         |       |        |
| 550 | 6.17  | 34.34 | 0.29 | 104 |     |         |         |        |         |       |        |

113.90

ORCA; January 23, 1960; 1155 GCT; 27°26'N, 119°10'W; sounding, 2000+ fm; wind, 020°, force 3; weather, clear; sea, very rough; wire angle, 05°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.68 | 33.77 | 5.49 | 328 | 0   | (16.68) | (33.77) | (5.49) | (24.67) | (328) | (0.00) |
| 11  | 16.70 | 33.77 | 5.49 | 328 | 10  | 16.70   | 33.77   | 5.49   | 24.67   | 328   | 0.03   |
| 32  | 16.68 | 33.81 | 5.45 | 326 | 20  | 16.70   | 33.78   | 5.48   | 24.67   | 328   | 0.07   |
| 62  | 16.57 | 33.84 | 5.37 | 321 | 30  | 16.69   | 33.81   | 5.46   | 24.70   | 326   | 0.10   |
| 72  | 16.44 | 33.80 | 5.34 | 321 | 50  | 16.63   | 33.83   | 5.40   | 24.73   | 323   | 0.16   |
| 87  | 13.13 | 33.68 | 4.29 | 262 | 75  | 16.22   | 33.79   | 5.28   | 24.79   | 317   | 0.24   |
| 102 | 12.25 | 33.72 | 3.86 | 242 | 100 | 12.35   | 33.71   | 3.91   | 25.54   | 245   | 0.32   |
| 116 | 11.70 | 33.73 | 3.63 | 232 | 125 | 11.22   | 33.74   | 3.49   | 25.78   | 222   | 0.37   |
| 141 | 10.34 | 33.81 | 3.17 | 203 | 150 | 9.99    | 33.88   | 2.93   | 26.11   | 191   | 0.43   |
| 160 | 9.81  | 33.95 | 2.76 | 184 | 200 | 9.78    | 34.16   | 1.92   | 26.35   | 168   | 0.52   |
| 189 | 9.98  | 34.14 | 1.85 | 172 | 250 | 8.34    | 34.12   | 1.97   | 26.55   | 149   | 0.60   |
| 219 | 9.12  | 34.13 | 2.05 | 160 | 300 | 7.78    | 34.20   | 1.51   | 26.70   | 135   | 0.67   |
| 247 | 8.39  | 34.11 | 1.99 | 151 | 400 | 6.82    | 34.30   | 0.68   | 26.91   | 115   | 0.80   |
| 296 | 7.82  | 34.19 | 1.54 | 136 | 500 | 6.26    | 34.32   | 0.41   | 27.01   | 106   | 0.92   |
| 350 | 7.16  | 34.25 | 0.95 | 123 | 600 | 5.64    | 34.35   | 0.30   | 27.11   | 96    | 1.03   |
| 434 | 6.62  | 34.31 | 0.56 | 112 |     |         |         |        |         |       |        |
| 519 | 6.14  | 34.33 | 0.37 | 104 |     |         |         |        |         |       |        |
| 604 | 5.60  | 34.35 | 0.29 | 96  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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ORCA; January 25, 1960; 0912 GCT; 28°54.5'N, 114°41'W; sounding, 44 fm; wind, 250°, force 2; weather, cloudy; sea, moderate; wire angle, 01°.

117.26

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1  | 16.26 | 33.87 | 5.65 | 312 | 0  | (16.26) | (33.87) | (5.65) | (24.84) | (312) | (0.00) |
| 11 | 16.24 | 33.87 | 5.63 | 312 | 10 | 16.25   | 33.87   | 5.63   | 24.84   | 312   | 0.03   |
| 31 | 15.85 | 33.85 | 5.83 | 304 | 20 | 16.09   | 33.86   | 5.70   | 24.88   | 308   | 0.06   |
| 51 | 14.98 | 33.81 | 4.28 | 289 | 30 | 15.87   | 33.85   | 5.82   | 24.92   | 305   | 0.09   |
|    |       |       |      |     | 50 | 15.10   | 33.81   | 4.50   | 25.06   | 291   | 0.15   |

ORCA; January 25, 1960; 0712 GCT; 28°48'N, 114°55'W; sounding, 55 fm; wind, 240°, force 3; weather, partly cloudy; sea, moderate; wire angle, 02°.

117.30

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1  | 16.40 | 33.91 | 5.56 | 312 | 0  | (16.40) | (33.91) | (5.56) | (24.84) | (312) | (0.00) |
| 11 | 16.40 | 33.87 | 5.61 | 315 | 10 | 16.40   | 33.87   | 5.61   | 24.81   | 315   | 0.03   |
| 32 | 16.34 | 33.86 | 5.64 | 314 | 20 | 16.38   | 33.86   | 5.62   | 24.81   | 315   | 0.06   |
| 52 | 16.02 | 33.80 | 5.54 | 312 | 30 | 16.37   | 33.86   | 5.63   | 24.82   | 314   | 0.09   |
| 76 | 14.19 | 33.68 | 4.69 | 282 | 50 | 16.06   | 33.81   | 5.55   | 24.84   | 312   | 0.16   |
|    |       |       |      |     | 75 | 14.28   | 33.68   | 4.72   | 25.14   | 284   | 0.23   |

ORCA; January 25, 1960; 0425 GCT; 28°37.5'N, 115°17'W; sounding, 120 fm; wind, 310°, force 3; weather, cloudy; sea, moderate; wire angle, 02°.

117.35

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.66 | 34.00 | 5.43 | 311 | 0   | (16.66) | (34.00) | (5.43) | (24.85) | (311) | (0.00) |
| 11  | 16.71 | 34.00 | 5.38 | 312 | 10  | 16.70   | 34.00   | 5.39   | 24.84   | 312   | 0.03   |
| 32  | 16.78 | 34.04 | 5.29 | 311 | 20  | 16.76   | 34.02   | 5.36   | 24.84   | 312   | 0.06   |
| 50  | 16.38 | 33.95 | 5.32 | 309 | 30  | 16.78   | 34.04   | 5.29   | 24.85   | 311   | 0.09   |
| 75  | 14.87 | 33.86 | 3.32 | 283 | 50  | 16.38   | 33.95   | 5.32   | 24.87   | 309   | 0.16   |
| 100 | 12.59 | 33.95 | 2.73 | 232 | 75  | 14.87   | 33.86   | 3.32   | 25.14   | 283   | 0.23   |
| 124 | 11.59 | 34.02 | 2.34 | 208 | 100 | 12.59   | 33.95   | 2.73   | 25.68   | 232   | 0.30   |
| 153 | 11.62 | 34.29 | 1.35 | 190 | 125 | 11.58   | 34.02   | 2.33   | 25.94   | 208   | 0.35   |
|     |       |       |      |     | 150 | 11.61   | 34.28   | 1.36   | 26.12   | 190   | 0.40   |

ORCA; January 25, 1960; 0055 GCT; 28°26.5'N, 115°35.5'W; sounding, 600 fm; wind, 320°, force 3; weather, cloudy; sea, moderate; wire angle, 10°.

117.40

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.68 | 33.97 | 5.55 | 314 | 0   | (16.68) | (33.97) | (5.55) | (24.82) | (314) | (0.00) |
| 11  | 16.60 | 33.93 | 5.57 | 315 | 10  | 16.61   | 33.93   | 5.57   | 24.81   | 315   | 0.03   |
| 30  | 16.23 | 33.86 | 5.54 | 312 | 20  | 16.53   | 33.92   | 5.56   | 24.82   | 314   | 0.06   |
| 40  | 15.80 | 33.77 | 5.48 | 309 | 30  | 16.23   | 33.86   | 5.54   | 24.84   | 312   | 0.09   |
| 56  | 14.42 | 33.95 | 3.08 | 268 | 50  | 14.90   | 33.89   | 3.78   | 25.16   | 282   | 0.15   |
| 70  | 13.05 | 33.95 | 2.78 | 240 | 75  | 12.93   | 33.96   | 2.75   | 25.62   | 238   | 0.22   |
| 95  | 11.98 | 34.11 | 2.00 | 209 | 100 | 11.88   | 34.12   | 1.95   | 25.94   | 207   | 0.28   |
| 114 | 11.60 | 34.13 | 1.85 | 201 | 125 | 11.32   | 34.17   | 1.64   | 26.10   | 192   | 0.33   |
| 134 | 11.04 | 34.25 | 1.36 | 182 | 150 | 10.81   | 34.29   | 1.23   | 26.28   | 175   | 0.37   |
| 153 | 10.78 | 34.30 | 1.21 | 174 | 200 | 10.39   | 34.42   | 0.76   | 26.46   | 158   | 0.46   |
| 182 | 10.76 | 34.42 | 0.83 | 165 | 250 | 9.46    | 34.40   | 0.70   | 26.60   | 145   | 0.53   |
| 216 | 9.98  | 34.42 | 0.69 | 152 | 300 | 9.11    | 34.40   | 0.67   | 26.65   | 140   | 0.61   |
| 244 | 9.52  | 34.40 | 0.70 | 146 | 400 | 7.99    | 34.37   | 0.54   | 26.81   | 125   | 0.74   |
| 293 | 9.16  | 34.40 | 0.68 | 141 | 500 | 6.69    | 34.35   | 0.41   | 26.98   | 110   | 0.87   |
| 347 | 8.72  | 34.38 | 0.61 | 135 | 600 | 5.98    |         |        |         |       |        |
| 431 | 7.58  | 34.37 | 0.50 | 120 |     |         |         |        |         |       |        |
| 515 | 6.53  | 34.34 | 0.39 | 108 |     |         |         |        |         |       |        |
| 600 | 5.98  | -     | -    | -   |     |         |         |        |         |       |        |



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

117.50

ORCA; January 24, 1960; 1826 GCT; 28°08'N, 116°16.5'W; sounding, 2200 fm; wind, 320°, force 3; weather, overcast; sea, rough; wire angle, 25°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 16.44 | 33.84 | 5.50 | 318 | 0   | (16.44) | (33.84) | (5.50) | (24.78) | (318) | (0.00) |
| 10  | 16.42 | 33.85 | 5.57 | 317 | 10  | 16.42   | 33.85   | 5.57   | 24.79   | 317   | 0.03   |
| 31  | 16.54 | 33.93 | 5.53 | 314 | 20  | 16.49   | 33.90   | 5.54   | 24.81   | 315   | 0.06   |
| 57  | 16.50 | 33.98 | 5.57 | 310 | 30  | 16.54   | 33.93   | 5.53   | 24.82   | 314   | 0.09   |
| 64  | 16.52 | 33.98 | 5.44 | 310 | 50  | 16.52   | 33.97   | 5.56   | 24.86   | 310   | 0.16   |
| 80  | 13.09 | 33.68 | 4.27 | 261 | 75  | 14.00   | 33.75   | 4.59   | 25.24   | 274   | 0.23   |
| 92  | 12.62 | 33.96 | 3.12 | 232 | 100 | 12.14   | 33.95   | 2.98   | 25.77   | 224   | 0.29   |
| 106 | 12.00 | 33.95 | 2.94 | 221 | 125 | 12.27   | 34.19   | 1.92   | 25.93   | 208   | 0.35   |
| 129 | 12.30 | 34.25 | 1.59 | 205 | 150 | 11.56   | 34.33   | 1.36   | 26.18   | 185   | 0.40   |
| 145 | 11.72 | 34.29 | 1.47 | 191 | 200 | 10.47   | 34.44   | 0.86   | 26.46   | 158   | 0.48   |
| 170 | 11.10 | 34.43 | 0.92 | 170 | 250 | 9.77    | 34.42   | 0.78   | 26.56   | 148   | 0.56   |
| 197 | 10.52 | 34.44 | 0.87 | 159 | 300 | 8.98    | 34.42   | 0.69   | 26.69   | 136   | 0.64   |
| 220 | 10.12 | 34.43 | 0.80 | 153 | 400 | 7.78    | 34.39   | 0.52   | 26.85   | 121   | 0.77   |
| 260 | 9.64  | 34.42 | 0.78 | 147 | 500 | 6.69    | 34.34   | 0.31   | 26.97   | 110   | 0.89   |
| 313 | 8.74  | 34.42 | 0.64 | 133 |     |         |         |        |         |       |        |
| 397 | 7.82  | 34.39 | 0.53 | 121 |     |         |         |        |         |       |        |
| 477 | 6.90  | 34.34 | 0.34 | 113 |     |         |         |        |         |       |        |
| 549 | 6.29  | 34.37 | 0.28 | 103 |     |         |         |        |         |       |        |

117.60

ORCA; January 24, 1960; 1014 GCT; 27°48'N, 116°56'W; sounding, 1900 fm; wind, 020°, force 2; weather, clear; sea, moderate; wire angle, 00°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.58 | 33.72 | 5.49 | 330 | 0   | (16.58) | (33.72) | (5.49) | (24.65) | (330) | (0.00) |
| 11  | 16.61 | 33.73 | 5.50 | 330 | 10  | 16.60   | 33.73   | 5.50   | 24.65   | 330   | 0.03   |
| 31  | 16.61 | 33.73 | 5.50 | 330 | 20  | 16.61   | 33.73   | 5.50   | 24.65   | 330   | 0.07   |
| 61  | 16.54 | 33.73 | 5.50 | 328 | 30  | 16.61   | 33.73   | 5.50   | 24.65   | 330   | 0.10   |
| 70  | 16.56 | 33.75 | 5.51 | 327 | 50  | 16.57   | 33.73   | 5.50   | 24.66   | 329   | 0.16   |
| 85  | 15.56 | 33.63 | 5.34 | 314 | 75  | 16.55   | 33.75   | 5.51   | 24.68   | 327   | 0.25   |
| 100 | 13.48 | 33.65 | 4.63 | 271 | 100 | 13.48   | 33.65   | 4.63   | 25.27   | 271   | 0.32   |
| 115 | 12.94 | 33.69 | 4.27 | 257 | 125 | 12.39   | 33.72   | 4.01   | 25.54   | 245   | 0.39   |
| 140 | 11.44 | 33.78 | 3.58 | 224 | 150 | 11.09   | 33.84   | 3.27   | 25.87   | 214   | 0.45   |
| 160 | 10.81 | 33.91 | 2.84 | 203 | 200 | 10.21   | 34.12   | 1.99   | 26.25   | 178   | 0.55   |
| 189 | 10.34 | 34.07 | 2.19 | 184 | 250 | 9.68    | 34.33   | 1.26   | 26.50   | 154   | 0.63   |
| 219 | 9.98  | 34.23 | 1.53 | 166 | 300 | 8.64    | 34.29   | 1.15   | 26.64   | 141   | 0.71   |
| 248 | 9.72  | 34.33 | 1.26 | 154 | 400 | 7.66    | 34.34   | 0.65   | 26.82   | 124   | 0.84   |
| 299 | 8.66  | 34.29 | 1.15 | 141 | 500 | 6.49    | 34.34   | 0.46   | 26.98   | 108   | 0.97   |
| 352 | 8.26  | 34.34 | 0.73 | 132 | 600 | 5.83    | 34.36   | 0.29   | 27.09   | 98    | 1.08   |
| 437 | 7.10  | 34.34 | 0.60 | 115 |     |         |         |        |         |       |        |
| 523 | 6.30  | 34.34 | 0.40 | 105 |     |         |         |        |         |       |        |
| 608 | 5.78  | 34.36 | 0.27 | 98  |     |         |         |        |         |       |        |

117.70

ORCA; January 24, 1960; 0445 GCT; 27°28'N, 117°32.5'W; sounding, 2100 fm; wind, 020°, force 3; weather, overcast; sea, very rough; wire angle, 06°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 17.40 | 33.96 | 5.36 | 331 | 0   | (17.40) | (33.96) | (5.36) | (24.64) | (331) | (0.00) |
| 11  | 17.40 | 33.95 | 5.40 | 331 | 10  | 17.40   | 33.95   | 5.40   | 24.64   | 331   | 0.03   |
| 31  | 17.41 | 33.93 | 5.34 | 334 | 20  | 17.40   | 33.94   | 5.36   | 24.63   | 332   | 0.07   |
| 62  | 17.40 | 33.93 | 5.35 | 334 | 30  | 17.41   | 33.93   | 5.35   | 24.62   | 333   | 0.10   |
| 71  | 17.44 | 33.98 | 5.32 | 330 | 50  | 17.40   | 33.93   | 5.35   | 24.62   | 333   | 0.17   |
| 86  | 17.44 | 33.96 | 5.32 | 331 | 75  | 17.44   | 33.97   | 5.32   | 24.65   | 330   | 0.25   |
| 101 | 15.77 | 33.84 | 5.33 | 304 | 100 | 16.00   | 33.85   | 5.33   | 24.88   | 308   | 0.33   |
| 116 | 14.90 | 33.87 | 5.13 | 283 | 125 | 14.19   | 33.87   | 4.97   | 25.30   | 268   | 0.40   |
| 140 | 12.52 | 33.82 | 4.73 | 240 | 150 | 11.60   | 33.78   | 4.53   | 25.74   | 226   | 0.47   |
| 160 | 10.92 | 33.77 | 4.19 | 215 | 200 | 9.56    | 33.86   | 3.37   | 26.16   | 187   | 0.57   |
| 189 | 9.88  | 33.82 | 3.59 | 194 | 250 | 8.78    | 34.15   | 1.94   | 26.50   | 154   | 0.66   |
| 217 | 8.10  | 33.93 | 2.96 | 174 | 300 | 8.50    | 34.26   | 1.24   | 26.64   | 141   | 0.74   |
| 245 | 8.80  | 34.12 | 2.04 | 156 | 400 | 7.32    | 34.30   | 0.60   | 26.84   | 122   | 0.87   |
| 293 | 8.56  | 34.25 | 1.29 | 142 | 500 | 6.50    | 34.34   | 0.31   | 26.98   | 108   | 0.99   |
| 346 | 7.88  | 34.27 | 0.85 | 131 | 600 | (5.77)  | (34.38) | (0.28) | (27.11) | (96)  | (1.10) |
| 428 | 7.09  | 34.31 | 0.49 | 118 |     |         |         |        |         |       |        |
| 512 | 6.41  | 34.34 | 0.28 | 106 |     |         |         |        |         |       |        |
| 596 | 5.79  | 34.38 | 0.28 | 96  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

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ORCA; January 23, 1960; 2253 GCT; 27°07'N, 118°09.5'W; sounding, 2250 fm; wind, 020°, force 4; weather, cloudy; sea, very rough; wire angle, 15°.

117.80

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.89 | 33.85 | 5.43 | 327 | 0   | (16.89) | (33.85) | (5.43) | (24.68) | (327) | (0.00) |
| 10  | 16.94 | 33.84 | 5.44 | 329 | 10  | 16.94   | 33.84   | 5.44   | 24.66   | 329   | 0.03   |
| 30  | 16.96 | 33.89 | 5.43 | 326 | 20  | 16.95   | 33.86   | 5.44   | 24.67   | 328   | 0.07   |
| 59  | 17.00 | 33.91 | 5.40 | 326 | 30  | 16.96   | 33.89   | 5.43   | 24.69   | 326   | 0.10   |
| 68  | 17.04 | 33.93 | 5.40 | 325 | 50  | 16.98   | 33.90   | 5.41   | 24.70   | 326   | 0.16   |
| 84  | 16.30 | 33.96 | 5.40 | 306 | 75  | 17.03   | 33.94   | 5.40   | 24.71   | 324   | 0.24   |
| 97  | 15.66 | 34.05 | 5.25 | 286 | 100 | 15.29   | 34.02   | 5.20   | 25.17   | 280   | 0.32   |
| 113 | 14.14 | 33.93 | 5.02 | 263 | 125 | 13.07   | 33.86   | 4.86   | 25.52   | 247   | 0.39   |
| 137 | 11.88 | 33.80 | 4.66 | 230 | 150 | 10.99   | 33.78   | 4.50   | 25.85   | 216   | 0.45   |
| 156 | 10.64 | 33.78 | 4.44 | 210 | 200 | 9.12    | 33.92   | 3.52   | 26.28   | 175   | 0.55   |
| 185 | 9.34  | 33.83 | 4.04 | 186 | 250 | 8.24    | 34.10   | 2.46   | 26.56   | 149   | 0.63   |
| 214 | 8.95  | 34.00 | 3.01 | 167 | 300 | 7.87    | 34.19   | 1.71   | 26.68   | 137   | 0.70   |
| 242 | 8.34  | 34.08 | 2.61 | 152 | 400 | 7.08    | 34.36   | 0.60   | 26.92   | 114   | 0.84   |
| 290 | 7.95  | 34.16 | 1.91 | 140 | 500 | 6.25    | 34.40   | 0.36   | 27.06   | 101   | 0.95   |
| 344 | 7.46  | 34.31 | 0.98 | 123 | 600 | (5.78)  | (34.43) | (0.28) | (27.16) | (92)  | (1.05) |
| 427 | 6.92  | 34.37 | 0.48 | 111 |     |         |         |        |         |       |        |
| 510 | 6.18  | 34.40 | 0.34 | 99  |     |         |         |        |         |       |        |
| 594 | 5.80  | 34.43 | 0.28 | 92  |     |         |         |        |         |       |        |

ORCA; January 23, 1960; 1753 GCT; 26°47'N, 118°44.5'W; sounding, 2200 fm; wind, 340°, force 4; weather, partly cloudy; sea, very rough; wire angle, 10°.

117.90

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 16.72 | 33.73 | 5.43 | 332 | 0   | (16.72) | (33.73) | (5.43) | (24.63) | (332) | (0.00) |
| 12  | 16.70 | 33.73 | 5.53 | 332 | 10  | 16.70   | 33.73   | 5.50   | 24.63   | 332   | 0.03   |
| 31  | 16.70 | 33.73 | 5.49 | 332 | 20  | 16.70   | 33.73   | 5.51   | 24.63   | 332   | 0.07   |
| 62  | 16.66 | 33.72 | 5.47 | 332 | 30  | 16.70   | 33.73   | 5.49   | 24.63   | 332   | 0.10   |
| 71  | 16.68 | 33.73 | 5.49 | 332 | 50  | 16.68   | 33.73   | 5.48   | 24.64   | 332   | 0.17   |
| 86  | 16.66 | 33.72 | 5.49 | 332 | 75  | 16.68   | 33.73   | 5.49   | 24.64   | 332   | 0.25   |
| 100 | 16.74 | 34.15 | 5.32 | 302 | 100 | 16.74   | 34.15   | 5.32   | 24.94   | 302   | 0.33   |
| 115 | 15.36 | 34.05 | 5.16 | 280 | 125 | 14.69   | 34.00   | 5.07   | 25.29   | 269   | 0.40   |
| 140 | 13.10 | 33.86 | 4.83 | 248 | 150 | 11.92   | 33.78   | 4.60   | 25.68   | 232   | 0.46   |
| 159 | 10.80 | 33.73 | 4.37 | 217 | 200 | 9.38    | 33.88   | 3.51   | 26.21   | 182   | 0.57   |
| 187 | 9.82  | 33.84 | 3.65 | 192 | 250 | 8.25    | 34.00   | 2.66   | 26.48   | 156   | 0.66   |
| 217 | 8.78  | 33.94 | 3.40 | 168 | 300 | 7.88    | 34.15   | 1.74   | 26.65   | 140   | 0.73   |
| 246 | 8.30  | 33.99 | 2.78 | 158 | 400 | 7.30    | 34.31   | 0.66   | 26.85   | 121   | 0.87   |
| 294 | 7.89  | 34.13 | 1.84 | 142 | 500 | 6.42    | 34.35   | 0.37   | 27.01   | 106   | 0.99   |
| 347 | 7.74  | 34.27 | 1.03 | 129 | 600 | (5.73)  | (34.38) | (0.33) | (27.12) | (95)  | (1.10) |
| 430 | 6.99  | 34.31 | 0.53 | 116 |     |         |         |        |         |       |        |
| 513 | 6.34  | 34.36 | 0.35 | 104 |     |         |         |        |         |       |        |
| 598 | 5.76  | 34.38 | 0.33 | 96  |     |         |         |        |         |       |        |

ORCA; January 26, 1960; 0815 GCT; 28°17.5'N, 115°24'W; sounding, 145 fm; wind, 290°, force 2; weather, partly cloudy; sea, moderate; wire angle, 03°.

118.39

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.43 | 34.02 | 5.50 | 305 | 0   | (16.43) | (34.02) | (5.50) | (24.91) | (305) | (0.00) |
| 11  | 16.43 | 34.00 | 5.52 | 306 | 10  | 16.43   | 34.00   | 5.52   | 24.90   | 306   | 0.03   |
| 31  | 16.46 | 34.05 | 5.38 | 304 | 20  | 16.44   | 34.02   | 5.48   | 24.91   | 305   | 0.06   |
| 51  | 15.97 | 34.09 | 4.73 | 290 | 30  | 16.46   | 34.05   | 5.38   | 24.93   | 304   | 0.09   |
| 76  | 13.01 | 34.01 | 2.94 | 235 | 50  | 16.10   | 34.08   | 4.84   | 25.04   | 293   | 0.15   |
| 101 | 11.68 | 34.17 | 2.04 | 199 | 75  | 13.12   | 34.01   | 3.01   | 25.62   | 238   | 0.22   |
| 126 | 11.42 | 34.32 | 1.50 | 184 | 100 | 11.72   | 34.16   | 2.05   | 26.02   | 200   | 0.27   |
| 166 | 10.68 | 34.39 | 1.19 | 166 | 125 | 11.43   | 34.32   | 1.51   | 26.18   | 184   | 0.32   |
| 206 | 10.12 | 34.43 | 0.87 | 153 | 150 | 10.99   | 34.37   | 1.30   | 26.30   | 173   | 0.37   |
|     |       |       |      |     | 200 | 10.20   | 34.42   | 0.94   | 26.49   | 155   | 0.45   |

ORCA; January 25, 1960; 1848 GCT; 28°17.5'N, 114°51'W; sounding, 60 fm; wind, 310°, force 2; weather, partly cloudy; sea, rough; wire angle, 00°.

119.33

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1  | 16.78 | 34.02 | 5.40 | 312 | 0  | (16.78) | (34.02) | (5.40) | (24.84) | (312) | (0.00) |
| 11 | 16.76 | 34.03 | 5.42 | 311 | 10 | 16.76   | 34.03   | 5.42   | 24.85   | 311   | 0.03   |
| 31 | 16.72 | 34.02 | 5.39 | 311 | 20 | 16.73   | 34.02   | 5.40   | 24.85   | 311   | 0.06   |
| 51 | 16.70 | 34.00 | 5.35 | 312 | 30 | 16.72   | 34.02   | 5.39   | 24.85   | 311   | 0.09   |
| 76 | 16.21 | 34.02 | 4.70 | 300 | 50 | 16.70   | 34.00   | 5.35   | 24.84   | 312   | 0.16   |
|    |       |       |      |     | 75 | 16.23   | 34.02   | 4.73   | 24.96   | 301   | 0.23   |



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

120.25 ORCA; January 25, 1960; 1339 GCT; 28°25'N, 114°14.5'W; sounding, 33 fm; wind, 280°, force 2; weather, light fog; sea, moderate; wire angle, 03°.

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1  | 16.15 | 33.95 | 5.55 | 304 | 0  | (16.15) | (33.95) | (5.55) | (24.92) | (304) | (0.00) |
| 11 | 16.16 | 33.96 | 5.52 | 303 | 10 | 16.16   | 33.96   | 5.52   | 24.93   | 303   | 0.03   |
| 31 | 16.08 | 33.96 | 5.28 | 301 | 20 | 16.14   | 33.96   | 5.42   | 24.94   | 302   | 0.06   |
| 42 | 15.80 | 33.97 | 5.11 | 294 | 30 | 16.09   | 33.96   | 5.29   | 24.96   | 301   | 0.09   |

120.30 ORCA; January 25, 1960; 1634 GCT; 28°13'N, 114°34.5'W; sounding, 55 fm; wind, 290°, force 3; weather, cloudy; sea, rough; wire angle, 02°.

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1  | 16.36 | 34.00 | 5.50 | 305 | 0  | (16.36) | (34.00) | (5.50) | (24.92) | (305) | (0.00) |
| 11 | 16.36 | 34.00 | 5.49 | 305 | 10 | 16.36   | 34.00   | 5.49   | 24.92   | 305   | 0.03   |
| 31 | 16.38 | 34.00 | 5.41 | 305 | 20 | 16.37   | 34.00   | 5.45   | 24.92   | 305   | 0.06   |
| 51 | 16.36 | 34.00 | 5.20 | 305 | 30 | 16.38   | 34.00   | 5.41   | 24.91   | 305   | 0.09   |
| 76 | 15.78 | 34.98 | 5.24 | 293 | 50 | 16.37   | 34.00   | 5.21   | 24.92   | 305   | 0.15   |
|    |       |       |      |     | 75 | 15.81   | 33.98   | 5.23   | 25.03   | 294   | 0.23   |

120.35 ORCA; January 25, 1960; 2059 GCT; 28°03'N, 114°55.5'W; sounding, 47 fm; wind, 200°, force 2; weather, partly cloudy; sea, moderate; wire angle, 00°.

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1  | 17.12 | 34.13 | 5.43 | 312 | 0  | (17.12) | (34.13) | (5.43) | (24.84) | (312) | (0.00) |
| 11 | 16.78 | 34.11 | 5.49 | 306 | 10 | 16.79   | 34.11   | 5.48   | 24.90   | 306   | 0.03   |
| 31 | 16.73 | 34.14 | 5.43 | 302 | 20 | 16.74   | 34.13   | 5.46   | 24.93   | 304   | 0.06   |
| 41 | 16.73 | 34.11 | 5.40 | 305 | 30 | 16.73   | 34.14   | 5.43   | 24.94   | 302   | 0.09   |

120.45 BLACK DOUGLAS; February 6, 1960; 0105 GCT; 27°43'N, 115°33'W; sounding, 1100 fm; wind, 360°, force 6; weather, cloudy; sea, rough; wire angle, 21°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.32 | 34.05 | 5.08 | 300 | 0   | (16.32) | (34.05) | (5.08) | (24.97) | (300) | (0.00) |
| 10  | 16.31 | 34.05 | 5.10 | 300 | 10  | 16.31   | 34.05   | 5.10   | 24.97   | 300   | 0.03   |
| 29  | 16.04 | 34.04 | 4.89 | 294 | 20  | 16.20   | 34.05   | 5.03   | 24.99   | 298   | 0.06   |
| 57  | 15.92 | 34.05 | 4.66 | 291 | 30  | 16.03   | 34.04   | 4.88   | 25.03   | 294   | 0.09   |
| 66  | 15.54 | 34.03 | 4.35 | 285 | 50  | 15.96   | 34.04   | 4.74   | 25.04   | 293   | 0.15   |
| 80  | 13.31 | 34.00 | 2.36 | 242 | 75  | 14.36   | 34.01   | 3.23   | 25.37   | 262   | 0.22   |
| 94  | 12.35 | 34.14 | 2.04 | 214 | 100 | 12.07   | 34.14   | 1.98   | 25.92   | 209   | 0.28   |
| 108 | 11.76 | 34.14 | 1.91 | 203 | 125 | 11.02   | 34.19   | 1.79   | 26.16   | 186   | 0.33   |
| 130 | 10.90 | 34.21 | 1.74 | 183 | 150 | 10.84   | 34.35   | 1.17   | 26.32   | 171   | 0.37   |
| 149 | 10.82 | 34.34 | 1.20 | 172 | 200 | 10.80   | 34.51   | 0.67   | 26.45   | 159   | 0.46   |
| 176 | 10.92 | 34.48 | 0.82 | 163 | 250 | 10.24   | 34.60   | 0.35   | 26.62   | 143   | 0.53   |
| 204 | 10.78 | 34.52 | 0.61 | 158 | 300 | 9.47    | 34.56   | 0.30   | 26.71   | 134   | 0.60   |
| 232 | 10.42 | 34.60 | 0.39 | 146 | 400 | 7.79    | 34.41   | 0.37   | 26.87   | 119   | 0.74   |
| 279 | 9.82  | 34.59 | 0.31 | 137 | 500 | 6.88    | 34.43   | 0.29   | 27.02   | 105   | 0.85   |
| 330 | 8.96  | 34.50 | 0.30 | 130 |     |         |         |        |         |       |        |
| 410 | 7.64  | 34.41 | 0.38 | 118 |     |         |         |        |         |       |        |
| 490 | 6.97  | 34.43 | 0.30 | 107 |     |         |         |        |         |       |        |
| 574 | 6.30  | 34.43 | 0.23 | 99  |     |         |         |        |         |       |        |

a) Shakedown station.

b) Mean value of 14.12 and 14.23°C.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; February 5, 1960; 2053 GCT; 27°27.5'N, 115°55.5'W; sounding, 2100 fm; wind, 320°, force 4; weather, partly cloudy; sea, rough; wire angle, 17°.

120.50

|     |         |       |      |     |     |         |         |        |         |       |        |
|-----|---------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 16.95   | 34.00 | 4.99 | 318 | 0   | (16.95) | (34.00) | (4.99) | (24.78) | (318) | (0.00) |
| 12  | 16.91   | 34.01 | 5.08 | 316 | 10  | 16.93   | 34.01   | 5.07   | 24.80   | 316   | 0.03   |
| 31  | 16.82   | 34.00 | 5.12 | 315 | 20  | 16.87   | 34.01   | 5.10   | 24.80   | 316   | 0.06   |
| 60  | 16.80   | 34.04 | 5.02 | 312 | 30  | 16.83   | 34.00   | 5.11   | 24.81   | 315   | 0.09   |
| 70  | 16.48   | 34.04 | 4.45 | 305 | 50  | 16.80   | 34.02   | 5.07   | 24.83   | 313   | 0.16   |
| 81  | 14.06   | 33.86 | 3.41 | 267 | 75  | 15.80   | 33.98   | 4.03   | 25.04   | 293   | 0.23   |
| 97  | 12.64   | 33.88 | 3.00 | 238 | 100 | 12.60   | 33.90   | 2.95   | 25.64   | 236   | 0.30   |
| 111 | 12.12   | 33.93 | 2.67 | 225 | 125 | 11.97   | 34.01   | 2.46   | 25.85   | 216   | 0.36   |
| 134 | 11.24a) | 34.07 | 2.13 | 199 | 150 | 10.86   | 34.19   | 1.73   | 26.19   | 184   | 0.41   |
| 154 | 10.78   | 34.22 | 1.62 | 180 | 200 | 10.44   | 34.39   | 1.02   | 26.42   | 162   | 0.50   |
| 181 | 10.52   | 34.36 | 1.18 | 165 | 250 | 9.86    | 34.47   | 0.74   | 26.58   | 146   | 0.58   |
| 208 | 10.39   | 34.40 | 0.92 | 160 | 300 | 9.24    | 34.45   | 0.62   | 26.67   | 138   | 0.65   |
| 237 | 10.00   | 34.47 | 0.77 | 149 | 400 | 7.84    | 34.40   | 0.55   | 26.85   | 121   | 0.78   |
| 284 | 9.49    | 34.47 | 0.67 | 141 | 500 | 6.84    | 34.38   | 0.38   | 26.98   | 109   | 0.90   |
| 335 | 8.63    | 34.41 | 0.52 | 132 | 600 | (5.87)  | (34.36) |        | (27.08) | (99)  | (1.01) |
| 416 | 7.66    | 34.40 | 0.55 | 119 |     |         |         |        |         |       |        |
| 498 | 6.86    | 34.38 | 0.39 | 110 |     |         |         |        |         |       |        |
| 583 | 5.99    | 34.36 | 0.36 | 100 |     |         |         |        |         |       |        |

BLACK DOUGLAS; February 5, 1960; 1516 GCT; 27°11'N, 116°39'W; sounding, 2000 fm; wind, 360°, force 5; weather, partly cloudy; sea, rough; wire angle, 18°.

120.60

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 16.48 | 33.75 | 5.49 | 326 | 0   | 16.48 | 33.75 | 5.49 | 24.69 | 326 | 0.00 |
| 10  | 16.45 | 33.74 | 5.53 | 326 | 10  | 16.45 | 33.74 | 5.53 | 24.69 | 326 | 0.03 |
| 24  | 16.48 | 33.75 | 5.56 | 326 | 20  | 16.46 | 33.75 | 5.54 | 24.69 | 326 | 0.07 |
| 57  | 16.42 | 33.77 | 5.43 | 323 | 30  | 16.45 | 33.76 | 5.53 | 24.70 | 325 | 0.10 |
| 66  | 16.45 | 33.75 | 5.53 | 325 | 50  | 16.43 | 33.76 | 5.47 | 24.71 | 324 | 0.16 |
| 80  | 15.94 | 33.86 | 5.12 | 306 | 75  | 16.44 | 33.75 | 5.53 | 24.70 | 325 | 0.24 |
| 94  | 13.92 | 33.64 | 4.76 | 280 | 100 | 13.86 | 33.65 | 4.68 | 25.19 | 278 | 0.32 |
| 110 | 13.24 | 33.73 | 4.21 | 260 | 125 | 12.38 | 33.73 | 4.04 | 25.54 | 245 | 0.39 |
| 131 | 11.71 | 33.72 | 3.87 | 233 | 150 | 11.30 | 33.97 | 2.67 | 25.94 | 207 | 0.44 |
| 149 | 11.36 | 33.97 | 2.69 | 208 | 200 | 9.59  | 34.07 | 2.18 | 26.31 | 172 | 0.54 |
| 177 | 9.90  | 34.04 | 2.34 | 179 | 250 | 9.26  | 34.26 | 1.37 | 26.51 | 153 | 0.62 |
| 203 | 9.54  | 34.07 | 2.17 | 171 | 300 | 8.92  | 34.34 | 0.91 | 26.64 | 141 | 0.70 |
| 231 | 9.30  | 34.20 | 1.63 | 158 | 400 | 7.56  | 34.34 | 0.46 | 26.84 | 122 | 0.84 |
| 279 | 9.20  | 34.34 | 1.04 | 146 | 500 | 6.63  | 34.35 | 0.30 | 26.98 | 109 | 0.96 |
| 330 | 8.40  | 34.33 | 0.73 | 135 |     |       |       |      |       |     |      |
| 410 | 7.43  | 34.34 | 0.46 | 120 |     |       |       |      |       |     |      |
| 493 | 6.68  | 34.35 | 0.32 | 109 |     |       |       |      |       |     |      |
| 577 | 6.03  | 34.39 | 0.27 | 99  |     |       |       |      |       |     |      |

BLACK DOUGLAS; February 5, 1960; 0954 GCT; 26°53.5'N, 117°13'W; sounding, 1900 fm; wind, 360°, force 5; weather, partly cloudy; sea, very rough; wire angle, 08°.

120.70

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 17.20 | 33.89 | 5.31 | 331 | 0   | (17.20) | (33.89) | (5.31) | (24.64) | (331) | (0.00) |
| 11  | 17.20 | 33.87 | 5.40 | 333 | 10  | 17.20   | 33.87   | 5.39   | 24.63   | 332   | 0.03   |
| 31  | 17.22 | 33.86 | 5.38 | 334 | 20  | 17.20   | 33.86   | 5.39   | 24.61   | 334   | 0.07   |
| 61  | 17.22 | 33.89 | 5.41 | 332 | 30  | 17.22   | 33.86   | 5.38   | 24.61   | 334   | 0.10   |
| 70  | 17.24 | 33.88 | 5.34 | 333 | 50  | 17.23   | 33.87   | 5.39   | 24.62   | 333   | 0.17   |
| 86  | 17.26 | 33.89 | 5.35 | 333 | 75  | 17.26   | 33.88   | 5.35   | 24.62   | 333   | 0.25   |
| 101 | 16.82 | 33.84 | 5.40 | 327 | 100 | 16.88   | 33.85   | 5.39   | 24.67   | 328   | 0.34   |
| 115 | 15.44 | 33.95 | 5.32 | 288 | 125 | 14.42   | 33.89   | 5.11   | 25.26   | 272   | 0.41   |
| 140 | 12.77 | 33.75 | 4.77 | 250 | 150 | 11.90   | 33.73   | 4.54   | 25.65   | 235   | 0.47   |
| 160 | 11.14 | 33.73 | 4.34 | 222 | 200 | 9.54    | 33.85   | 3.37   | 26.15   | 187   | 0.58   |
| 191 | 9.72  | 33.80 | 3.61 | 194 | 250 | 9.04    | 34.09   | 2.25   | 26.42   | 162   | 0.67   |
| 219 | 9.22  | 33.96 | 2.84 | 174 | 300 | 8.34    | 34.22   | 1.46   | 26.64   | 141   | 0.75   |
| 251 | 9.03  | 34.09 | 2.24 | 162 | 400 | 7.17    | 34.28   | 0.70   | 26.86   | 120   | 0.89   |
| 300 | 8.34  | 34.22 | 1.46 | 141 | 500 | 6.44    | 34.34   | 0.43   | 27.00   | 107   | 1.01   |
| 357 | 7.61  | 34.25 | 1.08 | 129 | 600 | 5.78    | 34.39   | 0.30   | 27.12   | 95    | 1.11   |
| 442 | 6.84  | 34.33 | 0.47 | 113 |     |         |         |        |         |       |        |
| 526 | 6.24  | 34.35 | 0.43 | 104 |     |         |         |        |         |       |        |
| 613 | 5.72  | 34.39 | 0.26 | 94  |     |         |         |        |         |       |        |

a) Alternate value, 10.95°C, not used in interpolation.



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| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

120.80

BLACK DOUGLAS; February 5, 1960; 0440 GCT; 26°32.5'N, 117°49'W; sounding, 1920 fm; wind, 360°, force 5; weather, partly cloudy; sea, very rough; wire angle, 15°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 17.10 | 33.82 | 5.56 | 334 | 0   | (17.10) | (33.82) | (5.56) | (24.61) | (334) | (0.00) |
| 11  | 17.10 | 33.85 | 5.64 | 332 | 10  | 17.10   | 33.85   | 5.63   | 24.63   | 332   | 0.03   |
| 30  | 17.12 | 33.82 | 5.67 | 335 | 20  | 17.12   | 33.84   | 5.65   | 24.61   | 334   | 0.07   |
| 59  | 17.06 | 33.81 | 5.48 | 334 | 30  | 17.12   | 33.82   | 5.67   | 24.60   | 335   | 0.10   |
| 68  | 17.06 | 33.84 | 5.59 | 332 | 50  | 17.09   | 33.81   | 5.56   | 24.60   | 335   | 0.17   |
| 83  | 16.99 | 33.84 | 5.59 | 330 | 75  | 17.03   | 33.84   | 5.59   | 24.64   | 331   | 0.25   |
| 97  | 16.91 | 33.84 | 5.49 | 328 | 100 | 16.87   | 33.89   | 5.47   | 24.71   | 324   | 0.33   |
| 111 | 16.65 | 34.04 | 5.42 | 308 | 125 | 15.76   | 34.03   | 5.27   | 25.07   | 290   | 0.41   |
| 135 | 15.10 | 34.00 | 5.17 | 278 | 150 | 13.08   | 33.83   | 4.97   | 25.49   | 250   | 0.48   |
| 154 | 12.46 | 33.79 | 4.93 | 242 | 200 | 10.03   | 33.83   | 3.80   | 26.05   | 197   | 0.59   |
| 182 | 10.79 | 33.74 | 4.47 | 216 | 250 | 8.79    | 34.03   | 2.58   | 26.42   | 162   | 0.69   |
| 210 | 9.61  | 33.87 | 3.42 | 187 | 300 | 8.23    | 34.16   | 1.92   | 26.60   | 145   | 0.77   |
| 239 | 8.94  | 33.99 | 2.79 | 168 | 400 | 7.40    | 34.29   | 0.78   | 26.83   | 123   | 0.91   |
| 286 | 8.36  | 34.13 | 2.08 | 149 | 500 | 6.54    | 34.35   | 0.53   | 27.00   | 107   | 1.03   |
| 340 | 7.87  | 34.22 | 1.40 | 135 | 600 | (5.92)  | (34.33) |        | (27.06) | (101) | (1.14) |
| 421 | 7.24  | 34.31 | 0.64 | 120 |     |         |         |        |         |       |        |
| 504 | 6.50  | 34.35 | 0.53 | 107 |     |         |         |        |         |       |        |
| 588 | 5.96  | 34.33 | 0.52 | 102 |     |         |         |        |         |       |        |

120.90

BLACK DOUGLAS; February 4, 1960; 2335 GCT; 26°13'N, 118°27'W; sounding, 2000 fm; wind, 350°, force 5; weather, overcast; sea, very rough; wire angle, 12°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 18.06 | 34.16 | 5.38 | 332 | 0   | (18.06) | (34.16) | (5.38) | (24.63) | (332) | (0.00) |
| 12  | 18.04 | 34.17 | 5.43 | 330 | 10  | 18.05   | 34.17   | 5.42   | 24.65   | 330   | 0.03   |
| 31  | 17.96 | 34.11 | 5.42 | 333 | 20  | 18.01   | 34.14   | 5.42   | 24.63   | 332   | 0.07   |
| 42  | 17.88 | 34.09 | 5.37 | 333 | 30  | 17.97   | 34.11   | 5.42   | 24.62   | 333   | 0.10   |
| 56  | 16.98 | 33.92 | 5.48 | 324 | 50  | 17.30   | 33.97   | 5.46   | 24.67   | 328   | 0.17   |
| 71  | 16.86 | 34.02 | 5.30 | 314 | 75  | 16.85   | 34.02   | 5.29   | 24.82   | 314   | 0.25   |
| 95  | 15.18 | 33.96 | 5.19 | 282 | 100 | 15.10   | 33.97   | 5.18   | 25.18   | 280   | 0.32   |
| 114 | 13.90 | 33.88 | 5.05 | 262 | 125 | 13.09   | 33.81   | 4.92   | 25.48   | 251   | 0.39   |
| 135 | 12.56 | 33.78 | 4.80 | 244 | 150 | 11.63   | 33.74   | 4.55   | 25.70   | 230   | 0.45   |
| 154 | 11.30 | 33.73 | 4.48 | 225 | 200 | 9.48    | 33.80   | 3.86   | 26.12   | 190   | 0.56   |
| 183 | 9.92  | 33.74 | 4.16 | 201 | 250 | 8.56    | 34.03   | 2.43   | 26.45   | 159   | 0.65   |
| 217 | 9.04  | 33.87 | 3.51 | 178 | 300 | 8.30    | 34.17   | 1.57   | 26.60   | 144   | 0.72   |
| 247 | 8.58  | 34.02 | 2.53 | 160 | 400 | 7.37    | 34.28   | 0.75   | 26.82   | 124   | 0.86   |
| 295 | 8.34  | 34.17 | 1.63 | 145 | 500 | 6.56    | 34.34   | 0.46   | 26.99   | 108   | 0.98   |
| 349 | 7.84  | 34.22 | 1.14 | 135 | 600 | 5.83    | 34.36   | 0.36   | 27.09   | 98    | 1.09   |
| 433 | 7.05  | 34.31 | 0.59 | 117 |     |         |         |        |         |       |        |
| 518 | 6.42  | 34.34 | 0.44 | 107 |     |         |         |        |         |       |        |
| 603 | 5.79  | 34.36 | 0.36 | 98  |     |         |         |        |         |       |        |

123.37

BLACK DOUGLAS; February 3, 1960; 1537 GCT; 27°24'N, 114°40'W; sounding, 40 fm; wind, 320°, force 5; weather, clear; sea, very rough; wire angle, 00°.

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1  | 17.10 | 34.14 | 5.49 | 311 | 0  | (17.10) | (34.14) | (5.49) | (24.85) | (311) | (0.00) |
| 11 | 17.10 | 34.16 | 5.51 | 309 | 10 | 17.10   | 34.16   | 5.51   | 24.87   | 309   | 0.03   |
| 31 | 16.14 | 34.07 | 5.03 | 295 | 20 | 17.10   | 34.15   | 5.47   | 24.87   | 309   | 0.06   |
| 51 | 13.54 | 33.90 | 3.79 | 253 | 30 | 16.20   | 34.07   | 5.07   | 25.01   | 296   | 0.09   |
|    |       |       |      |     | 50 | 13.58   | 33.90   | 3.80   | 25.45   | 254   | 0.15   |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; February 3, 1960; 1810, 1824 GCT; 27°14'N, 114°59'W; sounding, 740 fm; wind, 320°, force 5; weather, clear; sea, very rough; wire angle, 15°, 22°.

123.42

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.52 | 34.11 | 5.42 | 300 | 0   | (16.52) | (34.11) | (5.42) | (24.97) | (300) | (0.00) |
| 10  | 16.51 | 34.09 | 5.39 | 301 | 10  | 16.51   | 34.09   | 5.39   | 24.96   | 301   | 0.03   |
| 29  | 16.52 | 34.09 | 5.34 | 301 | 20  | 16.52   | 34.09   | 5.34   | 24.96   | 301   | 0.06   |
|     |       |       |      |     | 30  | 16.52   | 34.09   | 5.34   | 24.96   | 301   | 0.09   |
| 38  | 16.48 | 34.11 | 4.99 | 299 | 50  | 16.27   | 34.07   | 5.20   | 24.99   | 298   | 0.15   |
| 53  | 16.15 | 34.04 | 5.33 | 297 | 75  | 13.72   | 33.94   | 3.24   | 25.45   | 254   | 0.22   |
| 66  | 14.06 | 33.91 | 3.53 | 263 | 100 | 12.22   | 34.02   | 2.56   | 25.80   | 220   | 0.28   |
| 90  | 12.76 | 33.98 | 2.80 | 233 | 125 | 11.64   | 34.15   | 1.96   | 26.01   | 201   | 0.33   |
| 107 | 11.91 | 34.06 | 2.37 | 211 | 150 | 11.48   | 34.32   | 1.41   | 26.18   | 184   | 0.38   |
| 126 | 11.64 | 34.15 | 1.95 | 200 | 200 | 10.57   | 34.47   | 0.92   | 26.46   | 158   | 0.47   |
| 144 | 11.59 | 34.29 | 1.52 | 189 | 250 | 10.03   | 34.48   | 0.59   | 26.56   | 149   | 0.55   |
| 170 | 11.06 | 34.40 | 1.12 | 171 | 300 | 9.53    | 34.49   | 0.44   | 26.66   | 139   | 0.62   |
| 202 | 10.56 | 34.47 | 0.91 | 158 | 400 | 8.25    | 34.44   | 0.25   | 26.82   | 124   | 0.76   |
| 232 | 10.22 | 34.47 | 0.63 | 152 | 500 | 6.98    | 34.40   | 0.26   | 26.97   | 109   | 0.88   |
| 277 | 9.76  | 34.48 | 0.56 | 144 |     |         |         |        |         |       |        |
| 328 | 9.27  | 34.50 | 0.35 | 135 |     |         |         |        |         |       |        |
| 407 | 8.16  | 34.43 | 0.25 | 123 |     |         |         |        |         |       |        |
| 488 | 7.08  | 34.40 | 0.27 | 111 |     |         |         |        |         |       |        |
| 576 | 6.47  | 34.40 | 0.24 | 103 |     |         |         |        |         |       |        |

BLACK DOUGLAS; February 3-4, 1960; 2310, 0050 GCT; 26°58'N, 115°31'W; sounding, 2000 fm; wind, 330°, force 6; weather, clear; sea, high; wire angle, 15°, 07°.

123.50

|       |       |         |      |     |      |         |         |        |         |       |        |
|-------|-------|---------|------|-----|------|---------|---------|--------|---------|-------|--------|
| 2     | 17.19 | 34.12   | 5.48 | 314 | 0    | (17.19) | (34.12) | (5.48) | (24.82) | (314) | (0.00) |
| 11    | 17.17 | 34.11   | 5.36 | 314 | 10   | 17.17   | 34.11   | 5.36   | 24.82   | 314   | 0.03   |
| 30    | 17.19 | 34.14   | 5.34 | 313 | 20   | 17.18   | 34.12   | 5.35   | 24.82   | 314   | 0.06   |
| 41    | 17.18 | 34.16   | 5.26 | 311 | 30   | 17.19   | 34.14   | 5.34   | 24.83   | 313   | 0.09   |
| 55    | 17.17 | 34.13   | 5.20 | 313 | 50   | 17.17   | 34.14   | 5.23   | 24.84   | 312   | 0.16   |
| 70    | 15.96 | 34.00   | 4.40 | 296 | 75   | 15.30   | 33.99   |        | 25.15   | 282   | 0.23   |
| 93    | 13.39 | 33.98   | -    | 245 | 100  | 12.85   | 33.98   |        | 25.65   | 235   | 0.30   |
| 112   | 12.05 | 33.97   | -    | 221 | 125  | 10.96   | 33.90   |        | 25.95   | 206   | 0.35   |
| 132   | 10.39 | 33.86   | -    | 200 | 150  | 9.74    | 33.91   |        | 26.17   | 186   | 0.40   |
| 149   | 9.76  | 33.90   | -    | 187 | 200  | 9.31    | 34.19   | 1.89   | 26.46   | 158   | 0.49   |
| 178   | 9.40  | 34.11   | 2.31 | 166 | 250  | 9.13    | 34.36   | 0.87   | 26.61   | 144   | 0.57   |
| 241   | 9.26  | 34.34   | 0.99 | 147 | 300  | 8.55    | 34.39   | 0.62   | 26.73   | 132   | 0.64   |
| 289   | 8.58  | 34.37   | 0.68 | 134 | 400  | 7.68    | 34.42   | 0.29   | 26.88   | 118   | 0.77   |
| 343   | 8.28  | 34.42   | 0.43 | 126 | 500  | 6.64    | 34.40   | 0.23   | 27.02   | 105   | 0.88   |
| 426   | 7.19  | 34.40   | 0.23 | 112 | 600  | 5.88    | 34.41   | 0.18   | 27.12   | 95    | 0.99   |
| 509   | 6.56  | 34.40   | 0.22 | 104 | 700  | 5.33    | 34.44   | 0.29   | 27.22   | 86    | 1.09   |
| 594   | 5.92  | 34.40   | 0.21 | 96  | 800  | 4.87    | 34.45   | 0.34   | 27.28   | 80    | 1.18   |
|       |       |         |      |     | 1000 | 4.04    | 34.51   | 0.57   | 27.42   | 67    | 1.34   |
| 393a) | 7.80  | 34.42 2 | 0.33 | 119 | 1200 | 3.53    | 34.55   | 0.74   | 27.50   | 59    | 1.48   |
| 492   | 6.75  | 34.40 0 | 0.25 | 106 | 1500 | 2.93    | 34.59   | 1.10   | 27.59   | 51    | 1.68   |
| 591   | 5.98  | 34.41 7 | 0.18 | 95  | 2000 | 2.17    | 34.63   | 1.92   | 27.69   | 41    | 1.96   |
| 691   | 5.38  | 34.43 9 | 0.27 | 87  | 2500 | (1.86)  | (34.65) | (2.25) | (27.74) | (37)  | (2.20) |
| 791   | 4.94  | 34.45 2 | 0.31 | 81  |      |         |         |        |         |       |        |
| 989   | 4.08  | 34.50 4 | 0.55 | 68  |      |         |         |        |         |       |        |
| 1187  | 3.56  | 34.54 9 | 0.70 | 59  |      |         |         |        |         |       |        |
| 1387  | 3.13  | 34.56 7 | 0.96 | 54  |      |         |         |        |         |       |        |
| 1586  | 2.75  | 34.60 2 | 1.17 | 48  |      |         |         |        |         |       |        |
| 1785  | 2.42  | 34.62 5 | 1.53 | 44  |      |         |         |        |         |       |        |
| 1984  | 2.18  | 34.63 3 | 1.89 | 41  |      |         |         |        |         |       |        |
| 2184  | 2.01  | 34.65 0 | 2.05 | 39  |      |         |         |        |         |       |        |
| 2285  | 1.94  | 34.65 9 | 2.18 | 38  |      |         |         |        |         |       |        |
| 2384  | 1.87  | 34.65 7 | 2.23 | 37  |      |         |         |        |         |       |        |
| 2485  | 1.86  | 34.64 8 | 2.25 | 37  |      |         |         |        |         |       |        |

a) Overlapping casts; reconciliation of property curves when necessary.



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6001

| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

123.60

BLACK DOUGLAS; February 4, 1960; 0615 GCT; 26°39'N, 116°11'W; sounding, 1920 fm; wind, 320°, force 5; weather, clear; sea, very rough; wire angle, 13°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 16.97 | 34.05 | 4.94 | 314 | 0   | (16.97) | (34.05) | (4.94) | (24.82) | (314) | (0.00) |
| 11  | 16.96 | 34.09 | 4.93 | 311 | 10  | 16.96   | 34.09   | 4.93   | 24.85   | 311   | 0.03   |
| 30  | 17.04 | 34.09 | 4.85 | 313 | 20  | 17.00   | 34.09   | 4.88   | 24.84   | 312   | 0.06   |
| 59  | 17.00 | 34.16 | 4.73 | 307 | 30  | 17.04   | 34.09   | 4.85   | 24.83   | 313   | 0.09   |
| 68  | 16.98 | 34.14 | 4.84 | 308 | 50  | 17.03   | 34.14   | 4.77   | 24.87   | 309   | 0.16   |
| 83  | 16.85 | 34.12 | 4.58 | 307 | 75  | 16.93   | 34.13   | 4.68   | 24.89   | 307   | 0.23   |
| 97  | 13.60 | 33.89 | 3.12 | 255 | 100 | 13.41   | 33.89   | 3.09   | 25.47   | 252   | 0.30   |
| 112 | 12.32 | 33.87 | 2.98 | 233 | 125 | 12.03   | 33.94   | 2.83   | 25.78   | 223   | 0.36   |
| 136 | 11.29 | 34.04 | 2.32 | 202 | 150 | 10.28   | 34.00   | 2.44   | 26.14   | 188   | 0.42   |
| 156 | 10.20 | 34.00 | 2.44 | 187 | 200 | 9.52    | 34.17   | 1.87   | 26.41   | 163   | 0.50   |
| 185 | 10.03 | 34.16 | 1.91 | 172 | 250 | 9.06    | 34.29   | 1.28   | 26.57   | 148   | 0.58   |
| 214 | 9.15  | 34.18 | 1.83 | 157 | 300 | 8.59    | 34.34   | 0.95   | 26.68   | 137   | 0.66   |
| 243 | 9.08  | 34.27 | 1.34 | 149 | 400 | 7.24    | 34.33   | 0.57   | 26.88   | 118   | 0.79   |
| 292 | 8.74  | 34.34 | 1.00 | 139 | 500 | 6.39    | 34.40   | 0.35   | 27.05   | 102   | 0.90   |
| 345 | 7.77  | 34.30 | 0.79 | 127 | 600 | (5.83)  | (34.43) | (0.35) | (27.14) | (93)  | (1.01) |
| 429 | 6.97  | 34.35 | 0.48 | 113 |     |         |         |        |         |       |        |
| 512 | 6.30  | 34.40 | 0.35 | 101 |     |         |         |        |         |       |        |
| 597 | 5.84  | 34.43 | 0.35 | 93  |     |         |         |        |         |       |        |

123.70

BLACK DOUGLAS; February 4, 1960; 1112 GCT; 26°21.5'N, 116°49'W; sounding, 1800 fm; wind, 340°, force 5; weather, clear; sea, very rough; wire angle, 15°.

|     |       |       |      |     |     |        |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|--------|---------|--------|---------|-------|--------|
| 4   | 16.93 | 33.84 | 5.36 | 329 | 0   | 16.9   | (33.84) |        | (24.66) | (329) | (0.00) |
| 13  | 16.88 | 33.85 | 5.44 | 327 | 10  | 16.90  | 33.85   | 5.43   | 24.68   | 327   | 0.03   |
| 32  | 16.92 | 33.86 | 5.36 | 328 | 20  | 16.90  | 33.85   | 5.43   | 24.68   | 327   | 0.07   |
| 61  | 16.91 | 33.84 | 5.30 | 328 | 30  | 16.92  | 33.86   | 5.37   | 24.68   | 327   | 0.10   |
| 70  | 16.90 | 33.84 | 5.47 | 328 | 50  | 16.93  | 33.85   | 5.32   | 24.67   | 328   | 0.16   |
| 84  | 16.81 | 33.86 | 5.36 | 325 | 75  | 16.83  | 33.85   | 5.38   | 24.69   | 326   | 0.25   |
| 98  | 16.32 | 33.95 | 5.15 | 307 | 100 | 15.57  | 33.88   | 4.95   | 25.01   | 296   | 0.33   |
| 112 | 14.60 | 33.79 | 4.72 | 283 | 125 | 13.22  | 33.75   | 4.30   | 25.40   | 258   | 0.40   |
| 135 | 12.68 | 33.75 | 4.13 | 249 | 150 | 11.58  | 33.82   | 3.58   | 25.78   | 223   | 0.46   |
| 154 | 11.32 | 33.84 | 3.44 | 217 | 200 | 10.36  | 34.19   | 2.00   | 26.28   | 175   | 0.56   |
| 182 | 10.32 | 33.98 | 2.81 | 190 | 250 | 10.03  | 34.36   | 1.12   | 26.46   | 158   | 0.64   |
| 209 | 10.35 | 34.26 | 1.59 | 170 | 300 | 9.40   | 34.41   | 0.89   | 26.62   | 143   | 0.72   |
| 238 | 10.16 | 34.34 | 1.18 | 161 | 400 | 8.08   | 34.39   | 0.46   | 26.81   | 125   | 0.86   |
| 289 | 9.54  | 34.40 | 0.98 | 147 | 500 | 6.63   | 34.37   | 0.33   | 27.00   | 107   | 0.98   |
| 341 | 8.84  | 34.43 | 0.61 | 133 | 600 | (5.89) | (34.41) | (0.26) | (27.12) | (95)  | (1.09) |
| 425 | 7.77  | 34.38 | 0.42 | 121 |     |        |         |        |         |       |        |
| 507 | 6.51  | 34.37 | 0.32 | 106 |     |        |         |        |         |       |        |
| 592 | 5.91  | 34.41 | 0.26 | 95  |     |        |         |        |         |       |        |

123.80

BLACK DOUGLAS; February 4, 1960; 1638 GCT; 25°59'N, 117°25.5'W; sounding, 2200 fm; wind, 360°, force 6; weather, overcast; sea, high; wire angle, 15°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 17.62 | 33.98 | 5.20 | 335 | 0   | (17.62) | (33.98) | (5.20) | (24.60) | (335) | (0.00) |
| 11  | 17.62 | 33.99 | 5.15 | 334 | 10  | 17.62   | 33.99   | 5.16   | 24.61   | 334   | 0.03   |
| 30  | 17.64 | 33.98 | 4.97 | 335 | 20  | 17.63   | 33.99   | 5.14   | 24.61   | 334   | 0.07   |
| 59  | 17.61 | 33.96 | 5.22 | 335 | 30  | 17.64   | 33.98   | 4.97   | 24.60   | 335   | 0.10   |
| 69  | 17.62 | 34.00 | 5.17 | 333 | 50  | 17.63   | 33.97   | 5.14   | 24.60   | 335   | 0.17   |
| 84  | 17.48 | 33.96 | 5.08 | 333 | 75  | 17.58   | 33.99   | 5.12   | 24.62   | 333   | 0.25   |
| 98  | 16.28 | 34.02 | 5.60 | 302 | 100 | 16.20   | 34.01   | 5.58   | 24.97   | 300   | 0.33   |
| 113 | 14.98 | 33.94 | 5.39 | 280 | 125 | 13.40   | 33.80   | 5.10   | 25.39   | 259   | 0.40   |
| 137 | 12.78 | 33.78 | 4.98 | 248 | 150 | 11.65   | 33.74   | 4.74   | 25.69   | 231   | 0.46   |
| 156 | 11.23 | 33.73 | 4.68 | 224 | 200 | 9.51    | 33.87   | 3.53   | 26.18   | 185   | 0.57   |
| 186 | 9.91  | 33.81 | 3.80 | 196 | 250 | 8.91    | 34.10   | 2.33   | 26.45   | 159   | 0.66   |
| 215 | 9.16  | 33.93 | 3.21 | 175 | 300 | 8.68    | 34.26   | 1.37   | 26.62   | 143   | 0.74   |
| 246 | 8.92  | 34.09 | 2.39 | 160 | 400 | 7.78    | 34.36   | 0.60   | 26.83   | 123   | 0.88   |
| 295 | 8.72  | 34.25 | 1.42 | 145 | 500 | 6.84    | 34.38   | 0.34   | 26.98   | 109   | 1.00   |
| 348 | 8.08  | 34.32 | 0.89 | 131 | 600 | 6.04    | 34.42   | 0.22   | 27.11   | 96    | 1.11   |
| 433 | 7.58  | 34.38 | 0.48 | 119 |     |         |         |        |         |       |        |
| 516 | 6.68  | 34.38 | 0.33 | 107 |     |         |         |        |         |       |        |
| 603 | 6.02  | 34.42 | 0.22 | 96  |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; February 3, 1960; 1025 GCT; 26°55'N, 114°06.5'W; sounding, 40 fm; wind, 350°, force 4; weather, clear; sea, rough; wire angle, 00°.

127.34

|    |       |        |      |     |    |       |         |      |         |       |        |
|----|-------|--------|------|-----|----|-------|---------|------|---------|-------|--------|
| 0  | 17.19 | 34.25u | 5.44 | -   | 0  | 17.19 | (34.14) | 5.44 | (24.83) | (313) | (0.00) |
| 10 | 17.20 | 34.14  | 5.50 | 313 | 10 | 17.20 | 34.14   | 5.50 | 24.83   | 313   | 0.03   |
| 30 | 17.17 | 34.16  | 5.45 | 311 | 20 | 17.19 | 34.15   | 5.49 | 24.83   | 313   | 0.06   |
| 50 | 15.67 | 34.14  | 3.95 | 279 | 30 | 17.17 | 34.16   | 5.45 | 24.85   | 311   | 0.09   |
|    |       |        |      |     | 50 | 15.67 | 34.14   | 3.95 | 25.19   | 279   | 0.15   |

BLACK DOUGLAS; February 3, 1960; 0610 GCT; 26°43.5'N, 114°29'W; sounding, 1600 fm; wind, 320°, force 6; weather, clear; sea, very rough; wire angle, 21°.

127.40

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 17.59 | 34.14 | 5.31 | 322 | 0   | (17.59) | (34.14) | (5.31) | (24.74) | (322) | (0.00) |
| 10  | 17.58 | 34.11 | 5.25 | 324 | 10  | 17.58   | 34.11   | 5.25   | 24.71   | 324   | 0.03   |
| 33  | 17.62 | 34.16 | 5.44 | 321 | 20  | 17.59   | 34.11   | 5.27   | 24.71   | 324   | 0.06   |
| 62  | 15.46 | 33.93 | 4.71 | 291 | 30  | 17.60   | 34.15   | 5.40   | 24.74   | 322   | 0.10   |
| 71  | 13.68 | 33.77 | 4.26 | 266 | 50  | 17.57   | 34.15   | 5.41   | 24.75   | 321   | 0.16   |
| 90  | 12.65 | 33.82 | 3.58 | 243 | 75  | 13.41   | 33.78   | 4.08   | 25.38   | 260   | 0.23   |
| 105 | 12.20 | 33.90 | 3.04 | 229 | 100 | 12.34   | 33.86   | 3.27   | 25.66   | 234   | 0.30   |
| 118 | 11.78 | 34.07 | 2.25 | 208 | 125 | 11.65   | 34.15   | 2.04   | 26.02   | 200   | 0.35   |
| 147 | 11.36 | 34.33 | 1.51 | 182 | 150 | 11.32   | 34.34   | 1.45   | 26.23   | 180   | 0.40   |
| 166 | 10.98 | 34.35 | 1.25 | 174 | 200 | 10.88   | 34.52   | 0.71   | 26.44   | 160   | 0.49   |
| 194 | 10.96 | 34.50 | 0.79 | 162 | 250 | 10.23   | 34.56   | 0.36   | 26.60   | 145   | 0.56   |
| 227 | 10.52 | 34.56 | 0.38 | 150 | 300 | 9.36    | 34.49   | 0.39   | 26.69   | 136   | 0.64   |
| 256 | 10.16 | 34.56 | 0.35 | 145 | 400 | 7.97    | 34.44   | 0.32   | 26.86   | 120   | 0.77   |
| 303 | 9.30  | 34.49 | 0.39 | 136 | 500 | 7.00    | 34.44   | 0.22   | 27.00   | 107   | 0.89   |
| 366 | 8.36  | 34.43 | 0.38 | 126 | 600 | 6.24    | 34.44   | 0.21   | 27.10   | 97    | 1.00   |
| 463 | 7.34  | 34.45 | 0.22 | 110 |     |         |         |        |         |       |        |
| 551 | 6.58  | 34.42 | 0.22 | 103 |     |         |         |        |         |       |        |
| 625 | 6.13  | 34.45 | 0.21 | 95  |     |         |         |        |         |       |        |

BLACK DOUGLAS; February 3, 1960; 0035 GCT; 26°25.5'N, 115°06'W; sounding, 1700 fm; wind, 330°, force 4; weather, overcast; sea, very rough; wire angle, 20°.

127.50

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 17.59 | 34.00   | 5.20 | 332 | 0   | (17.59) | (34.00) | (5.20) | (24.63) | (332) | (0.00) |
| 10  | 17.58 | 33.98   | 5.29 | 334 | 10  | 17.58   | 33.98   | 5.29   | 24.61   | 334   | 0.03   |
| 29  | 17.56 | 33.96   | 5.37 | 334 | 20  | 17.57   | 33.96   | 5.33   | 24.61   | 334   | 0.07   |
| 58  | 17.13 | 33.93   | 5.27 | 327 | 30  | 17.55   | 33.96   | 5.36   | 24.61   | 334   | 0.10   |
| 67  | 17.05 | 33.95   | 5.34 | 324 | 50  | 17.29   | 33.94   | 5.29   | 24.65   | 330   | 0.17   |
| 81  | 15.81 | 33.89   | 4.89 | 301 | 75  | 16.44   | 33.92   | 5.04   | 24.84   | 312   | 0.25   |
| 94  | 13.96 | 33.82   | 4.79 | 268 | 100 | 13.40   | 33.80   | 4.62   | 25.40   | 258   | 0.32   |
| 108 | 12.64 | 33.78   | 4.37 | 245 | 125 | 11.29   | 33.77   | 3.92   | 25.79   | 222   | 0.38   |
| 131 | 10.94 | 33.77   | 3.83 | 216 | 150 | 10.16   | 33.82   | 3.20   | 26.03   | 199   | 0.43   |
| 149 | 10.17 | 33.82   | 3.23 | 199 | 200 | 9.53    | 34.15   | 1.95   | 26.39   | 165   | 0.52   |
| 176 | 9.77  | 34.02   | 2.53 | 178 | 250 | 9.02    | 34.33   | 1.38   | 26.61   | 144   | 0.60   |
| 203 | 9.52  | 34.16   | 1.90 | 164 | 300 | 8.61    | 34.39   | 1.00   | 26.72   | 133   | 0.68   |
| 231 | 9.30  | 34.26   | 1.58 | 153 | 400 | 7.92    | 34.45   | 0.34   | 26.88   | 118   | 0.81   |
| 277 | 8.68  | 34.39a) | 1.18 | 134 | 500 | 6.92    | 34.46   | 0.28   | 27.03   | 104   | 0.92   |
| 327 | 8.49  | 34.38   | 0.70 | 132 |     |         |         |        |         |       |        |
| 408 | 7.84  | 34.45   | 0.33 | 117 |     |         |         |        |         |       |        |
| 488 | 7.04  | 34.47   | 0.28 | 105 |     |         |         |        |         |       |        |
| 571 | 6.24  | 34.42   | 0.28 | 98  |     |         |         |        |         |       |        |

a) The use of this value results in an unusual density structure, but nevertheless the value was accepted in drawing the property curve.



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

127.60

BLACK DOUGLAS; February 2, 1960; 1859 GCT; 26°08'N, 115°43'W; sounding, 1800 fm; wind, 330°, force 4; weather, cloudy; sea, very rough; wire angle, 10°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 18.07 | 34.01 | 5.30 | 343 | 0   | (18.07) | (34.01) | (5.30) | (24.52) | (343) | (0.00) |
| 12  | 18.04 | 34.01 | 5.37 | 342 | 10  | 18.04   | 34.01   | 5.37   | 24.53   | 342   | 0.03   |
| 32  | 18.05 | 34.05 | 5.40 | 339 | 20  | 18.04   | 34.03   | 5.39   | 24.54   | 340   | 0.07   |
| 72  | 17.94 | 33.98 | 5.34 | 341 | 30  | 18.05   | 34.05   | 5.40   | 24.55   | 339   | 0.10   |
| 86  | 15.02 | 33.78 | 5.06 | 292 | 50  | 18.03   | 34.02   | 5.37   | 24.54   | 340   | 0.17   |
| 91  | 14.41 | 33.77 | 4.74 | 280 | 75  | 17.00   | 33.88   | 5.28   | 24.68   | 327   | 0.25   |
| 100 | 13.66 | 33.74 | 4.42 | 267 | 100 | 13.66   | 33.74   | 4.42   | 25.31   | 267   | 0.33   |
| 115 | 12.68 | 33.74 | 4.15 | 249 | 125 | 12.00   | 33.76   | 3.80   | 25.65   | 235   | 0.39   |
| 140 | 11.34 | 33.86 | 3.21 | 216 | 150 | 11.06   | 33.97   | 2.75   | 25.98   | 203   | 0.45   |
| 160 | 10.83 | 34.07 | 2.34 | 192 | 200 | 10.50   | 34.34   | 1.31   | 26.38   | 166   | 0.54   |
| 189 | 10.58 | 34.27 | 1.61 | 173 | 250 | 10.15   | 34.46   | 0.71   | 26.52   | 152   | 0.62   |
| 219 | 10.39 | 34.42 | 1.00 | 159 | 300 | 9.43    | 34.45   | 0.62   | 26.64   | 141   | 0.70   |
| 250 | 10.15 | 34.46 | 0.71 | 152 | 400 | 8.20    | 34.46   | 0.33   | 26.84   | 122   | 0.84   |
| 299 | 9.44  | 34.45 | 0.63 | 141 | 500 | 7.16    | 34.45   | 0.21   | 26.99   | 108   | 0.96   |
| 353 | 8.76  | 34.46 | 0.48 | 130 | 600 | 6.26    | 34.44   | 0.18   | 27.10   | 97    | 1.07   |
| 438 | 7.78  | 34.45 | 0.22 | 116 |     |         |         |        |         |       |        |
| 522 | 6.96  | 34.45 | 0.21 | 105 |     |         |         |        |         |       |        |
| 606 | 6.20  | 34.44 | 0.18 | 96  |     |         |         |        |         |       |        |

127.70

BLACK DOUGLAS; February 2, 1960; 1346 GCT; 25°46'N, 116°23'W; sounding, 2000 fm; wind, 330°, force 4; weather, partly cloudy; sea, rough; wire angle, 10°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 18.22 | 34.14 | 5.12 | 337 | 0   | 18.22 | 34.14 | 5.12 | 24.58 | 337 | 0.00 |
| 10  | 18.21 | 34.11 | 5.16 | 339 | 10  | 18.21 | 34.11 | 5.16 | 24.56 | 339 | 0.03 |
| 30  | 18.18 | 34.09 | 5.20 | 339 | 20  | 18.20 | 34.10 | 5.18 | 24.56 | 339 | 0.07 |
| 59  | 18.03 | 34.09 | 5.09 | 336 | 30  | 18.18 | 34.09 | 5.20 | 24.55 | 339 | 0.10 |
| 69  | 16.56 | 33.92 | 5.09 | 315 | 50  | 18.13 | 34.09 | 5.17 | 24.56 | 338 | 0.17 |
| 84  | 13.99 | 33.86 | 3.71 | 265 | 75  | 15.60 | 33.89 | 4.91 | 25.01 | 296 | 0.25 |
| 99  | 13.36 | 34.02 | 2.66 | 242 | 100 | 13.33 | 34.03 | 2.62 | 25.59 | 240 | 0.32 |
| 114 | 12.80 | 34.10 | 2.31 | 225 | 125 | 12.01 | 34.09 | 2.21 | 25.90 | 211 | 0.37 |
| 139 | 11.26 | 34.09 | 2.16 | 198 | 150 | 11.41 | 34.21 | 1.70 | 26.10 | 192 | 0.42 |
| 158 | 11.62 | 34.31 | 1.41 | 188 | 200 | 11.17 | 34.47 | 1.03 | 26.36 | 167 | 0.52 |
| 188 | 11.25 | 34.42 | 1.01 | 173 | 250 | 10.83 | 34.57 | 0.52 | 26.49 | 155 | 0.60 |
| 217 | 11.06 | 34.54 | 1.11 | 161 | 300 | 10.28 | 34.61 | 0.35 | 26.62 | 143 | 0.68 |
| 248 | 10.85 | 34.56 | 0.54 | 156 | 400 | 8.95  | 34.53 | 0.30 | 26.79 | 127 | 0.82 |
| 298 | 10.32 | 34.61 | 0.35 | 143 | 500 | 7.33  | 34.48 | 0.25 | 26.99 | 108 | 0.94 |
| 352 | 9.52  | 34.56 | 0.33 | 134 | 600 | 5.56  | 34.47 | 0.30 | 26.21 | 87  | 1.04 |
| 436 | 8.47  | 34.51 | 0.25 | 122 |     |       |       |      |       |     |      |
| 522 | 6.92  | 34.47 | 0.25 | 103 |     |       |       |      |       |     |      |
| 606 | 5.46  | 34.47 | 0.33 | 85  |     |       |       |      |       |     |      |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

S10

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BLACK DOUGLAS; February 2, 1960; 0535, 0730 GCT; 25°24'N, 117°03'W; sounding, 2000 fm; wind, 320°, force 3; weather, clear; sea, very rough; wire angle, 12°, 04°.

127.80

|       |       |          |      |     |      |       |       |      |       |     |      |
|-------|-------|----------|------|-----|------|-------|-------|------|-------|-----|------|
| 0     | 18.16 | 34.04    | 5.27 | 343 | 0    | 18.16 | 34.04 | 5.27 | 24.52 | 343 | 0.00 |
| 10    | 18.14 | 34.07    | 5.34 | 340 | 10   | 18.14 | 34.07 | 5.34 | 24.55 | 340 | 0.03 |
| 30    | 18.08 | 34.04    | 5.27 | 340 | 20   | 18.12 | 34.06 | 5.31 | 24.54 | 340 | 0.07 |
| 59    | 17.26 | 33.89    | 5.35 | 333 | 30   | 18.08 | 34.04 | 5.27 | 24.54 | 340 | 0.10 |
| 70    | 16.72 | 33.82    | 5.31 | 325 | 50   | 17.34 | 33.90 | 5.34 | 24.61 | 334 | 0.17 |
| 84    | 14.76 | 33.81    | 4.78 | 285 | 75   | 16.05 | 33.81 | 5.18 | 24.84 | 312 | 0.25 |
| 99    | 13.53 | 33.77    | 4.55 | 263 | 100  | 13.48 | 33.77 | 4.52 | 25.37 | 262 | 0.32 |
| 114   | 12.25 | 33.71    | 4.21 | 243 | 125  | 11.53 | 33.72 | 3.95 | 25.70 | 230 | 0.39 |
| 139   | 10.77 | 33.77    | 3.54 | 213 | 150  | 10.64 | 33.92 | 2.92 | 26.02 | 200 | 0.44 |
| 159   | 10.52 | 34.04    | 2.27 | 189 | 200  | 9.63  | 34.16 | 1.92 | 26.38 | 166 | 0.53 |
| 189   | 9.86  | 34.16    | 2.00 | 169 | 250  | 9.12  | 34.27 | 1.29 | 26.55 | 149 | 0.62 |
| 218   | 9.36  | 34.16    | 1.84 | 162 | 300  | 8.65  | 34.40 | 0.84 | 26.72 | 133 | 0.69 |
| 249   | 9.13  | 34.27    | 1.30 | 150 | 400  | 7.60  | 34.36 | 0.46 | 26.85 | 121 | 0.82 |
| 299   | 8.67  | 34.40    | 0.85 | 133 | 500  | 6.70  | 34.42 | 0.27 | 27.03 | 104 | 0.94 |
| 353   | 7.91  | 34.36    | 0.57 | 125 | 600  | 5.92  | 34.41 | 0.25 | 27.12 | 95  | 1.04 |
| 437   | 7.18  | 34.40    | 0.31 | 112 | 700  | 5.26  | 34.43 | 0.29 | 27.22 | 86  | 1.14 |
| 521   | 6.52  | 34.42    | 0.26 | 102 | 800  | 4.80  | 34.49 | 0.32 | 27.31 | 77  | 1.23 |
| 606   | 5.84  | 34.41    | 0.23 | 95  | 1000 | 4.18  | 34.53 | 0.49 | 27.41 | 68  | 1.39 |
|       |       |          |      |     | 1200 | 3.64  | 34.57 | 0.69 | 27.50 | 59  | 1.53 |
| 391a) | 7.77  | 34.35 1  | 0.58 | 123 | 1500 | 2.98  | 34.59 | 1.08 | 27.59 | 51  | 1.73 |
| 490   | 6.86  | 34.36 9  | 0.36 | 110 | 2000 | 2.14  | 34.64 | 1.93 | 27.69 | 41  | 2.01 |
| 591   | 6.02  | 34.40 6  | 0.27 | 97  | 2500 | 1.79  | 34.67 | 2.37 | 27.75 | 36  | 2.25 |
| 692   | 5.32  | 34.42 5  | 0.29 | 87  | 3000 | 1.62  | 34.68 | 2.70 | 27.77 | 34  | 2.48 |
| 792   | 4.83  | 34.48 0  | 0.30 | 78  |      |       |       |      |       |     |      |
| 992   | 4.22  | 34.52 2  | 0.48 | 68  |      |       |       |      |       |     |      |
| 1194  | 3.66  | 34.62 0u | 0.67 | -   |      |       |       |      |       |     |      |
| 1396  | 3.18  | 34.57 5  | 0.95 | 54  |      |       |       |      |       |     |      |
| 1596  | 2.80  | 34.61 1  | 1.20 | 49  |      |       |       |      |       |     |      |
| 1794  | 2.44  | 34.62 4  | 1.55 | 44  |      |       |       |      |       |     |      |
| 1992  | 2.15  | 34.64 0  | 1.93 | 41  |      |       |       |      |       |     |      |
| 2189  | 1.94  | 34.65 3  | 2.12 | 38  |      |       |       |      |       |     |      |
| 2388  | 1.84  | 34.67 0  | 2.34 | 37  |      |       |       |      |       |     |      |
| 2586  | 1.75  | 34.67 2  | 2.43 | 36  |      |       |       |      |       |     |      |
| 2788  | 1.68  | 34.67 7  | 2.69 | 35  |      |       |       |      |       |     |      |
| 2989  | 1.63  | 34.68 8  | 2.66 | 34  |      |       |       |      |       |     |      |
| 3089  | 1.62  | 34.68 2  | 2.80 | 34  |      |       |       |      |       |     |      |
| 3189  | 1.62  | 34.67 6  | 2.68 | 34  |      |       |       |      |       |     |      |

BLACK DOUGLAS; February 1, 1960; 0333 GCT; 26°29'N, 113°29'W; sounding, 40 fm; wind, 300°, force 3; weather, partly cloudy; sea, moderate; wire angle, 00°.

130.30

|    |       |       |      |     |    |       |       |      |       |     |      |
|----|-------|-------|------|-----|----|-------|-------|------|-------|-----|------|
| 0  | 17.65 | 34.22 | 5.31 | 317 | 0  | 17.65 | 34.22 | 5.31 | 24.78 | 317 | 0.00 |
| 10 | 17.41 | 34.16 | 5.33 | 316 | 10 | 17.41 | 34.16 | 5.33 | 24.80 | 316 | 0.03 |
| 30 | 17.42 | 34.18 | 5.32 | 315 | 20 | 17.41 | 34.17 | 5.33 | 24.80 | 316 | 0.06 |
| 50 | 17.37 | 34.20 | 5.23 | 312 | 30 | 17.42 | 34.18 | 5.32 | 24.81 | 315 | 0.09 |
|    |       |       |      |     | 50 | 17.37 | 34.20 | 5.23 | 24.84 | 312 | 0.16 |

BLACK DOUGLAS; February 1, 1960; 0610 GCT; 26°19'N, 113°48'W; sounding, 160 fm; wind, 320°, force 3; weather, partly cloudy; sea, moderate; wire angle, 12°.

130.35

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 0   | 17.65 | 34.14 | 5.32 | 323 | 0   | 17.65   | 34.14   | 5.32   | 24.72   | 323   | 0.00   |
| 10  | 17.62 | 34.14 | 5.38 | 323 | 10  | 17.62   | 34.14   | 5.38   | 24.73   | 323   | 0.03   |
| 30  | 17.37 | 34.13 | 5.41 | 318 | 20  | 17.40   | 34.13   | 5.41   | 24.78   | 318   | 0.06   |
| 49  | 17.26 | 34.14 | 5.35 | 314 | 30  | 17.37   | 34.13   | 5.41   | 24.78   | 318   | 0.10   |
| 73  | 15.60 | 34.07 | 4.53 | 283 | 50  | 17.24   | 34.14   | 5.33   | 24.82   | 314   | 0.16   |
| 96  | 13.39 | 34.13 | 2.17 | 234 | 75  | 14.70   | 34.08   | 3.63   | 25.35   | 264   | 0.23   |
| 120 | 12.38 | 34.31 | 1.39 | 202 | 100 | 13.39   | 34.15   | 2.12   | 25.67   | 233   | 0.30   |
| 159 | 12.14 | 34.42 | 0.51 | 189 | 125 | 12.33   | 34.33   | 1.37   | 26.02   | 200   | 0.35   |
| 197 | 11.40 | 34.52 | 0.98 | 169 | 150 | 12.21   | 34.40   | 1.27   | 26.10   | 192   | 0.40   |
| 247 | 10.88 | 34.55 | 0.35 | 158 | 200 | 11.36   | 34.52   | 0.93   | 26.36   | 168   | 0.49   |
|     |       |       |      |     | 250 | (10.87) | (34.55) | (0.35) | (26.47) | (157) | (0.57) |

a) Overlapping casts; reconciliation of property curves when necessary.



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

130.40

BLACK DOUGLAS; February 1, 1960; 0907 GCT; 26°09'N, 114°07'W; sounding, 1100 fm; wind, 300°, force 4; weather, cloudy; sea, moderate; wire angle, 06°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 17.97 | 34.14 | 5.38 | 331 | 0   | 17.97 | 34.14 | 5.38 | 24.64 | 331 | 0.00 |
| 10  | 17.98 | 34.13 | 5.31 | 332 | 10  | 17.98 | 34.13 | 5.31 | 24.63 | 332 | 0.03 |
| 30  | 17.63 | 34.09 | 5.50 | 327 | 20  | 17.78 | 34.10 | 5.38 | 24.66 | 329 | 0.07 |
| 71  | 16.86 | 33.98 | 5.15 | 317 | 30  | 17.63 | 34.09 | 5.50 | 24.68 | 327 | 0.10 |
| 86  | 14.08 | 33.77 | 4.43 | 274 | 50  | 17.63 | 34.11 | 5.43 | 24.70 | 325 | 0.16 |
| 96  | 13.68 | 33.77 | 4.18 | 266 | 75  | 16.50 | 33.96 | 4.98 | 24.86 | 310 | 0.24 |
| 100 | 13.01 | 33.79 | 3.96 | 252 | 100 | 13.01 | 33.79 | 3.96 | 25.47 | 252 | 0.32 |
| 115 | 11.95 | 33.80 | 3.43 | 231 | 125 | 11.83 | 33.99 | 2.84 | 25.86 | 215 | 0.37 |
| 140 | 11.67 | 34.21 | 1.83 | 196 | 150 | 11.52 | 34.25 | 1.63 | 26.12 | 190 | 0.43 |
| 160 | 11.40 | 34.29 | 1.47 | 186 | 200 | 10.87 | 34.44 | 1.00 | 26.39 | 165 | 0.52 |
| 189 | 11.04 | 34.42 | 1.07 | 170 | 250 | 10.53 | 34.53 | 0.62 | 26.52 | 153 | 0.60 |
| 219 | 10.62 | 34.47 | 0.88 | 159 | 300 | 9.94  | 34.58 | 0.40 | 26.66 | 139 | 0.67 |
| 251 | 10.52 | 34.53 | 0.61 | 153 | 400 | 8.44  | 34.47 | 0.40 | 26.81 | 125 | 0.81 |
| 300 | 9.94  | 34.58 | 0.40 | 139 | 500 | 7.12  | 34.41 | 0.32 | 26.97 | 110 | 0.93 |
| 353 | 9.18  | 34.52 | 0.37 | 132 | 600 | 6.21  | 34.43 | 0.32 | 27.10 | 97  | 1.04 |
| 440 | 7.80  | 34.43 | 0.45 | 118 |     |       |       |      |       |     |      |
| 524 | 6.90  | 34.41 | 0.31 | 108 |     |       |       |      |       |     |      |
| 610 | 6.11  | 34.43 | 0.36 | 96  |     |       |       |      |       |     |      |

130.50

BLACK DOUGLAS; February 1, 1960; 1400 GCT; 25°49'N, 114°45'W; sounding, 1700 fm; wind, 320°, force 4; weather, clear; sea, moderate; wire angle, 14°.

|     |       |       |      |     |     |        |         |        |         |      |        |
|-----|-------|-------|------|-----|-----|--------|---------|--------|---------|------|--------|
| 0   | 17.85 | 34.03 | 5.37 | 336 | 0   | 17.85  | 34.03   | 5.37   | 24.59   | 336  | 0.00   |
| 9   | 17.84 | 34.05 | 5.39 | 334 | 10  | 17.84  | 34.05   | 5.39   | 24.61   | 334  | 0.03   |
| 29  | 17.76 | 34.03 | 5.39 | 334 | 20  | 17.81  | 34.04   | 5.39   | 24.61   | 334  | 0.07   |
| 59  | 17.18 | 34.05 | 5.33 | 319 | 30  | 17.75  | 34.03   | 5.39   | 24.61   | 334  | 0.10   |
| 69  | 16.84 | 34.03 | 5.21 | 313 | 50  | 17.30  | 34.05   | 5.33   | 24.74   | 322  | 0.17   |
| 83  | 15.06 | 33.84 | 4.70 | 289 | 75  | 16.25  | 33.96   | 5.04   | 24.92   | 305  | 0.24   |
| 97  | 13.31 | 33.84 | 3.96 | 253 | 100 | 13.01  | 33.87   | 3.67   | 25.53   | 246  | 0.31   |
| 112 | 12.55 | 34.01 | 2.72 | 227 | 125 | 12.38  | 34.14   | 2.13   | 25.87   | 214  | 0.37   |
| 137 | 12.20 | 34.22 | 1.77 | 205 | 150 | 11.76  | 34.23   | 1.57   | 26.06   | 196  | 0.42   |
| 156 | 11.58 | 34.24 | 1.53 | 192 | 200 | 10.62  | 34.37   | 1.23   | 26.38   | 166  | 0.52   |
| 185 | 10.84 | 34.34 | 1.30 | 172 | 250 | 10.30  | 34.52   | 0.62   | 26.55   | 150  | 0.60   |
| 214 | 10.38 | 34.40 | 1.13 | 160 | 300 | 9.58   | 34.50   | 0.48   | 26.66   | 139  | 0.67   |
| 243 | 10.36 | 34.52 | 0.68 | 151 | 400 | 8.24   | 34.47   | 0.38   | 26.85   | 121  | 0.81   |
| 292 | 9.78  | 34.51 | 0.48 | 142 | 500 | 7.14   | 34.47   | 0.31   | 27.01   | 106  | 0.93   |
| 345 | 8.78  | 34.47 | 0.48 | 130 | 600 | (6.34) | (34.47) | (0.23) | (27.11) | (96) | (1.03) |
| 428 | 7.97  | 34.47 | 0.31 | 117 |     |        |         |        |         |      |        |
| 510 | 7.02  | 34.47 | 0.31 | 105 |     |        |         |        |         |      |        |
| 594 | 6.38  | 34.47 | 0.23 | 96  |     |        |         |        |         |      |        |

130.60

BLACK DOUGLAS; February 1, 1960; 1918 GCT; 25°29'N, 115°24'W; sounding, 1940 fm; wind, 320°, force 3; weather, clear; sea, moderate; wire angle, 08°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 18.36 | 34.00 | 5.25 | 350 | 0   | 18.36 | 34.00 | 5.25 | 24.44 | 350 | 0.00 |
| 10  | 18.30 | 33.98 | 5.24 | 350 | 10  | 18.30 | 33.98 | 5.24 | 24.44 | 350 | 0.04 |
| 30  | 18.27 | 34.00 | 5.35 | 348 | 20  | 18.27 | 33.99 | 5.27 | 24.45 | 349 | 0.07 |
| 69  | 17.96 | 33.98 | 5.23 | 342 | 30  | 18.27 | 34.00 | 5.35 | 24.46 | 348 | 0.10 |
| 79  | 17.19 | 33.92 | 5.23 | 329 | 50  | 18.19 | 34.00 | 5.31 | 24.48 | 346 | 0.17 |
| 85  | 16.26 | 33.82 | 5.20 | 316 | 75  | 17.82 | 33.97 | 5.23 | 24.55 | 340 | 0.26 |
| 100 | 14.73 | 33.75 | 4.67 | 289 | 100 | 14.73 | 33.75 | 4.67 | 25.08 | 289 | 0.34 |
| 115 | 13.88 | 33.67 | 4.30 | 277 | 125 | 12.30 | 33.66 | 3.70 | 25.51 | 248 | 0.41 |
| 139 | 10.74 | 33.79 | 3.37 | 211 | 150 | 10.77 | 33.94 | 2.78 | 26.02 | 200 | 0.46 |
| 160 | 10.79 | 34.06 | 2.18 | 192 | 200 | 10.67 | 34.39 | 1.09 | 26.38 | 166 | 0.56 |
| 189 | 10.74 | 34.34 | 1.27 | 170 | 250 | 10.30 | 34.51 | 0.66 | 26.54 | 151 | 0.64 |
| 220 | 10.54 | 34.44 | 0.84 | 160 | 300 | 9.90  | 34.58 | 0.40 | 26.66 | 139 | 0.71 |
| 250 | 10.30 | 34.51 | 0.66 | 151 | 400 | 8.64  | 34.53 | 0.27 | 26.83 | 123 | 0.85 |
| 300 | 9.90  | 34.58 | 0.40 | 139 | 500 | 7.58  | 34.48 | 0.27 | 26.95 | 112 | 0.97 |
| 354 | 9.08  | 34.56 | 0.33 | 128 | 600 | 6.64  | 34.45 | 0.24 | 27.06 | 101 | 1.09 |
| 439 | 8.26  | 34.51 | 0.24 | 119 |     |       |       |      |       |     |      |
| 525 | 7.30  | 34.47 | 0.28 | 108 |     |       |       |      |       |     |      |
| 610 | 6.58  | 34.45 | 0.23 | 100 |     |       |       |      |       |     |      |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; January 31, 1960; 2015 GCT; 26°04.5'N, 112°48'W; sounding, 45 fm; wind, 300°, force 3; weather, partly cloudy; sea, slight; wire angle, 00°.

133.25

|    |       |       |      |     |    |         |         |        |         |       |        |
|----|-------|-------|------|-----|----|---------|---------|--------|---------|-------|--------|
| 1  | 18.78 | 34.38 | 5.31 | 333 | 0  | (18.78) | (34.38) | (5.31) | (24.62) | (333) | (0.00) |
| 11 | 18.63 | 34.41 | 5.25 | 327 | 10 | 18.64   | 34.41   | 5.26   | 24.68   | 327   | 0.03   |
| 31 | 18.01 | 34.34 | 5.23 | 317 | 20 | 18.30   | 34.37   | 5.24   | 24.74   | 322   | 0.07   |
| 51 | 17.91 | 34.36 | 5.11 | 313 | 30 | 18.03   | 34.34   | 5.23   | 24.78   | 318   | 0.10   |
|    |       |       |      |     | 50 | 17.91   | 34.36   | 5.11   | 24.83   | 313   | 0.16   |

BLACK DOUGLAS; January 31, 1960; 1743 GCT; 25°54.5'N, 113°07.5'W; sounding, 100 fm; wind, 320°, force 4; weather, clear; sea, moderate; wire angle, 06°.

133.30

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 18.58 | 34.42 | 5.22 | 325 | 0   | 18.58 | 34.42 | 5.22 | 24.70 | 325 | 0.00 |
| 10  | 18.54 | 34.38 | 5.26 | 327 | 10  | 18.54 | 34.38 | 5.26 | 24.68 | 327 | 0.03 |
| 30  | 18.54 | 34.40 | 5.24 | 325 | 20  | 18.54 | 34.39 | 5.25 | 24.69 | 326 | 0.07 |
| 50  | 18.48 | 34.40 | 5.14 | 324 | 30  | 18.54 | 34.40 | 5.24 | 24.70 | 325 | 0.10 |
| 75  | 15.16 | 34.03 | 3.51 | 277 | 50  | 18.48 | 34.40 | 5.14 | 24.71 | 324 | 0.16 |
| 100 | 13.09 | 34.21 | 1.95 | 222 | 75  | 15.16 | 34.03 | 3.51 | 25.21 | 277 | 0.24 |
| 125 | 12.65 | 34.36 | 1.01 | 203 | 100 | 13.09 | 34.21 | 1.95 | 25.79 | 222 | 0.30 |
| 155 | 12.00 | 34.54 | 0.43 | 178 | 125 | 12.65 | 34.36 | 1.01 | 25.98 | 203 | 0.36 |
|     |       |       |      |     | 150 | 12.13 | 34.50 | 0.52 | 26.20 | 183 | 0.40 |

BLACK DOUGLAS; January 31, 1960; 0955 GCT; 25°33.5'N, 113°37.5'W; sounding, 850 fm; wind, direction missing, force 1; weather, cloudy; sea, slight; wire angle, 10°.

133.40

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 19.24 | 34.40 | 5.13 | 342 | 0   | (19.24) | (34.40) | (5.13) | (24.53) | (342) | (0.00) |
| 11  | 19.22 | 34.42 | 5.26 | 340 | 10  | 19.23   | 34.42   | 5.25   | 24.54   | 341   | 0.03   |
| 31  | 18.22 | 34.23 | 5.31 | 330 | 20  | 19.05   | 34.39   | 5.27   | 24.56   | 338   | 0.07   |
| 55  | 18.04 | 34.23 | 5.21 | 326 | 30  | 18.22   | 34.23   | 5.31   | 24.65   | 330   | 0.10   |
| 65  | 17.01 | 34.09 | 4.83 | 312 | 50  | 18.08   | 34.23   | 5.26   | 24.68   | 327   | 0.17   |
| 75  | 15.36 | 34.00 | 3.61 | 283 | 75  | 15.36   | 34.00   | 3.61   | 25.14   | 283   | 0.24   |
| 89  | 13.72 | 33.95 | 3.23 | 253 | 100 | 13.23   | 34.02   | 2.76   | 25.60   | 239   | 0.31   |
| 104 | 13.02 | 34.04 | 2.56 | 234 | 125 | 12.02   | 34.08   | 2.10   | 25.90   | 211   | 0.37   |
| 128 | 11.97 | 34.11 | 2.05 | 209 | 150 | 12.07   | 34.41   | 1.10   | 26.12   | 189   | 0.42   |
| 146 | 12.09 | 34.37 | 1.25 | 192 | 200 | 11.34   | 34.65   | 0.43   | 26.46   | 158   | 0.51   |
| 171 | 11.80 | 34.56 | 0.53 | 172 | 250 | 10.78   | 34.59   | 0.32   | 26.52   | 152   | 0.58   |
| 200 | 11.34 | 34.65 | 0.43 | 158 | 300 | 9.95    | 34.59   | 0.31   | 26.66   | 139   | 0.66   |
| 229 | 11.12 | 34.61 | 0.33 | 157 | 400 | 8.66    | 34.49   | 0.24   | 26.80   | 126   | 0.80   |
| 270 | 10.40 | 34.58 | 0.31 | 147 | 500 | 7.38    | 34.47   | 0.17   | 26.97   | 110   | 0.92   |
| 329 | 9.60  | 34.60 | 0.30 | 133 |     |         |         |        |         |       |        |
| 402 | 8.64  | 34.49 | 0.24 | 126 |     |         |         |        |         |       |        |
| 476 | 7.70  | 34.47 | 0.20 | 114 |     |         |         |        |         |       |        |
| 555 | 6.70  | 34.46 | 0.16 | 101 |     |         |         |        |         |       |        |

BLACK DOUGLAS; January 31, 1960; 0459 GCT; 25°13'N, 114°20.5'W; sounding, 1820 fm; wind, 360°, force 2; weather, cloudy; sea, moderate; wire angle, 06°.

133.50

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 19.19 | 34.41 | 5.12 | 340 | 0   | 19.19 | 34.41 | 5.12 | 24.55 | 340 | 0.00 |
| 10  | 19.20 | 34.41 | 4.94 | 341 | 10  | 19.20 | 34.41 | 4.94 | 24.54 | 341 | 0.03 |
| 30  | 19.18 | 34.39 | 5.24 | 341 | 20  | 19.20 | 34.40 | 5.10 | 24.54 | 341 | 0.07 |
| 61  | 17.96 | 34.22 | 5.23 | 325 | 30  | 19.18 | 34.39 | 5.24 | 24.54 | 341 | 0.10 |
| 71  | 16.56 | 34.02 | 5.05 | 307 | 50  | 18.03 | 34.22 | 5.23 | 24.69 | 326 | 0.17 |
| 86  | 14.55 | 33.77 | 4.37 | 283 | 75  | 15.80 | 33.90 | 4.86 | 24.97 | 299 | 0.25 |
| 101 | 13.38 | 33.96 | 2.85 | 246 | 100 | 13.42 | 33.96 | 2.87 | 25.52 | 247 | 0.32 |
| 116 | 12.52 | 34.05 | 2.32 | 223 | 125 | 12.07 | 34.16 | 1.94 | 25.94 | 207 | 0.37 |
| 141 | 11.91 | 34.34 | 1.33 | 191 | 150 | 11.91 | 34.39 | 1.13 | 26.15 | 187 | 0.42 |
| 161 | 11.92 | 34.44 | 1.01 | 183 | 200 | 11.44 | 34.59 | 0.56 | 26.40 | 164 | 0.51 |
| 191 | 11.62 | 34.59 | 0.59 | 167 | 250 | 10.62 | 34.53 | 0.45 | 26.49 | 155 | 0.60 |
| 221 | 11.10 | 34.57 | 0.51 | 160 | 300 | 10.21 | 34.60 | 0.27 | 26.63 | 142 | 0.67 |
| 251 | 10.62 | 34.53 | 0.45 | 154 | 400 | 8.62  | 34.52 | 0.30 | 26.83 | 123 | 0.81 |
| 301 | 10.20 | 34.60 | 0.26 | 142 | 500 | 7.36  | 34.45 | 0.34 | 26.96 | 111 | 0.93 |
| 357 | 9.22  | 34.54 | 0.31 | 131 | 600 | 6.44  | 34.44 | 0.32 | 27.07 | 100 | 1.04 |
| 442 | 8.05  | 34.50 | 0.30 | 117 |     |       |       |      |       |     |      |
| 527 | 7.05  | 34.43 | 0.38 | 108 |     |       |       |      |       |     |      |
| 612 | 6.33  | 34.44 | 0.31 | 98  |     |       |       |      |       |     |      |



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| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

133.60

BLACK DOUGLAS; January 30, 1960; 2342 GCT; 24°54.5'N, 115°02'W; sounding, 2000 fm; wind, 360°, force 4; weather, cloudy; sea, rough; wire angle, 08°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 18.84 | 34.24 | 5.24 | 344 | 0   | (18.84) | (34.24) | (5.24) | (24.50) | (344) | (0.00) |
| 11  | 18.80 | 34.26 | 5.23 | 342 | 10  | 18.81   | 34.26   | 5.23   | 24.52   | 342   | 0.03   |
| 32  | 18.71 | 34.23 | 5.21 | 341 | 20  | 18.76   | 34.25   | 5.22   | 24.53   | 341   | 0.07   |
| 60  | 18.69 | 34.18 | 5.15 | 345 | 30  | 18.71   | 34.23   | 5.21   | 24.53   | 341   | 0.10   |
| 71  | 18.60 | 34.19 | 5.13 | 342 | 50  | 18.70   | 34.20   | 5.16   | 24.50   | 344   | 0.17   |
| 84  | 18.28 | 34.13 | 5.10 | 339 | 75  | 18.53   | 34.19   | 5.12   | 24.54   | 341   | 0.26   |
| 100 | 14.70 | 33.89 | 4.24 | 278 | 100 | 14.70   | 33.89   | 4.24   | 25.20   | 278   | 0.34   |
| 114 | 13.18 | 33.95 | 3.15 | 243 | 125 | 12.77   | 34.08   | 2.42   | 25.75   | 225   | 0.40   |
| 138 | 12.39 | 34.31 | 1.50 | 202 | 150 | 12.04   | 34.34   | 1.29   | 26.08   | 194   | 0.45   |
| 158 | 11.92 | 34.36 | 1.17 | 189 | 200 | 11.50   | 34.63   | 0.53   | 26.42   | 162   | 0.54   |
| 187 | 11.76 | 34.60 | 0.55 | 169 | 250 | 11.09   | 34.64   | 0.30   | 26.50   | 154   | 0.62   |
| 216 | 11.17 | 34.63 | 0.52 | 156 | 300 | 10.30   | 34.63   | 0.19   | 26.63   | 142   | 0.70   |
| 246 | 11.10 | 34.64 | 0.31 | 154 | 400 | 8.66    | 34.53   | 0.25   | 26.83   | 123   | 0.84   |
| 295 | 10.36 | 34.63 | 0.18 | 143 | 500 | 7.30    | 34.49   | 0.21   | 27.00   | 107   | 0.96   |
| 349 | 9.55  | 34.57 | 0.26 | 134 | 600 | 6.44    | 34.44   | 0.22   | 27.08   | 99    | 1.07   |
| 432 | 8.12  | 34.51 | 0.24 | 117 |     |         |         |        |         |       |        |
| 515 | 7.12  | 34.48 | 0.20 | 105 |     |         |         |        |         |       |        |
| 601 | 6.43  | 34.44 | 0.22 | 99  |     |         |         |        |         |       |        |

137.23

BLACK DOUGLAS; January 29, 1960; 0833 GCT; 25°34'N, 112°19'W; sounding, 40 fm; wind, 340°, force 3; weather, cloudy; sea, rough; wire angle, 00°.

|    |       |       |      |     |    |       |       |      |       |     |      |
|----|-------|-------|------|-----|----|-------|-------|------|-------|-----|------|
| 0  | 18.47 | 34.40 | 5.25 | 324 | 0  | 18.47 | 34.40 | 5.25 | 24.71 | 324 | 0.00 |
| 10 | 18.44 | 34.40 | 5.23 | 323 | 10 | 18.44 | 34.40 | 5.23 | 24.72 | 323 | 0.03 |
| 30 | 17.66 | 34.38 | 3.97 | 306 | 20 | 18.28 | 34.40 | 5.06 | 24.76 | 320 | 0.06 |
| 40 | 16.55 | 34.35 | 3.14 | 283 | 30 | 17.66 | 34.38 | 3.97 | 24.90 | 306 | 0.10 |

137.30

BLACK DOUGLAS; January 29, 1960; 1202 GCT; 25°20'N, 112°46'W; sounding, 160 fm; wind, 320°, force 2; weather, cloudy; sea, rough; wire angle, 00°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 19.03 | 34.40 | 5.08 | 337 | 0   | 19.03 | 34.40 | 5.08 | 24.58 | 337 | 0.00 |
| 10  | 19.02 | 34.42 | 5.05 | 335 | 10  | 19.02 | 34.42 | 5.05 | 24.60 | 335 | 0.03 |
| 30  | 19.02 | 34.40 | 5.04 | 337 | 20  | 19.02 | 34.41 | 5.04 | 24.59 | 336 | 0.07 |
| 50  | 19.02 | 34.40 | 4.96 | 337 | 30  | 19.02 | 34.40 | 5.04 | 24.58 | 337 | 0.10 |
| 75  | 15.57 | 34.00 | 3.86 | 287 | 50  | 19.02 | 34.40 | 4.96 | 24.58 | 337 | 0.17 |
| 100 | 14.28 | 34.22 | 2.26 | 245 | 75  | 15.57 | 34.00 | 3.86 | 25.10 | 287 | 0.25 |
| 125 | 13.06 | 34.48 | 0.95 | 202 | 100 | 14.28 | 34.22 | 2.26 | 25.54 | 245 | 0.31 |
| 165 | 11.75 | 34.54 | 0.45 | 173 | 125 | 13.06 | 34.48 | 0.95 | 26.00 | 202 | 0.37 |
| 206 | 11.38 | 34.64 | 0.19 | 159 | 150 | 12.14 | 34.52 | 0.58 | 26.21 | 182 | 0.42 |
|     |       |       |      |     | 200 | 11.43 | 34.62 | 0.23 | 26.42 | 162 | 0.51 |

137.35

BLACK DOUGLAS; January 29, 1960; 1450 GCT; 25°11'N, 113°05.5'W; sounding, 600 fm; wind, 320°, force 2; weather, overcast; sea, moderate; wire angle, 03°.

|     |         |       |      |     |     |       |       |      |       |     |      |
|-----|---------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 19.12   | 34.37 | 4.78 | 341 | 0   | 19.12 | 34.37 | 4.78 | 24.54 | 341 | 0.00 |
| 10  | 19.13   | 34.35 | 4.80 | 343 | 10  | 19.13 | 34.35 | 4.80 | 24.52 | 343 | 0.03 |
| 30  | 18.67a) | 34.25 | 4.62 | 339 | 20  | 19.08 | 34.34 | 4.79 | 24.52 | 343 | 0.07 |
| 55  | 18.25   | 34.23 | 4.67 | 331 | 30  | 18.67 | 34.25 | 4.62 | 24.55 | 339 | 0.10 |
| 65  | 17.90   | 34.23 | 4.71 | 323 | 50  | 18.37 | 34.23 | 4.62 | 24.62 | 333 | 0.17 |
| 76  | 15.23   | 33.96 | 3.46 | 283 | 75  | 15.35 | 33.96 | 3.52 | 25.11 | 286 | 0.25 |
| 91  | 13.92   | 34.02 | 2.72 | 252 | 100 | 13.45 | 34.11 | 2.29 | 25.63 | 237 | 0.31 |
| 106 | 13.18   | 34.16 | 1.93 | 228 | 125 | 12.90 | 34.40 | 0.95 | 25.97 | 205 | 0.37 |
| 131 | 12.82   | 34.45 | 0.81 | 199 | 150 | 12.46 | 34.51 | 0.73 | 26.13 | 189 | 0.42 |
| 151 | 12.44   | 34.51 | 0.72 | 189 | 200 | 11.58 | 34.61 | 0.60 | 26.39 | 165 | 0.51 |
| 177 | 11.75   | 34.60 | 0.71 | 169 | 250 | 10.56 | 34.58 | 0.45 | 26.56 | 149 | 0.59 |
| 206 | 11.52   | 34.61 | 0.57 | 164 | 300 | 9.73  | 34.54 | 0.47 | 26.66 | 139 | 0.66 |
| 236 | 10.78   | 34.60 | 0.40 | 152 | 400 | 8.44  | 34.48 | 0.37 | 26.82 | 124 | 0.80 |
| 278 | 10.13   | 34.56 | 0.62 | 144 | 500 | 7.13  | 34.43 | 0.39 | 26.98 | 109 | 0.92 |
| 337 | 9.16    | 34.51 | 0.33 | 132 |     |       |       |      |       |     |      |
| 412 | 8.32    | 34.47 | 0.39 | 123 |     |       |       |      |       |     |      |
| 487 | 7.30    | 34.43 | 0.41 | 112 |     |       |       |      |       |     |      |
| 567 | 6.44    | 34.45 | 0.31 | 99  |     |       |       |      |       |     |      |

a) Alternate value, 18.92°C, not used in interpolation.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; January 29, 1960; 1729 GCT; 25°02'N, 113°25'W; sounding, 1600 fm; wind, 320°, force 2; weather, overcast; sea, moderate; wire angle, 05°.

13740

|     |       |         |      |     |     |       |       |      |       |     |      |
|-----|-------|---------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 19.45 | 34.43   | 5.00 | 345 | 0   | 19.45 | 34.43 | 5.00 | 24.49 | 345 | 0.00 |
| 10  | 19.44 | 34.42   | 5.06 | 346 | 10  | 19.44 | 34.42 | 5.06 | 24.48 | 346 | 0.03 |
| 30  | 19.46 | 34.42   | 5.12 | 346 | 20  | 19.45 | 34.42 | 5.09 | 24.48 | 346 | 0.07 |
| 55  | 19.18 | 34.40   | 4.95 | 341 | 30  | 19.46 | 34.42 | 5.12 | 24.48 | 346 | 0.10 |
| 65  | 19.08 | 34.34   | 4.99 | 343 | 50  | 19.24 | 34.40 | 4.97 | 24.53 | 342 | 0.17 |
| 75  | 18.54 | 34.23a) | 4.91 | 338 | 75  | 18.54 | 34.23 | 4.91 | 24.56 | 338 | 0.26 |
| 90  | 18.22 | 34.40a) | 4.83 | 318 | 100 | 15.60 | 34.08 | 3.37 | 25.15 | 282 | 0.34 |
| 105 | 14.66 | 34.03   | 3.00 | 267 | 125 | 12.81 | 34.23 | 1.65 | 25.85 | 216 | 0.40 |
| 131 | 12.72 | 34.25   | 1.54 | 212 | 150 | 11.99 | 34.49 | 1.34 | 26.22 | 181 | 0.45 |
| 150 | 11.99 | 34.49   | 1.34 | 181 | 200 | 11.60 | 34.57 | 0.62 | 26.35 | 168 | 0.54 |
| 175 | 11.83 | 34.51   | 0.88 | 177 | 250 | 10.88 | 34.60 | 0.45 | 26.50 | 154 | 0.62 |
| 205 | 11.53 | 34.58   | 0.59 | 166 | 300 | 10.11 | 34.59 | 0.37 | 26.63 | 142 | 0.70 |
| 234 | 11.02 | 34.59   | 0.47 | 157 | 400 | 8.44  | 34.50 | 0.23 | 26.83 | 123 | 0.84 |
| 276 | 10.57 | 34.60   | 0.44 | 148 | 500 | 7.10  | 34.43 | 0.28 | 26.98 | 109 | 0.96 |
| 335 | 9.44  | 34.56   | 0.31 | 133 |     |       |       |      |       |     |      |
| 410 | 8.28  | 34.49   | 0.23 | 121 |     |       |       |      |       |     |      |
| 486 | 7.26  | 34.44   | 0.30 | 110 |     |       |       |      |       |     |      |
| 565 | 6.63  | 34.42   | 0.19 | 104 |     |       |       |      |       |     |      |

BLACK DOUGLAS; January 29, 1960; 2242, 2255 GCT; 24°42'N, 114°04'W; sounding, 1850 fm; wind, 320°, force 2; weather, overcast; sea, moderate; wire angle, 00°, 05°.

13750

|     |         |       |      |     |     |       |       |      |       |     |      |
|-----|---------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 19.26   | 34.33 | 5.11 | 348 | 0   | 19.26 | 34.33 | 5.11 | 24.46 | 348 | 0.00 |
| 9   | 19.02   | 34.33 | 5.09 | 342 | 10  | 19.01 | 34.33 | 5.09 | 24.53 | 342 | 0.03 |
| 30  | 18.64   | 34.22 | 5.12 | 341 | 20  | 18.82 | 34.27 | 5.11 | 24.54 | 341 | 0.07 |
| 55  | 18.58   | 34.20 | 5.11 | 341 | 30  | 18.64 | 34.22 | 5.12 | 24.54 | 341 | 0.10 |
| 65  | 18.35   | 34.19 | 5.22 | 336 | 50  | 18.59 | 34.21 | 5.11 | 24.54 | 341 | 0.17 |
| 75  | 18.03   | 34.11 | 5.22 | 334 | 75  | 18.03 | 34.11 | 5.22 | 24.61 | 334 | 0.26 |
| 90  | 15.62   | 33.83 | 4.42 | 301 | 100 | 14.36 | 33.94 | 3.06 | 25.31 | 267 | 0.33 |
| 106 | 14.36   | 33.99 | 2.96 | 263 | 125 | 12.63 | 33.97 | 2.45 | 25.68 | 232 | 0.40 |
|     |         |       |      |     | 150 | 12.04 | 34.18 | 1.80 | 25.96 | 205 | 0.45 |
| 132 | 12.56b) | 33.98 | 2.42 | 229 | 200 | 11.75 | 34.55 | 0.54 | 26.31 | 172 | 0.55 |
| 151 | 12.03   | 34.18 | 1.79 | 205 | 250 | 10.92 | 34.54 | 0.39 | 26.45 | 159 | 0.63 |
| 177 | 11.92   | 34.33 | 1.24 | 192 | 300 | 10.07 | 34.49 | 0.43 | 26.56 | 148 | 0.71 |
| 206 | 11.71   | 34.58 | 0.49 | 169 | 400 | 8.72  | 34.50 | 0.33 | 26.79 | 127 | 0.85 |
| 236 | 11.28   | 34.58 | 0.37 | 162 | 500 | 7.33  | 34.45 | 0.20 | 26.97 | 110 | 0.98 |
| 278 | 10.31   | 34.47 | 0.46 | 154 |     |       |       |      |       |     |      |
| 338 | 9.61    | 34.51 | 0.35 | 139 |     |       |       |      |       |     |      |
| 413 | 8.51    | 34.49 | 0.33 | 124 |     |       |       |      |       |     |      |
| 488 | 7.49    | 34.46 | 0.21 | 112 |     |       |       |      |       |     |      |
| 568 | 6.45    | 34.45 | 0.18 | 99  |     |       |       |      |       |     |      |

a) Salinity samples at 75 and 90 meters appear to have been reversed; they are assumed to be listed in correct order.

b) Alternate value, 12.76°C, not used in interpolation.



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

137.60

BLACK DOUGLAS; January 30, 1960; 0340 GCT; 24°23.5'N, 114°43'W; sounding, 1850 fm; wind, 320°, force 2; weather, partly cloudy; sea, moderate; wire angle, 05°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 19.08 | 34.22 | 4.98 | 352 | 0   | 19.08 | 34.22 | 4.98 | 24.42 | 352 | 0.00 |
| 10  | 19.08 | 34.22 | 5.07 | 352 | 10  | 19.08 | 34.22 | 5.07 | 24.42 | 352 | 0.04 |
| 30  | 19.02 | 34.23 | 5.14 | 349 | 20  | 19.06 | 34.23 | 5.12 | 24.43 | 351 | 0.07 |
| 55  | 19.00 | 34.25 | 5.10 | 347 | 30  | 19.02 | 34.23 | 5.14 | 24.45 | 349 | 0.11 |
| 65  | 18.98 | 34.25 | 5.21 | 347 | 50  | 19.00 | 34.25 | 5.10 | 24.47 | 347 | 0.17 |
| 76  | 18.23 | 34.08 | 5.02 | 341 | 75  | 18.26 | 34.07 | 5.04 | 24.52 | 342 | 0.26 |
| 89  | 14.61 | 33.69 | 4.98 | 290 | 100 | 14.15 | 33.83 | 4.32 | 25.27 | 271 | 0.34 |
| 104 | 13.82 | 33.86 | 4.00 | 262 | 125 | 12.07 | 33.92 | 3.08 | 25.75 | 225 | 0.40 |
| 130 | 12.04 | 33.95 | 2.97 | 222 | 150 | 11.45 | 34.14 | 1.95 | 26.05 | 197 | 0.46 |
| 149 | 11.46 | 34.14 | 1.96 | 198 | 200 | 10.91 | 34.47 | 0.79 | 26.40 | 164 | 0.55 |
| 175 | 11.15 | 34.34 | 1.36 | 177 | 250 | 10.53 | 34.51 | 0.59 | 26.50 | 154 | 0.63 |
| 205 | 10.88 | 34.47 | 0.77 | 163 | 300 | 9.81  | 34.52 | 0.49 | 26.63 | 142 | 0.71 |
| 237 | 10.76 | 34.51 | 0.58 | 158 | 400 | 8.96  | 34.52 | 0.35 | 26.77 | 128 | 0.85 |
| 275 | 10.14 | 34.51 | 0.60 | 148 | 500 | 7.66  | 34.45 | 0.31 | 26.91 | 115 | 0.98 |
| 334 | 9.46  | 34.52 | 0.39 | 137 |     |       |       |      |       |     |      |
| 409 | 8.88  | 34.52 | 0.35 | 127 |     |       |       |      |       |     |      |
| 484 | 7.84  | 34.45 | 0.32 | 118 |     |       |       |      |       |     |      |
| 565 | 7.00  | 34.45 | 0.29 | 106 |     |       |       |      |       |     |      |

137.70

BLACK DOUGLAS; January 30, 1960; 0829 GCT; 24°02'N, 115°19'W; sounding, 2000 fm; wind, 320°, force 3; weather, partly cloudy; sea, moderate; wire angle, 10°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 19.98 | 34.37 | 5.00 | 363 | 0   | (19.98) | (34.37) | (5.00) | (24.30) | (363) | (0.00) |
| 11  | 19.98 | 34.39 | 5.00 | 361 | 10  | 19.98   | 34.39   | 5.00   | 24.32   | 361   | 0.04   |
| 31  | 19.98 | 34.40 | 4.80 | 361 | 20  | 19.98   | 34.40   | 4.90   | 24.32   | 361   | 0.07   |
| 55  | 19.96 | 34.40 | 4.82 | 360 | 30  | 19.98   | 34.40   | 4.80   | 24.32   | 361   | 0.11   |
| 65  | 19.84 | 34.35 | 4.83 | 361 | 50  | 19.97   | 34.40   | 4.81   | 24.33   | 360   | 0.18   |
| 75  | 19.66 | 34.35 | 4.88 | 356 | 75  | 19.66   | 34.35   | 4.88   | 24.37   | 356   | 0.27   |
| 90  | 16.36 | 33.86 | 5.22 | 315 | 100 | 16.04   | 33.92   | 4.30   | 24.94   | 303   | 0.35   |
| 105 | 16.14 | 34.16 | 3.31 | 288 | 125 | 13.96   | 34.28   | 1.92   | 25.66   | 234   | 0.42   |
| 129 | 13.88 | 34.34 | 1.79 | 228 | 150 | 13.37   | 34.46   | 1.28   | 25.92   | 209   | 0.48   |
| 148 | 13.42 | 34.45 | 1.34 | 211 | 200 | 11.46   | 34.51   | 0.67   | 26.32   | 171   | 0.58   |
| 172 | 12.56 | 34.51 | 0.86 | 190 | 250 | 10.44   | 34.53   | 0.40   | 26.53   | 152   | 0.66   |
| 201 | 11.44 | 34.51 | 0.66 | 170 | 300 | 9.50    | 34.50   | 0.37   | 26.67   | 138   | 0.73   |
| 231 | 10.84 | 34.53 | 0.42 | 158 | 400 | 8.54    | 34.47   | 0.42   | 26.80   | 126   | 0.87   |
| 270 | 10.02 | 34.52 | 0.38 | 145 | 500 | 7.43    | 34.43   | 0.37   | 26.94   | 113   | 1.00   |
| 330 | 9.10  | 34.49 | 0.37 | 133 |     |         |         |        |         |       |        |
| 404 | 8.48  | 34.47 | 0.43 | 125 |     |         |         |        |         |       |        |
| 478 | 7.62  | -     | 0.40 | -   |     |         |         |        |         |       |        |
| 558 | 6.98  | 34.43 | 0.30 | 107 |     |         |         |        |         |       |        |

137.80

BLACK DOUGLAS; January 30, 1960; 1312 GCT; 23°40'N, 115°55'W; sounding, 2000+ fm; wind, 340°, force 2; weather, cloudy; sea, moderate; wire angle, 07°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 18.94 | 34.07 | 5.41 | 359 | 0   | (18.94) | (34.07) | (5.41) | (24.34) | (359) | (0.00) |
| 11  | 18.92 | 34.08 | 5.09 | 357 | 10  | 18.92   | 34.08   | 5.10   | 24.36   | 357   | 0.04   |
| 32  | 18.91 | 34.09 | 5.05 | 356 | 20  | 18.92   | 34.09   | 5.07   | 24.36   | 357   | 0.07   |
| 57  | 18.47 | 34.05 | 5.17 | 349 | 30  | 18.91   | 34.09   | 5.05   | 24.37   | 356   | 0.11   |
| 66  | 18.34 | 33.98 | 5.13 | 351 | 50  | 18.78   | 34.08   | 5.08   | 24.40   | 354   | 0.18   |
| 76  | 18.25 | 33.95 | 5.20 | 351 | 75  | 18.26   | 33.95   | 5.19   | 24.43   | 351   | 0.27   |
| 90  | 16.02 | 33.78 | 5.23 | 313 | 100 | 14.59   | 33.63   | 4.54   | 25.03   | 294   | 0.35   |
| 105 | 14.14 | 33.60 | 4.35 | 287 | 125 | 12.76   | 33.75   | 3.72   | 25.50   | 249   | 0.42   |
| 129 | 12.43 | 33.78 | 3.65 | 242 | 150 | 10.82   | 33.82   | 3.22   | 25.91   | 210   | 0.48   |
| 149 | 10.84 | 33.82 | 3.24 | 211 | 200 | 10.63   | 34.28   | 1.51   | 26.30   | 173   | 0.57   |
| 174 | 10.60 | 34.05 | 2.27 | 190 | 250 | 10.16   | 34.40   | 0.82   | 26.48   | 156   | 0.66   |
| 203 | 10.64 | 34.31 | 1.43 | 172 | 300 | 9.72    | 34.46   | 0.54   | 26.60   | 145   | 0.74   |
| 232 | 10.23 | 34.36 | 1.00 | 161 | 400 | 8.44    | 34.49   | 0.31   | 26.83   | 123   | 0.88   |
| 272 | 10.08 | 34.45 | 0.67 | 151 | 500 | 7.38    | 34.48   | 0.23   | 26.98   | 109   | 1.00   |
| 331 | 9.32  | 34.47 | 0.47 | 138 |     |         |         |        |         |       |        |
| 405 | 8.38  | 34.49 | 0.30 | 122 |     |         |         |        |         |       |        |
| 480 | 7.59  | 34.48 | 0.23 | 112 |     |         |         |        |         |       |        |
| 559 | 6.76  | 34.45 | 0.23 | 103 |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; January 28, 1960; 2203 GCT; 24°45.5'N, 112°24'W; sounding, 60 fm; wind, 340°, force 2; weather, cloudy; sea, rough; wire angle, 01°.

140.30

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 19.14 | 34.40 | 5.16 | 339 | 0   | (19.14) | (34.40) | (5.16) | (24.55) | (339) | (0.00) |
| 11  | 18.94 | 34.40 | 5.21 | 335 | 10  | 18.95   | 34.40   | 5.20   | 24.60   | 335   | 0.03   |
| 31  | 18.90 | 34.42 | 5.18 | 332 | 20  | 18.92   | 34.42   | 5.19   | 24.62   | 333   | 0.07   |
| 51  | 17.43 | 34.33 | 3.93 | 305 | 30  | 18.90   | 34.42   | 5.18   | 24.63   | 332   | 0.10   |
| 76  | 15.14 | 34.34 | 2.06 | 254 | 50  | 17.50   | 34.33   | 3.98   | 24.90   | 306   | 0.16   |
| 102 | 13.73 | 34.58 | 0.76 | 207 | 75  | 15.21   | 34.33   | 2.16   | 25.44   | 256   | 0.23   |
|     |       |       |      |     | 100 | 13.74   | 34.58   | 0.77   | 25.93   | 208   | 0.29   |

BLACK DOUGLAS; January 28, 1960; 2003 GCT; 24°35.5'N, 112°42.5'W; sounding, 200 fm; wind, 340°, force 3; weather, cloudy; sea, moderate; wire angle, 05°.

140.35

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 19.18 | 34.39 | 5.19 | 342 | 0   | 19.18 | 34.39 | 5.19 | 24.53 | 342 | 0.00 |
| 10  | 19.12 | 34.38 | 5.24 | 340 | 10  | 19.12 | 34.38 | 5.24 | 24.54 | 340 | 0.03 |
| 30  | 19.10 | 34.35 | 5.24 | 343 | 20  | 19.10 | 34.36 | 5.24 | 24.53 | 342 | 0.07 |
| 50  | 18.51 | 34.27 | 4.81 | 334 | 30  | 19.10 | 34.35 | 5.24 | 24.52 | 343 | 0.10 |
| 75  | 15.02 | 34.05 | 2.87 | 273 | 50  | 18.51 | 34.27 | 4.81 | 24.61 | 334 | 0.17 |
| 100 | 13.67 | 34.42 | 1.13 | 218 | 75  | 15.02 | 34.05 | 2.87 | 25.25 | 273 | 0.25 |
| 126 | 12.74 | 34.54 | 0.63 | 191 | 100 | 13.67 | 34.42 | 1.13 | 25.82 | 218 | 0.31 |
| 165 | 12.06 | 34.65 | 0.44 | 171 | 125 | 12.75 | 34.54 | 0.66 | 26.10 | 192 | 0.36 |
| 206 | 11.33 | 34.67 | 0.18 | 156 | 150 | 12.31 | 34.61 | 0.50 | 26.25 | 178 | 0.41 |
| 257 | 10.70 | 34.61 | 0.18 | 150 | 200 | 11.43 | 34.67 | 0.20 | 26.46 | 158 | 0.49 |
| 306 | 9.78  | 34.58 | 0.19 | 137 | 250 | 10.79 | 34.61 | 0.18 | 26.54 | 151 | 0.57 |
|     |       |       |      |     | 300 | 9.90  | 34.58 | 0.19 | 26.66 | 139 | 0.65 |

BLACK DOUGLAS; January 28, 1960; 1721 GCT; 24°25.5'N, 113°02'W; sounding, 1480 fm; wind, 340°, force 5; weather, cloudy; sea, rough; wire angle, 02°.

140.40

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 19.43 | 34.45 | 4.96 | 343 | 0   | (19.43) | (34.45) | (4.96) | (24.51) | (343) | (0.00) |
| 12  | 19.42 | 34.42 | 4.99 | 345 | 10  | 19.43   | 34.43   | 4.97   | 24.49   | 345   | 0.03   |
| 32  | 19.40 | 34.43 | 4.96 | 344 | 20  | 19.42   | 34.42   | 4.97   | 24.49   | 345   | 0.07   |
| 62  | 18.82 | 34.35 | 4.54 | 336 | 30  | 19.40   | 34.43   | 4.96   | 24.50   | 344   | 0.10   |
| 73  | 17.14 | 34.39 | 3.80 | 293 | 50  | 19.40   | 34.45   | 4.83   | 24.52   | 342   | 0.17   |
| 88  | 15.40 | 34.34 | 2.62 | 259 | 75  | 16.90   | 34.39   | 3.69   | 25.09   | 288   | 0.25   |
| 103 | 14.50 | 34.29 | 1.77 | 244 | 100 | 14.58   | 34.29   | 1.83   | 25.54   | 246   | 0.32   |
| 118 | 13.94 | 34.39 | 1.20 | 226 | 125 | 13.65   | 34.50   | 0.89   | 25.89   | 212   | 0.38   |
| 144 | 12.78 | 34.60 | 0.48 | 188 | 150 | 12.70   | 34.62   | 0.43   | 26.18   | 185   | 0.43   |
| 164 | 12.50 | 34.66 | 0.33 | 178 | 200 | 11.64   | 34.67   | 0.22   | 26.43   | 161   | 0.52   |
| 194 | 11.78 | 34.67 | 0.22 | 164 | 250 | 10.75   | 34.67   | 0.20   | 26.59   | 146   | 0.59   |
| 224 | 11.14 | 34.67 | 0.22 | 153 | 300 | 10.08   | 34.65   | 0.21   | 26.68   | 137   | 0.67   |
| 255 | 10.66 | 34.67 | 0.20 | 145 | 400 | 8.67    | 34.56   | 0.16   | 26.85   | 121   | 0.80   |
| 305 | 10.00 | 34.64 | 0.22 | 136 | 500 | 7.52    | 34.52   | 0.11   | 26.99   | 108   | 0.92   |
| 360 | 9.21  | 34.60 | 0.22 | 127 | 600 | 6.56    | 34.51   | 0.13   | 27.11   | 96    | 1.03   |
| 445 | 8.14  | 34.53 | 0.13 | 116 |     |         |         |        |         |       |        |
| 530 | 7.20  | 34.51 | 0.11 | 104 |     |         |         |        |         |       |        |
| 616 | 6.40  | 34.51 | 0.17 | 94  |     |         |         |        |         |       |        |

BLACK DOUGLAS; January 28, 1960; 1130 GCT; 24°05.5'N, 113°35'W; sounding, 1700 fm; wind, 340°, force 6; weather, missing; sea, rough; wire angle, 10°.

140.50

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 18.96 | 34.26 | 5.13 | 346 | 0   | (18.96) | (34.26) | (5.13) | (24.48) | (346) | (0.00) |
| 12  | 18.95 | 34.25 | 5.15 | 346 | 10  | 18.95   | 34.25   | 5.14   | 24.48   | 346   | 0.03   |
| 33  | 18.98 | 34.28 | 5.21 | 345 | 20  | 18.96   | 34.25   | 5.17   | 24.48   | 346   | 0.07   |
| 61  | 18.36 | 34.18 | 4.98 | 337 | 30  | 18.97   | 34.27   | 5.19   | 24.48   | 346   | 0.10   |
| 72  | 16.00 | 33.89 | 4.60 | 305 | 50  | 18.95   | 34.29   | 5.17   | 24.51   | 343   | 0.17   |
| 86  | 14.23 | 33.91 | 3.70 | 267 | 75  | 15.35   | 33.91   | 4.20   | 25.07   | 290   | 0.25   |
| 101 | 13.37 | 33.92 | 3.44 | 249 | 100 | 13.40   | 33.92   | 3.45   | 25.50   | 249   | 0.32   |
| 115 | 12.72 | 34.04 | 2.50 | 228 | 125 | 12.37   | 34.13   | 1.98   | 25.86   | 215   | 0.38   |
| 140 | 12.20 | 34.30 | 1.46 | 199 | 150 | 12.01   | 34.36   | 1.24   | 26.11   | 191   | 0.43   |
| 159 | 11.86 | 34.40 | 1.14 | 186 | 200 | 11.07   | 34.49   | 0.80   | 26.39   | 165   | 0.52   |
| 188 | 11.33 | 34.49 | 0.98 | 169 | 250 | 10.47   | 34.55   | 0.54   | 26.55   | 150   | 0.60   |
| 218 | 10.78 | 34.49 | 0.67 | 160 | 300 | 9.90    | 34.56   | 0.42   | 26.65   | 140   | 0.68   |
| 248 | 10.51 | 34.55 | 0.56 | 151 | 400 | 8.58    | 34.52   | 0.29   | 26.83   | 123   | 0.81   |
| 297 | 9.94  | 34.56 | 0.43 | 141 | 500 | 7.41    | 34.48   | 0.26   | 26.97   | 109   | 0.94   |
| 350 | 9.44  | 34.59 | 0.26 | 131 | 600 | 6.44    | 34.43   | 0.22   | 27.07   | 100   | 1.05   |
| 433 | 8.14  | 34.50 | 0.31 | 118 |     |         |         |        |         |       |        |
| 519 | 7.19  | 34.47 | 0.26 | 107 |     |         |         |        |         |       |        |
| 604 | 6.42  | 34.43 | 0.22 | 100 |     |         |         |        |         |       |        |



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

140.60

BLACK DOUGLAS; January 28, 1960; 0323, 0503 GCT; 23°45.5'N, 114°17.5'W; sounding, 1750 fm; wind, 340°, force 5; weather, cloudy; sea, very rough; wire angle, 20°, 12°.

|       |         |         |      |     |      |         |         |        |         |       |        |
|-------|---------|---------|------|-----|------|---------|---------|--------|---------|-------|--------|
| 1     | 19.22   | 34.27   | 4.92 | 351 | 0    | (19.22) | (34.27) | (4.92) | (24.43) | (351) | (0.00) |
| 10    | 19.20   | 34.27   | 5.44 | 351 | 10   | 19.20   | 34.27   | 5.44   | 24.43   | 351   | 0.04   |
| 29    | 19.22   | 34.29   | 5.41 | 350 | 20   | 19.22   | 34.28   | 5.43   | 24.44   | 350   | 0.07   |
| 58    | 19.18   | 34.25   | 4.89 | 352 | 30   | 19.22   | 34.29   | 5.41   | 24.44   | 350   | 0.10   |
| 67    | 18.98   | 34.23   | 4.49 | 348 | 50   | 19.20   | 34.27   | 5.04   | 24.43   | 351   | 0.18   |
| 81    | 15.42   | 33.80   | 4.12 | 299 | 75   | 18.60   | 34.18   | 4.38   | 24.53   | 342   | 0.26   |
| 96    | 14.46   | 33.99   | 2.39 | 265 | 100  | 14.29   | 34.02   | 2.11   | 25.39   | 259   | 0.34   |
| 109   | 13.91   | 34.09   | 1.54 | 247 | 125  | 13.44   | 34.25   | 0.67   | 25.74   | 226   | 0.40   |
| 133   | 13.06a) | 34.26   | 0.43 | 218 | 150  | 13.07   | 34.43   | 0.34   | 25.96   | 205   | 0.46   |
| 151   | 13.07   | 34.44   | 0.34 | 205 | 200  | 11.92   | 34.59   | 0.24   | 26.31   | 172   | 0.55   |
| 179   | 12.19   | 34.55   | 0.28 | 180 | 250  | 10.96   | 34.58   | 0.12   | 26.48   | 156   | 0.64   |
| 207   | 11.82   | 34.60   | 0.23 | 170 | 300  | 10.30   | 34.59   | 0.10   | 26.60   | 145   | 0.71   |
| 236   | 11.18   | 34.58   | 0.15 | 160 | 400  | 9.02    | 34.53   | 0.19   | 26.76   | 129   | 0.86   |
| 283   | 10.48   | 34.58   | 0.10 | 148 | 500  | 7.62    | 34.49   | 0.10   | 26.96   | 111   | 0.98   |
| 335   | 9.94    | 34.59   | 0.10 | 139 | 600  | 6.58    | 34.46   | 0.11   | 27.07   | 100   | 1.09   |
| 415   | 8.82    | 34.51   | 0.20 | 127 | 700  | 5.66    | 34.47   | 0.14   | 27.20   | 88    | 1.19   |
| 496   | 7.62    | 34.50   | 0.09 | 111 | 800  | 5.17    | 34.48   | 0.17   | 27.26   | 82    | 1.29   |
| 578   | 6.88    | 34.46   | 0.10 | 104 | 1000 | 4.32    | 34.53   | 0.30   | 27.40   | 69    | 1.45   |
|       |         |         |      |     | 1200 | 3.64    | 34.57   | 0.55   | 27.50   | 59    | 1.60   |
| 389b) | 9.20    | 34.55 5 | 0.18 | 130 | 1500 | 2.99    | 34.59   | 0.95   | 27.58   | 52    | 1.80   |
| 486   | 7.86    | 34.48 7 | 0.10 | 115 | 2000 | 2.13    | 34.64   | 1.77   | 27.69   | 41    | 2.08   |
| 583   | 6.76    | 34.47 7 | 0.16 | 100 | 2500 | 1.81    | 34.67   | 2.18   | 27.74   | 37    | 2.32   |
| 680   | 5.79    | 34.47 1 | 0.14 | 89  | 3000 | 1.64    | 34.67   | 2.50   | 27.76   | 35    | 2.55   |
| 777   | 5.28    | 34.47 6 | 0.16 | 83  |      |         |         |        |         |       |        |
| 974   | 4.42    | 34.51 3 | 0.27 | 71  |      |         |         |        |         |       |        |
| 1166  | 3.74    | 34.56 6 | 0.51 | 60  |      |         |         |        |         |       |        |
| 1367  | 3.25    | 34.57 8 | 0.78 | 55  |      |         |         |        |         |       |        |
| 1559  | 2.89    | 34.59 9 | 1.00 | 50  |      |         |         |        |         |       |        |
| 1761  | 2.50    | 34.62 0 | 1.39 | 45  |      |         |         |        |         |       |        |
| 1960  | 2.18    | 34.63 0 | 1.70 | 42  |      |         |         |        |         |       |        |
| 2155  | 2.00    | 34.64 8 | 1.98 | 39  |      |         |         |        |         |       |        |
| 2353  | 1.88    | 34.66 3 | 2.15 | 37  |      |         |         |        |         |       |        |
| 2551  | 1.80    | 34.66 7 | 2.25 | 36  |      |         |         |        |         |       |        |
| 2750  | 1.74    | 34.66 4 | 2.41 | 36  |      |         |         |        |         |       |        |
| 2951  | 1.66    | 34.66 8 | 2.38 | 35  |      |         |         |        |         |       |        |
| 3050  | 1.64    | 34.66 8 | 2.59 | 35  |      |         |         |        |         |       |        |
| 3150  | 1.64    | 34.66 9 | 2.56 | 35  |      |         |         |        |         |       |        |

143.26

BLACK DOUGLAS; January 27, 1960; 0400 GCT; 24°19'N, 111°48'W; sounding, 40 fm; wind, 300°, force 4; weather, partly cloudy; sea, rough; wire angle, 01°.

|    |       |       |      |     |    |       |       |      |       |     |      |
|----|-------|-------|------|-----|----|-------|-------|------|-------|-----|------|
| 0  | 19.49 | 34.60 | 5.10 | 334 | 0  | 19.49 | 34.60 | 5.10 | 24.61 | 334 | 0.00 |
| 10 | 19.50 | 34.61 | 5.08 | 333 | 10 | 19.50 | 34.61 | 5.08 | 24.62 | 333 | 0.03 |
| 30 | 19.21 | 34.60 | 4.90 | 327 | 20 | 19.40 | 34.61 | 4.98 | 24.64 | 331 | 0.07 |
| 50 | 18.98 | 34.55 | 4.88 | 325 | 30 | 19.21 | 34.60 | 4.90 | 24.68 | 327 | 0.10 |
|    |       |       |      |     | 50 | 18.98 | 34.55 | 4.88 | 24.70 | 325 | 0.16 |

143.30

BLACK DOUGLAS; January 27, 1960; 0557 GCT; 24°11'N, 112°03'W; sounding, 105 fm; wind, 300°, force 5; weather, partly cloudy; sea, very rough; wire angle, 02°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 19.00 | 34.52 | 5.19 | 328 | 0   | 19.00 | 34.54 | 5.19 | 24.67 | 328 | 0.00 |
| 10  | 19.00 | 34.54 | 5.05 | 326 | 10  | 19.00 | 34.52 | 5.05 | 24.69 | 326 | 0.03 |
| 30  | 19.00 | 34.53 | 5.13 | 327 | 20  | 19.00 | 34.53 | 5.09 | 24.69 | 326 | 0.07 |
| 50  | 18.46 | 34.54 | 4.78 | 313 | 30  | 19.00 | 34.53 | 5.13 | 24.68 | 327 | 0.10 |
| 75  | 17.16 | 34.48 | 3.12 | 287 | 50  | 18.46 | 34.54 | 4.78 | 24.83 | 313 | 0.16 |
| 100 | 15.40 | 34.50 | 1.58 | 248 | 75  | 17.16 | 34.48 | 1.61 | 25.10 | 287 | 0.24 |
| 125 | 13.91 | 34.63 | 0.59 | 207 | 100 | 15.40 | 34.50 | 1.58 | 25.51 | 248 | 0.30 |
| 155 | 12.50 | -     | 0.26 | -   | 125 | 13.91 | 34.63 | 0.59 | 25.94 | 207 | 0.36 |
|     |       |       |      |     | 150 | 12.70 |       | 0.29 |       |     |      |

a) Alternate value, 12.91°C, not used in interpolation.

b) Overlapping casts; reconciliation of property curves when necessary.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; January 27, 1960; 0838 GCT; 24°01'N, 112°22'W; sounding, 500 fm; wind, 290°, force 5; weather, partly cloudy; sea, rough; wire angle, 06°.

143.35

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 19.32 | 34.38 | 4.99 | 345 | 0   | (19.32) | (34.38) | (4.99) | (24.49) | (345) | (0.00) |
| 10  | 19.34 | 34.34 | 4.80 | 349 | 10  | 19.34   | 34.34   | 4.80   | 24.45   | 349   | 0.03   |
| 31  | 19.36 | 34.37 | 5.05 | 348 | 20  | 19.36   | 34.36   | 5.00   | 24.46   | 348   | 0.07   |
| 62  | 18.00 | 34.16 | 4.93 | 330 | 30  | 19.36   | 34.37   | 5.04   | 24.46   | 348   | 0.10   |
| 71  | 16.01 | 33.94 | 4.66 | 301 | 50  | 19.10   | 34.33   | 5.02   | 24.50   | 344   | 0.17   |
| 85  | 15.22 | 33.86 | 4.19 | 290 | 75  | 15.76   | 33.91   | 4.54   | 24.98   | 298   | 0.25   |
| 100 | 13.96 | 34.09 | 2.75 | 248 | 100 | 13.96   | 34.09   | 2.75   | 25.51   | 248   | 0.32   |
| 115 | 13.30 | 34.21 | 2.07 | 226 | 125 | 13.20   | 34.35   | 1.63   | 25.87   | 214   | 0.38   |
| 140 | 12.66 | 34.41 | 1.17 | 200 | 150 | 12.45   | 34.46   | 0.97   | 26.10   | 192   | 0.43   |
| 160 | 12.26 | 34.50 | 0.83 | 186 | 200 | 11.54   | 34.65   | 0.47   | 26.43   | 161   | 0.52   |
| 190 | 11.68 | 34.62 | 0.56 | 166 | 250 | 10.71   | 34.60   | 0.42   | 26.54   | 151   | 0.60   |
| 220 | 11.28 | 34.67 | 0.36 | 155 | 300 | 10.05   | 34.56   | 0.33   | 26.62   | 143   | 0.68   |
| 251 | 10.70 | 34.60 | 0.43 | 151 | 400 | 8.29    | 34.50   | 0.28   | 26.87   | 119   | 0.82   |
| 300 | 10.05 | 34.56 | 0.33 | 143 | 500 | 7.09    | 34.47   | 0.25   | 27.02   | 105   | 0.93   |
| 355 | 8.92  | 34.52 | 0.34 | 128 | 600 | 6.29    | 34.45   | 0.22   | 27.11   | 96    | 1.04   |
| 439 | 7.78  | 34.49 | 0.23 | 114 |     |         |         |        |         |       |        |
| 524 | 6.84  | 34.47 | 0.26 | 103 |     |         |         |        |         |       |        |
| 609 | 6.22  | 34.45 | 0.21 | 96  |     |         |         |        |         |       |        |

BLACK DOUGLAS; January 27, 1960; 1143 GCT; 23°50.5'N, 112°41'W; sounding, 1500 fm; wind, 290°, force 5; weather, missing; sea, rough; wire angle, 21°.

143.40

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 19.44 | 34.43 | 5.33 | 345 | 0   | (19.44) | (34.43) | (5.33) | (24.49) | (345) | (0.00) |
| 10  | 19.46 | 34.45 | 5.33 | 344 | 10  | 19.46   | 34.45   | 5.33   | 24.50   | 344   | 0.03   |
| 29  | 19.42 | 34.47 | 5.15 | 342 | 20  | 19.44   | 34.47   | 5.20   | 24.52   | 342   | 0.07   |
| 56  | 19.14 | 34.49 | 5.15 | 333 | 30  | 19.42   | 34.47   | 5.15   | 24.53   | 341   | 0.10   |
| 65  | 19.07 | 34.44 | 4.89 | 335 | 50  | 19.21   | 34.49   | 5.15   | 24.60   | 335   | 0.17   |
| 78  | 17.12 | 34.21 | 3.88 | 306 | 75  | 18.25   | 34.33   | 4.35   | 24.73   | 323   | 0.25   |
| 91  | 14.60 | 34.05 | 3.03 | 264 | 100 | 13.60   | 34.04   | 2.77   | 25.55   | 244   | 0.33   |
| 104 | 13.37 | 34.04 | 2.71 | 240 | 125 | 12.95   | 34.25   | 1.94   | 25.84   | 217   | 0.38   |
| 126 | 12.94 | 34.26 | 1.89 | 216 | 150 | 12.78   | 34.46   | 1.14   | 26.04   | 198   | 0.44   |
| 143 | 12.90 | 34.45 | 1.18 | 201 | 200 | 11.66   | 34.55   | 0.70   | 26.32   | 171   | 0.53   |
| 168 | 12.24 | 34.46 | 1.09 | 188 | 250 | 10.88   | 34.61   | 0.30   | 26.52   | 153   | 0.61   |
| 194 | 11.76 | 34.52 | 0.82 | 175 | 300 | 10.07   | 34.57   | 0.38   | 26.63   | 142   | 0.69   |
| 220 | 11.34 | 34.61 | 0.41 | 161 | 400 | 8.88    | 34.54   | 0.23   | 26.80   | 126   | 0.83   |
| 264 | 10.67 | 34.61 | 0.30 | 150 | 500 | 7.64    | 34.50   | 0.21   | 26.96   | 111   | 0.95   |
| 312 | 9.89  | 34.56 | 0.39 | 140 |     |         |         |        |         |       |        |
| 388 | 9.02  | 34.54 | 0.23 | 128 |     |         |         |        |         |       |        |
| 472 | 8.00  | 34.51 | 0.23 | 115 |     |         |         |        |         |       |        |
| 550 | 7.02  | 34.47 | 0.10 | 105 |     |         |         |        |         |       |        |

BLACK DOUGLAS; January 27, 1960; 1640 GCT; 23°33.5'N, 113°19'W; sounding, 1700 fm; wind, 360°, force 5; weather, partly cloudy; sea, rough; wire angle, 14°.

143.50

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 20.98 | 34.63 | 4.74 | 369 | 0   | (20.98) | (34.63) | (4.74) | (24.24) | (369) | (0.00) |
| 12  | 20.97 | 34.60 | 4.90 | 371 | 10  | 20.97   | 34.61   | 4.87   | 24.22   | 371   | 0.04   |
| 31  | 20.98 | 34.61 | 4.86 | 370 | 20  | 20.97   | 34.61   | 4.88   | 24.22   | 371   | 0.07   |
| 60  | 21.00 | 34.60 | 4.83 | 372 | 30  | 20.98   | 34.61   | 4.86   | 24.22   | 371   | 0.11   |
| 70  | 20.98 | 34.58 | 4.91 | 373 | 50  | 21.00   | 34.60   | 4.84   | 24.21   | 371   | 0.19   |
| 85  | 17.36 | 34.22 | 3.43 | 311 | 75  | 20.90   | 34.57   | 4.90   | 24.21   | 371   | 0.28   |
| 99  | 15.90 | 34.11 | 3.38 | 287 | 100 | 15.78   | 34.09   | 3.38   | 25.12   | 285   | 0.36   |
| 113 | 13.98 | 33.92 | 3.40 | 261 | 125 | 13.32   | 34.08   | 2.68   | 25.64   | 236   | 0.43   |
| 138 | 12.84 | 34.23 | 1.93 | 216 | 150 | 12.49   | 34.34   | 1.38   | 26.00   | 202   | 0.48   |
| 157 | 12.30 | 34.39 | 1.14 | 194 | 200 | 11.43   | 34.53   | 0.65   | 26.35   | 168   | 0.58   |
| 187 | 11.63 | 34.52 | 0.76 | 173 | 250 | 10.89   | 34.61   | 0.37   | 26.52   | 152   | 0.66   |
| 216 | 11.24 | 34.54 | 0.52 | 164 | 300 | 10.03   | 34.53   | 0.36   | 26.60   | 145   | 0.74   |
| 246 | 10.96 | 34.62 | 0.37 | 154 | 400 | 8.72    | 34.53   | 0.32   | 26.82   | 124   | 0.88   |
| 295 | 10.11 | 34.53 | 0.37 | 146 | 500 | 7.31    | 34.43   | 0.25   | 26.95   | 111   | 1.00   |
| 350 | 9.54  | 34.56 | 0.27 | 134 | 600 | 6.41    | 34.43   | 0.21   | 27.07   | 100   | 1.11   |
| 432 | 8.21  | 34.50 | 0.32 | 119 |     |         |         |        |         |       |        |
| 516 | 7.12  | 34.42 | 0.24 | 110 |     |         |         |        |         |       |        |
| 601 | 6.40  | 34.43 | 0.21 | 100 |     |         |         |        |         |       |        |



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

143.60

BLACK DOUGLAS; January 27, 1960; 2150 GCT; 23°10.5'N, 113°55.5'W; sounding, 1800 fm; wind, 320°, force 4; weather, cloudy; sea, very rough; wire angle, 05°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 21.49 | 34.61 | 4.75 | 384 | 0   | (21.49) | (34.61) | (4.75) | (24.08) | (384) | (0.00) |
| 11  | 21.48 | 34.60 | 4.91 | 384 | 10  | 21.48   | 34.60   | 4.90   | 24.08   | 384   | 0.04   |
| 31  | 21.07 | 34.60 | 4.82 | 374 | 20  | 21.45   | 34.60   | 4.90   | 24.09   | 383   | 0.08   |
| 62  | 20.88 | 34.56 | 4.74 | 372 | 30  | 21.10   | 34.60   | 4.83   | 24.19   | 374   | 0.11   |
| 71  | 18.70 | 34.27 | 3.97 | 339 | 50  | 20.95   | 34.58   | 4.76   | 24.21   | 372   | 0.19   |
| 86  | 16.16 | 34.07 | 3.44 | 295 | 75  | 17.62   | 34.16   | 3.76   | 24.75   | 321   | 0.28   |
| 101 | 14.97 | 34.23 | 2.00 | 258 | 100 | 15.07   | 34.23   | 2.07   | 25.38   | 260   | 0.35   |
| 117 | 14.02 | 34.37 | 1.38 | 229 | 125 | 13.80   | 34.47   | 0.95   | 25.84   | 217   | 0.41   |
| 142 | 13.38 | 34.61 | 0.43 | 198 | 150 | 13.09   | 34.64   | 0.45   | 26.11   | 191   | 0.46   |
| 161 | 12.80 | 34.66 | 0.47 | 184 | 200 | 12.28   | 34.76   | 0.22   | 26.37   | 166   | 0.55   |
| 191 | 12.41 | 34.74 | 0.29 | 171 | 250 | 11.31   | 34.68   | 0.14   | 26.49   | 155   | 0.64   |
| 222 | 11.88 | 34.77 | 0.12 | 159 | 300 | 10.66   | 34.62   | 0.11   | 26.57   | 148   | 0.72   |
| 255 | 11.22 | 34.67 | 0.14 | 154 | 400 | 8.88    | 34.55   | 0.14   | 26.80   | 126   | 0.86   |
| 305 | 10.60 | 34.62 | 0.10 | 147 | 500 | 7.49    | 34.44   | 0.14   | 26.94   | 113   | 0.98   |
| 360 | 9.72  | 34.61 | 0.11 | 134 | 600 | 6.60    | 34.45   | 0.14   | 27.06   | 101   | 1.09   |
| 446 | 8.04  | 34.47 | 0.18 | 119 |     |         |         |        |         |       |        |
| 531 | 7.22  | 34.44 | 0.13 | 110 |     |         |         |        |         |       |        |
| 616 | 6.45  | 34.45 | 0.16 | 99  |     |         |         |        |         |       |        |

147.20

BLACK DOUGLAS; January 26, 1960; 2248 GCT; 23°56'N, 111°03.5'W; sounding, 70 fm; wind, 300°, force 3; weather, partly cloudy; sea, moderate; wire angle, 04°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 21.28 | 34.69 | 5.00 | 373 | 0   | 21.28 | 34.69 | 5.00 | 24.20 | 373 | 0.00 |
| 11  | 21.20 | 34.68 | 4.98 | 372 | 10  | 21.21 | 34.68 | 4.99 | 24.21 | 372 | 0.04 |
| 31  | 20.48 | 34.67 | 4.38 | 353 | 20  | 21.10 | 34.68 | 4.90 | 24.24 | 369 | 0.07 |
| 51  | 18.68 | 34.59 | 3.16 | 315 | 30  | 20.58 | 34.67 | 4.46 | 24.38 | 356 | 0.11 |
| 76  | 17.20 | 34.52 | 2.28 | 285 | 50  | 18.72 | 34.59 | 3.17 | 24.81 | 315 | 0.18 |
| 101 | 15.28 | 34.60 | 1.23 | 238 | 75  | 17.22 | 34.52 | 2.30 | 25.11 | 286 | 0.25 |
|     |       |       |      |     | 100 | 15.29 | 34.60 | 1.24 | 25.62 | 238 | 0.32 |

147.25

BLACK DOUGLAS; January 26, 1960; 2040 GCT; 23°49'N, 111°17'W; sounding, 250 fm; wind, 330°, force 5; weather, cloudy; sea, rough; wire angle, 06°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 21.07 | 34.68 | 4.87 | 368 | 0   | (21.07) | (34.68) | (4.87) | (24.25) | (368) | (0.00) |
| 12  | 21.05 | 34.68 | 4.94 | 367 | 10  | 21.05   | 34.68   | 4.93   | 24.26   | 367   | 0.04   |
| 32  | 20.28 | 34.61 | 4.90 | 353 | 20  | 21.05   | 34.68   | 4.94   | 24.26   | 367   | 0.07   |
| 52  | 18.88 | 34.52 | 3.89 | 325 | 30  | 20.45   | 34.63   | 4.93   | 24.38   | 356   | 0.11   |
| 77  | 16.18 | 34.36 | -    | 274 | 50  | 18.91   | 34.52   | 3.94   | 24.69   | 326   | 0.18   |
| 102 | 14.45 | 34.65 | 0.98 | 217 | 75  | 16.38   | 34.37   |        | 25.19   | 278   | 0.25   |
| 126 | 13.73 | 34.74 | 0.61 | 195 | 100 | 14.52   | 34.64   | 1.01   | 25.81   | 219   | 0.32   |
| 167 | 12.80 | 34.72 | 0.39 | 179 | 125 | 13.75   | 34.74   | 0.63   | 26.06   | 196   | 0.37   |
| 207 | 12.04 | 34.78 | 0.26 | 161 | 150 | 13.15   | 34.73   | 0.45   | 26.17   | 185   | 0.42   |
| 257 | 11.04 | 34.72 | 0.13 | 148 | 200 | 12.17   | 34.78   | 0.28   | 26.41   | 163   | 0.51   |
| 307 | 10.24 | 34.67 | 0.22 | 138 | 250 | 11.17   | 34.73   | 0.15   | 26.56   | 149   | 0.59   |
| 415 | 9.02  | 34.63 | 0.20 | 122 | 300 | 10.33   | 34.67   | 0.21   | 26.66   | 139   | 0.66   |
|     |       |       |      |     | 400 | 9.16    | 34.63   | 0.20   | 26.83   | 123   | 0.80   |

147.30

BLACK DOUGLAS; January 26, 1960; 1718 GCT; 23°36.5'N, 111°37.5'W; sounding, 145 fm; wind, 330°, force 5; weather, cloudy; sea, rough; wire angle, 13°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 19.92 | 34.59 | 5.31 | 345 | 0   | 19.92 | 34.59 | 5.31 | 24.49 | 345 | 0.00 |
| 10  | 19.90 | 34.58 | 5.21 | 346 | 10  | 19.90 | 34.58 | 5.21 | 24.48 | 346 | 0.03 |
| 30  | 19.89 | 34.60 | 5.26 | 344 | 20  | 19.90 | 34.59 | 5.24 | 24.50 | 344 | 0.07 |
| 49  | 18.81 | 34.43 | 4.21 | 330 | 30  | 19.89 | 34.60 | 5.26 | 24.50 | 344 | 0.10 |
| 73  | 16.11 | 34.22 | 2.94 | 283 | 50  | 18.72 | 34.42 | 4.11 | 24.67 | 328 | 0.17 |
| 107 | 13.74 | 34.14 | 2.54 | 240 | 75  | 15.86 | 34.20 | 2.89 | 25.18 | 279 | 0.25 |
| 122 | 13.14 | 34.42 | 1.40 | 208 | 100 | 14.03 | 34.14 | 2.60 | 25.53 | 246 | 0.31 |
| 161 | 12.96 | 34.72 | 0.45 | 182 | 125 | 13.10 | 34.47 | 1.24 | 25.98 | 204 | 0.37 |
| 201 | 12.14 | 34.71 | 0.42 | 168 | 150 | 13.01 | 34.67 | 0.54 | 26.16 | 187 | 0.42 |
|     |       |       |      |     | 200 | 12.16 | 34.71 | 0.42 | 26.35 | 168 | 0.51 |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; January 26, 1960; 1150 GCT; 23°16'N, 112°19'W; sounding, 1600 fm; wind, 330°, force 4; weather, cloudy; sea, rough; wire angle, 16°.

147.40

|     |       |       |      |     |     |        |         |      |         |      |        |
|-----|-------|-------|------|-----|-----|--------|---------|------|---------|------|--------|
| 0   | 20.76 | 34.58 | 5.23 | 367 | 0   | 20.76  | 34.58   | 5.23 | 24.26   | 367  | 0.00   |
| 10  | 20.78 | 34.61 | 5.10 | 366 | 10  | 20.78  | 34.61   | 5.10 | 24.27   | 366  | 0.04   |
| 29  | 20.68 | 34.60 | 5.15 | 363 | 20  | 20.76  | 34.61   | 5.12 | 24.28   | 365  | 0.07   |
| 38  | 19.74 | 34.37 | 5.11 | 357 | 30  | 20.65  | 34.59   | 5.15 | 24.30   | 363  | 0.11   |
| 53  | 19.68 | 34.42 | 5.15 | 352 | 50  | 19.70  | 34.41   | 5.14 | 24.41   | 353  | 0.18   |
| 68  | 18.87 | 34.32 | 3.85 | 339 | 75  | 16.80  | 34.07   | 3.90 | 24.87   | 309  | 0.26   |
| 91  | 14.47 | 33.91 | 3.98 | 271 | 100 | 13.69  | 33.96   | 3.47 | 25.47   | 252  | 0.34   |
| 110 | 13.30 | 34.09 | 2.70 | 235 | 125 | 13.22  | 34.39   | 1.38 | 25.90   | 211  | 0.39   |
| 128 | 13.28 | 34.43 | 1.30 | 210 | 150 | 12.91  | 34.55   | 0.70 | 26.08   | 194  | 0.45   |
| 147 | 13.00 | 34.53 | 0.77 | 197 | 200 | 11.82  | 34.66   | 0.30 | 26.38   | 166  | 0.54   |
| 174 | 12.37 | 34.61 | 0.49 | 179 | 250 | 10.91  | 34.65   | 0.30 | 26.54   | 150  | 0.62   |
| 209 | 11.62 | 34.66 | 0.29 | 162 | 300 | 10.23  | 34.67   | 0.30 | 26.67   | 138  | 0.69   |
| 239 | 11.08 | 34.65 | 0.29 | 153 | 400 | 8.52   | 34.59   | 0.18 | 26.90   | 116  | 0.82   |
| 286 | 10.46 | 34.67 | 0.31 | 141 | 500 | 7.30   | 34.54   | 0.22 | 27.04   | 103  | 0.94   |
| 339 | 9.56  | 34.64 | 0.24 | 129 | 600 | (6.43) | (34.52) |      | (27.14) | (93) | (1.04) |
| 420 | 8.24  | 34.58 | 0.17 | 114 |     |        |         |      |         |      |        |
| 504 | 7.25  | 34.54 | 0.22 | 103 |     |        |         |      |         |      |        |
| 588 | 6.52  | 34.52 | 0.22 | 94  |     |        |         |      |         |      |        |

BLACK DOUGLAS; January 26, 1960; 0559 GCT; 22°55.5'N, 112°56.5'W; sounding, 1840 fm; wind, 320°, force 3; weather, partly cloudy; sea, rough; wire angle, 05°.

147.50

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 21.36 | 34.66 | 5.08 | 377 | 0   | 21.36 | 34.66 | 5.08 | 24.15 | 377 | 0.00 |
| 10  | 21.36 | 34.65 | 5.06 | 378 | 10  | 21.36 | 34.65 | 5.06 | 24.14 | 378 | 0.04 |
| 30  | 21.32 | 34.65 | 5.04 | 376 | 20  | 21.33 | 34.65 | 5.05 | 24.15 | 377 | 0.08 |
| 60  | 21.32 | 34.65 | 4.99 | 376 | 30  | 21.32 | 34.65 | 5.04 | 24.16 | 376 | 0.11 |
| 70  | 21.27 | 34.65 | 4.82 | 375 | 50  | 21.32 | 34.65 | 5.01 | 24.16 | 376 | 0.19 |
| 85  | 19.20 | 34.60 | 3.01 | 327 | 75  | 21.22 | 34.65 | 4.74 | 24.19 | 374 | 0.28 |
| 100 | 18.28 | 34.85 | 1.99 | 287 | 100 | 18.28 | 34.85 | 1.99 | 25.10 | 287 | 0.37 |
| 116 | 17.12 | 34.87 | 1.67 | 258 | 125 | 16.52 | 34.87 | 1.47 | 25.55 | 244 | 0.43 |
| 141 | 15.60 | 34.86 | 1.12 | 225 | 150 | 15.00 | 34.84 | 0.93 | 25.86 | 215 | 0.49 |
| 161 | 14.34 | 34.81 | 0.72 | 203 | 200 | 12.81 | 34.80 | 0.36 | 26.30 | 173 | 0.59 |
| 191 | 13.08 | 34.81 | 0.43 | 178 | 250 | 11.57 | 34.68 | 0.29 | 26.44 | 160 | 0.68 |
| 221 | 12.26 | 34.77 | 0.26 | 166 | 300 | 11.03 | 34.75 | 0.22 | 26.60 | 145 | 0.76 |
| 252 | 11.54 | 34.68 | 0.29 | 159 | 400 | 9.17  | 34.60 | 0.18 | 26.80 | 126 | 0.90 |
| 303 | 10.98 | 34.76 | 0.21 | 143 | 500 | 7.85  | 34.56 | 0.19 | 26.98 | 109 | 1.02 |
| 357 | 9.95  | 34.66 | 0.22 | 134 | 600 | 6.81  | 34.53 | 0.20 | 27.09 | 98  | 1.13 |
| 442 | 8.56  | 34.57 | 0.16 | 119 |     |       |       |      |       |     |      |
| 527 | 7.57  | 34.56 | 0.20 | 106 |     |       |       |      |       |     |      |
| 612 | 6.70  | 34.52 | 0.20 | 97  |     |       |       |      |       |     |      |

BLACK DOUGLAS; January 26, 1960; 0028 GCT; 22°35.5'N, 113°35'W; sounding, 2000 fm; wind, 320°, force 2; weather, cloudy; sea, rough; wire angle, 06°.

147.60

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 22.49 | 34.73 | 4.84 | 402 | 0   | 22.49 | 34.73 | 4.84 | 23.89 | 402 | 0.00 |
| 10  | 22.36 | 34.76 | 4.76 | 397 | 10  | 22.36 | 34.76 | 4.76 | 23.95 | 397 | 0.04 |
| 30  | 22.28 | 34.76 | 4.73 | 394 | 20  | 22.32 | 34.76 | 4.75 | 23.97 | 395 | 0.08 |
| 56  | 21.72 | 34.72 | 4.40 | 382 | 30  | 22.28 | 34.76 | 4.73 | 23.98 | 394 | 0.12 |
| 66  | 20.98 | 34.67 | 3.82 | 366 | 50  | 21.97 | 34.74 | 4.60 | 24.05 | 387 | 0.20 |
| 76  | 19.22 | 34.52 | 2.95 | 333 | 75  | 19.40 | 34.53 | 3.04 | 24.59 | 336 | 0.29 |
| 91  | 17.25 | 34.51 | 1.78 | 287 | 100 | 17.09 | 34.52 | 1.65 | 25.14 | 283 | 0.37 |
| 106 | 16.64 | 34.51 | 1.27 | 274 | 125 | 15.02 | 34.58 | 0.60 | 25.66 | 234 | 0.43 |
| 131 | 14.56 | 34.63 | 0.47 | 220 | 150 | 14.00 | 34.80 | 0.15 | 26.06 | 196 | 0.49 |
| 152 | 13.94 | 34.81 | 0.14 | 194 | 200 | 12.18 | 34.72 | 0.18 | 26.36 | 168 | 0.58 |
| 176 | 13.09 | 34.76 | 0.16 | 182 | 250 | 11.59 | 34.77 | 0.10 | 26.52 | 153 | 0.66 |
| 206 | 12.05 | 34.72 | 0.18 | 166 | 300 | 10.78 | 34.70 | 0.10 | 26.61 | 144 | 0.74 |
| 236 | 11.78 | 34.79 | 0.11 | 155 | 400 | 9.15  | 34.61 | 0.13 | 26.81 | 125 | 0.88 |
| 277 | 11.17 | 34.72 | 0.10 | 150 | 500 | 7.90  | 34.60 | 0.11 | 27.00 | 107 | 1.00 |
| 337 | 10.14 | 34.67 | 0.11 | 136 |     |       |       |      |       |     |      |
| 413 | 8.98  | 34.60 | 0.13 | 123 |     |       |       |      |       |     |      |
| 487 | 8.06  | 34.60 | 0.11 | 109 |     |       |       |      |       |     |      |
| 568 | 7.05  | 34.53 | 0.11 | 101 |     |       |       |      |       |     |      |



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

150.19

BLACK DOUGLAS; January 24, 1960; 2032 GCT; 23°23.5'N, 110°39'W; sounding, 100 fm; wind, 320°, force 2; weather, cloudy; sea, rough; wire angle, 01°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 20.56 | 34.61 | 5.17 | 360 | 0   | 20.56 | 34.61 | 5.17 | 24.33 | 360 | 0.00 |
| 9   | 20.20 | 34.58 | 5.27 | 353 | 10  | 20.13 | 34.57 | 5.26 | 24.43 | 351 | 0.04 |
| 29  | 18.24 | 34.49 | 3.17 | 312 | 20  | 19.30 | 34.53 | 4.45 | 24.61 | 334 | 0.07 |
| 49  | 16.13 | 34.52 | 1.72 | 262 | 30  | 18.03 | 34.49 | 3.00 | 24.89 | 307 | 0.10 |
| 74  | 15.18 | 34.58 | 1.19 | 237 | 50  | 16.10 | 34.53 | 1.68 | 25.38 | 260 | 0.16 |
| 100 | 13.68 | 34.74 | 0.63 | 195 | 75  | 15.17 | 34.59 | 1.17 | 25.64 | 236 | 0.22 |
| 124 | 13.16 | 34.72 | 0.47 | 186 | 100 | 13.68 | 34.74 | 0.63 | 26.07 | 195 | 0.28 |
| 154 | 12.86 | 34.70 | 0.45 | 182 | 125 | 13.15 | 34.72 | 0.46 | 26.17 | 186 | 0.32 |
|     |       |       |      |     | 150 | 12.89 | 34.70 | 0.46 | 26.20 | 182 | 0.37 |

150.25

BLACK DOUGLAS; January 24, 1960; 2341 GCT; 23°11'N, 111°01'W; sounding, 700 fm; wind, 310°, force 2; weather, cloudy; sea, rough; wire angle, 07°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 20.43 | 34.58 | 5.52 | 359 | 0   | 20.43 | 34.58 | 5.52 | 24.34 | 359 | 0.00 |
| 10  | 20.20 | 34.61 | 5.21 | 351 | 10  | 20.20 | 34.61 | 5.21 | 24.43 | 351 | 0.04 |
| 30  | 20.05 | 34.58 | 5.45 | 350 | 20  | 20.12 | 34.59 | 5.33 | 24.44 | 350 | 0.07 |
| 55  | 17.32 | 34.16 | 3.79 | 314 | 30  | 20.05 | 34.58 | 5.45 | 24.44 | 350 | 0.11 |
| 64  | 16.33 | 34.05 | 3.98 | 300 | 50  | 19.65 | 34.51 | 5.31 | 24.50 | 344 | 0.17 |
| 75  | 15.90 | 34.38 | 2.36 | 267 | 75  | 15.90 | 34.38 | 2.36 | 25.31 | 267 | 0.25 |
| 90  | 15.21 | 34.60 | 1.34 | 236 | 100 | 14.17 | 34.58 | 0.74 | 25.85 | 216 | 0.31 |
| 104 | 13.98 | -     | 0.65 | -   | 125 | 13.44 | 34.71 | 0.50 | 26.10 | 192 | 0.36 |
| 128 | 13.37 | 34.73 | 0.49 | 189 | 150 | 12.85 | 34.75 | 0.43 | 26.25 | 178 | 0.41 |
| 147 | 12.94 | 34.76 | 0.45 | 179 | 200 | 11.83 | 34.72 | 0.30 | 26.43 | 161 | 0.50 |
| 172 | 12.42 | 34.72 | 0.38 | 172 | 250 | 11.08 | 34.73 | 0.24 | 26.57 | 147 | 0.58 |
| 201 | 11.81 | 34.72 | 0.30 | 161 | 300 | 9.98  | 34.66 | 0.21 | 26.71 | 134 | 0.65 |
| 230 | 11.50 | 34.77 | 0.26 | 152 | 400 | 8.88  | 34.57 | 0.26 | 26.82 | 124 | 0.78 |
| 270 | 10.58 | 34.68 | 0.23 | 142 | 500 | 7.76  | 34.54 | 0.28 | 26.97 | 110 | 0.90 |
| 329 | 9.50  | 34.63 | 0.21 | 129 |     |       |       |      |       |     |      |
| 402 | 8.86  | 34.57 | 0.27 | 124 |     |       |       |      |       |     |      |
| 476 | 8.06  | 34.54 | -    | 114 |     |       |       |      |       |     |      |
| 555 | 7.01  | 34.55 | 0.28 | 99  |     |       |       |      |       |     |      |

150.30

BLACK DOUGLAS; January 25, 1960; 0228 GCT; 23°00.5'N, 111°20'W; sounding, 1300 fm; wind, 310°, force 2; weather, partly cloudy; sea, rough; wire angle, 19°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 21.10 | 34.67 | 5.08 | 370 | 0   | (21.10) | (34.67) | (5.08) | (24.23) | (370) | (0.00) |
| 10  | 21.04 | 34.63 | 5.08 | 371 | 10  | 21.04   | 34.63   | 5.08   | 24.22   | 371   | 0.04   |
| 30  | 20.92 | 34.61 | 5.03 | 369 | 20  | 20.99   | 34.62   | 5.05   | 24.23   | 370   | 0.07   |
| 58  | 20.69 | 34.58 | 4.82 | 366 | 30  | 20.92   | 34.61   | 5.03   | 24.24   | 369   | 0.11   |
| 67  | 19.90 | 34.42 | 4.60 | 357 | 50  | 20.78   | 34.59   | 4.92   | 24.26   | 367   | 0.18   |
| 81  | 16.26 | 34.09 | 3.65 | 296 | 75  | 18.00   | 34.24   | 4.37   | 24.71   | 324   | 0.27   |
| 95  | 16.24 | 34.58 | 1.71 | 260 | 100 | 16.20   | 34.63   | 1.57   | 25.44   | 255   | 0.34   |
| 108 | 15.42 | 34.61 | 1.23 | 240 | 125 | 14.37   | 34.63   | 0.82   | 25.85   | 216   | 0.40   |
| 131 | 14.10 | 34.65 | 0.71 | 210 | 150 | 13.48   | 34.70   | 0.48   | 26.09   | 193   | 0.46   |
| 149 | 13.50 | 34.70 | 0.49 | 194 | 200 | 12.24   | 34.67   | 0.38   | 26.31   | 172   | 0.55   |
| 176 | 12.92 | 34.67 | 0.45 | 185 | 250 | 11.39   | 34.70   | 0.15   | 26.49   | 155   | 0.63   |
| 203 | 12.16 | 34.67 | 0.36 | 171 | 300 | 10.60   | 34.69   | 0.13   | 26.63   | 142   | 0.71   |
| 230 | 11.66 | 34.70 | 0.15 | 160 | 400 | 8.93    | 34.60   | 0.13   | 26.84   | 122   | 0.85   |
| 275 | 11.02 | 34.69 | 0.15 | 150 | 500 | 7.58    | 34.57   | 0.12   | 27.03   | 104   | 0.97   |
| 325 | 10.17 | 34.68 | 0.11 | 136 |     |         |         |        |         |       |        |
| 404 | 8.88  | 34.60 | 0.13 | 121 |     |         |         |        |         |       |        |
| 485 | 7.73  | 34.58 | 0.11 | 106 |     |         |         |        |         |       |        |
| 568 | 7.18  | 34.56 | 0.13 | 100 |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; January 25, 1960; 0737 GCT; 22°41.5'N, 111°57'W; sounding, 1640 fm; wind, 320°, force 3; weather, partly cloudy; sea, rough; wire angle, 10°.

15040

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 21.20 | 34.63 | 4.96 | 375 | 0   | 21.20 | 34.63 | 4.96 | 24.18 | 375 | 0.00 |
| 10  | 21.20 | 34.65 | 4.73 | 374 | 10  | 21.20 | 34.65 | 4.73 | 24.19 | 374 | 0.04 |
| 30  | 20.69 | 34.56 | 4.86 | 367 | 20  | 21.00 | 34.62 | 4.80 | 24.23 | 370 | 0.07 |
| 40  | 20.60 | 34.54 | 4.70 | 366 | 30  | 20.69 | 34.56 | 4.70 | 24.26 | 367 | 0.11 |
| 54  | 20.38 | 34.52 | 4.84 | 362 | 50  | 20.41 | 34.52 | 4.82 | 24.30 | 363 | 0.18 |
| 69  | 19.89 | 34.43 | 4.56 | 356 | 75  | 19.33 | 34.40 | 4.22 | 24.50 | 344 | 0.27 |
| 94  | 16.00 | 34.24 | 2.86 | 279 | 100 | 15.64 | 34.29 | 2.54 | 25.31 | 267 | 0.35 |
| 114 | 14.40 | 34.42 | 1.51 | 233 | 125 | 14.11 | 34.47 | 1.30 | 25.78 | 223 | 0.41 |
| 134 | 13.93 | 34.52 | 1.14 | 216 | 150 | 13.52 | 34.66 | 0.78 | 26.05 | 197 | 0.47 |
| 154 | 13.39 | 34.67 | 0.74 | 194 | 200 | 11.92 | 34.67 | 0.50 | 26.38 | 166 | 0.56 |
| 183 | 12.32 | 34.67 | 0.56 | 174 | 250 | 11.33 | 34.74 | 0.33 | 26.54 | 151 | 0.64 |
| 217 | 11.69 | 34.68 | 0.47 | 162 | 300 | 10.58 | 34.69 | 0.31 | 26.63 | 142 | 0.72 |
| 249 | 11.34 | 34.74 | 0.33 | 151 | 400 | 9.10  | 34.63 | 0.24 | 26.84 | 122 | 0.85 |
| 298 | 10.61 | 34.69 | 0.31 | 143 | 500 | 7.85  | 34.53 | 0.32 | 26.96 | 111 | 0.98 |
| 352 | 9.77  | 34.67 | 0.28 | 130 | 600 | 6.88  | 34.52 | 0.25 | 27.08 | 99  | 1.09 |
| 436 | 8.66  | 34.60 | 0.23 | 118 |     |       |       |      |       |     |      |
| 521 | 7.60  | 34.52 | 0.35 | 109 |     |       |       |      |       |     |      |
| 606 | 6.84  | 34.52 | 0.24 | 99  |     |       |       |      |       |     |      |

BLACK DOUGLAS; January 25, 1960; 1239 GCT; 22°22'N, 112°35'W; sounding, 1600 fm; wind, 320°, force 3; weather, partly cloudy; sea, rough; wire angle, 03°.

15050

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 21.35 | 34.67 | 5.06 | 376 | 0   | 21.35 | 34.67 | 5.06 | 24.17 | 376 | 0.00 |
| 10  | 21.36 | 34.68 | 5.12 | 376 | 10  | 21.36 | 34.68 | 5.12 | 24.17 | 376 | 0.04 |
| 30  | 21.32 | 34.66 | 5.09 | 376 | 20  | 21.35 | 34.67 | 5.11 | 24.17 | 376 | 0.08 |
| 60  | 21.08 | 34.65 | 4.98 | 371 | 30  | 21.32 | 34.66 | 5.09 | 24.17 | 376 | 0.11 |
| 70  | 20.78 | 34.60 | 4.76 | 366 | 50  | 21.19 | 34.65 | 5.02 | 24.20 | 373 | 0.19 |
| 86  | 17.75 | 34.32 | 3.19 | 313 | 75  | 20.53 | 34.57 | 4.57 | 24.32 | 361 | 0.28 |
| 101 | 16.98 | 34.71 | 1.72 | 267 | 100 | 16.97 | 34.71 | 1.73 | 25.31 | 267 | 0.36 |
| 116 | 15.94 | 34.79 | 1.20 | 238 | 125 | 15.02 | 34.79 | 1.05 | 25.81 | 219 | 0.42 |
| 141 | 14.26 | 34.67 | 0.86 | 204 | 150 | 13.88 | 34.75 | 0.64 | 26.04 | 198 | 0.47 |
| 161 | 13.40 | 34.72 | 0.40 | 191 | 200 | 12.54 | 34.79 | 0.29 | 26.34 | 169 | 0.57 |
| 192 | 12.64 | 34.76 | 0.34 | 174 | 250 | 11.84 | 34.80 | 0.15 | 26.48 | 156 | 0.65 |
| 222 | 12.28 | 34.83 | 0.18 | 162 | 300 | 10.82 | 34.69 | 0.18 | 26.58 | 147 | 0.73 |
| 253 | 11.78 | 34.79 | 0.15 | 155 | 400 | 9.33  | 34.61 | 0.13 | 26.78 | 128 | 0.87 |
| 302 | 10.78 | 34.68 | 0.19 | 146 | 500 | 8.01  | 34.56 | 0.11 | 26.94 | 113 | 1.00 |
| 360 | 9.80  | 34.61 | 0.17 | 135 | 600 | 6.81  | 34.51 | 0.12 | 27.08 | 99  | 1.11 |
| 443 | 8.85  | 34.60 | 0.11 | 121 |     |       |       |      |       |     |      |
| 528 | 7.61  | 34.52 | 0.11 | 109 |     |       |       |      |       |     |      |
| 612 | 6.72  | 34.51 | 0.13 | 98  |     |       |       |      |       |     |      |



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| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

15060

BLACK DOUGLAS; January 25, 1960; 1709, 1845 GCT; 22°04'N, 113°09.5'W; sounding, 1650 fm; wind, 320°, force 2; weather, partly cloudy; sea, rough; wire angle, 05°, 07°.

|       |       |         |      |     |      |       |       |      |       |     |      |
|-------|-------|---------|------|-----|------|-------|-------|------|-------|-----|------|
| 0     | 21.42 | 34.65   | 4.94 | 379 | 0    | 21.42 | 34.65 | 4.94 | 24.13 | 379 | 0.00 |
| 10    | 21.40 | 34.67   | -    | 377 | 10   | 21.40 | 34.67 | 4.99 | 24.15 | 377 | 0.04 |
| 30    | 21.34 | 34.69   | 5.04 | 374 | 20   | 21.38 | 34.69 | 5.02 | 24.17 | 375 | 0.08 |
| 55    | 19.89 | 34.51   | 4.20 | 351 | 30   | 21.34 | 34.69 | 5.04 | 24.19 | 374 | 0.11 |
| 65    | 18.09 | 34.33   | 3.17 | 320 | 50   | 21.12 | 34.67 | 4.96 | 24.23 | 370 | 0.19 |
| 75    | 17.16 | 34.42   | 2.40 | 292 | 75   | 17.16 | 34.42 | 2.40 | 25.05 | 292 | 0.27 |
| 90    | 14.98 | 34.16   | 2.87 | 264 | 100  | 14.00 | 34.16 | 2.58 | 25.55 | 244 | 0.34 |
| 104   | 13.49 | 34.13   | 2.32 | 236 | 125  | 13.82 | 34.65 | 0.80 | 25.97 | 204 | 0.40 |
| 129   | 13.86 | 34.73   | 0.60 | 199 | 150  | 13.23 | 34.76 | 0.36 | 26.18 | 185 | 0.44 |
| 149   | 13.24 | 34.76   | 0.37 | 185 | 200  | 12.05 | 34.71 | 0.20 | 26.38 | 166 | 0.53 |
| 174   | 12.74 | 34.72   | 0.26 | 178 | 250  | 11.29 | 34.76 | 0.11 | 26.56 | 148 | 0.62 |
| 204   | 11.96 | 34.71   | 0.19 | 164 | 300  | 10.65 | 34.72 | 0.10 | 26.64 | 141 | 0.69 |
| 234   | 11.47 | 34.78   | 0.11 | 151 | 400  | 9.32  | 34.63 | 0.12 | 26.80 | 126 | 0.83 |
| 274   | 11.02 | 34.74   | 0.12 | 146 | 500  | 7.75  | 34.50 | 0.13 | 26.94 | 112 | 0.95 |
| 334   | 10.12 | 34.69   | 0.07 | 134 | 600  | 6.54  | 34.47 | 0.14 | 27.09 | 98  | 1.06 |
| 408   | 9.24  | 34.63   | 0.10 | 125 | 700  | 5.75  | 34.50 | 0.16 | 27.21 | 87  | 1.16 |
| 483   | 8.08  | 34.53   | 0.13 | 115 | 800  | 5.21  | 34.49 | 0.21 | 27.27 | 81  | 1.25 |
| 563   | 7.19  | 34.49   | 0.19 | 106 | 1000 | 4.39  | 34.52 | 0.38 | 27.39 | 70  | 1.42 |
|       |       |         |      |     | 1200 | 3.78  | 34.54 | 0.50 | 27.46 | 63  | 1.57 |
| 393a) | 9.43  | 34.62 1 | 0.13 | 128 | 1500 | 3.09  | 34.60 | 1.00 | 27.58 | 52  | 1.78 |
| 490   | 7.87  | 34.50 5 | 0.13 | 114 | 2000 | 2.19  | 34.64 | 1.91 | 27.69 | 41  | 2.05 |
| 589   | 6.66  | 34.47 7 | 0.14 | 100 | 2500 | 1.84  | 34.66 | 2.35 | 27.74 | 37  | 2.30 |
| 688   | 5.84  | 34.50 8 | 0.16 | 87  | 3000 | 1.66  | 34.68 | 2.65 | 27.77 | 34  | 2.53 |
| 787   | 5.27  | 34.48 3 | 0.19 | 82  |      |       |       |      |       |     |      |
| 988   | 4.44  | 34.51 7 | 0.37 | 71  |      |       |       |      |       |     |      |
| 1182  | 3.84  | 34.53 6 | 0.47 | 64  |      |       |       |      |       |     |      |
| 1383  | 3.30  | 34.58 0 | 0.81 | 55  |      |       |       |      |       |     |      |
| 1581  | 2.94  | 34.60 0 | 1.12 | 50  |      |       |       |      |       |     |      |
| 1781  | 2.54  | 34.61 9 | 1.49 | 46  |      |       |       |      |       |     |      |
| 1981  | 2.20  | 34.63 8 | 1.90 | 42  |      |       |       |      |       |     |      |
| 2181  | 2.02  | 34.64 8 | 2.12 | 40  |      |       |       |      |       |     |      |
| 2381  | 1.90  | 34.65 9 | 2.29 | 38  |      |       |       |      |       |     |      |
| 2582  | 1.81  | 34.65 8 | 2.40 | 36  |      |       |       |      |       |     |      |
| 2784  | 1.72  | 34.66 6 | 2.59 | 36  |      |       |       |      |       |     |      |
| 2985  | 1.66  | 34.67 5 | 2.62 | 34  |      |       |       |      |       |     |      |
| 3086  | 1.63  | 34.67 4 | 2.79 | 34  |      |       |       |      |       |     |      |
| 3187  | 1.64  | 34.67 3 | 2.77 | 34  |      |       |       |      |       |     |      |

153.16

BLACK DOUGLAS; January 16, 1960; 0640 GCT; 22°55'N, 110°07.5'W; sounding, 250 fm; wind, 320°, force 4; weather, overcast; sea, rough; wire angle, 18°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 21.58 | 34.67 | 4.79 | 382 | 0   | (21.58) | (34.67) | (4.79) | (24.11) | (382) | (0.00) |
| 10  | 21.58 | 34.69 | 4.74 | 381 | 10  | 21.58   | 34.69   | 4.74   | 24.12   | 381   | 0.04   |
| 30  | 20.60 | 34.54 | 4.18 | 366 | 20  | 21.55   | 34.69   | 4.70   | 24.12   | 380   | 0.08   |
| 49  | 17.75 | 34.34 | 3.00 | 311 | 30  | 20.60   | 34.54   | 4.18   | 24.27   | 366   | 0.11   |
| 73  | 16.22 | 34.60 | 1.45 | 258 | 50  | 17.62   | 34.34   | 2.91   | 24.88   | 308   | 0.18   |
| 99  | 14.77 | 34.63 | 0.83 | 225 | 75  | 16.19   | 34.61   | 1.42   | 25.42   | 257   | 0.25   |
| 123 | 13.83 | 34.70 | 0.49 | 201 | 100 | 14.73   | 34.63   | 0.79   | 25.77   | 224   | 0.31   |
| 162 | 12.60 | 34.74 | 0.18 | 174 | 125 | 13.77   | 34.71   | 0.46   | 26.02   | 200   | 0.37   |
| 201 | 11.58 | 34.72 | 0.15 | 157 | 150 | 12.94   | 34.74   | 0.24   | 26.22   | 181   | 0.42   |
| 251 | 10.76 | 34.72 | 0.10 | 143 | 200 | 11.60   | 34.72   | 0.15   | 26.47   | 157   | 0.50   |
| 301 | 9.88  | 34.65 | 0.09 | 134 | 250 | 10.78   | 34.72   | 0.10   | 26.62   | 143   | 0.58   |
| 404 | 8.64  | 34.63 | 0.11 | 115 | 300 | 9.89    | 34.65   | 0.09   | 26.71   | 134   | 0.65   |
|     |       |       |      |     | 400 | 8.69    | 34.63   | 0.11   | 26.90   | 116   | 0.78   |

a) Overlapping casts; reconciliation of property curves when necessary.



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; January 16, 1960; 0948 GCT; 22°47'N, 110°22'W; sounding, 600 fm; wind, 320°, force 5; weather, overcast; sea, very rough; wire angle, 21°.

153.20

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 20.90 | 34.66 | 4.85 | 365 | 0   | (20.90) | (34.66) | (4.85) | (24.28) | (365) | (0.00) |
| 11  | 20.88 | 34.65 | 4.91 | 365 | 10  | 20.88   | 34.65   | 4.91   | 24.28   | 365   | 0.04   |
| 30  | 20.90 | 34.66 | 4.83 | 365 | 20  | 20.89   | 34.66   | 4.87   | 24.28   | 365   | 0.07   |
| 39  | 20.89 | 34.63 | 4.80 | 367 | 30  | 20.90   | 34.66   | 4.83   | 24.28   | 365   | 0.11   |
| 53  | 18.26 | 34.45 | 2.91 | 315 | 50  | 19.60   | 34.53   | 3.86   | 24.53   | 342   | 0.18   |
| 68  | 16.71 | 34.56 | 1.82 | 272 | 75  | 16.38   | 34.58   | 1.68   | 25.36   | 263   | 0.26   |
| 92  | 14.68 | 34.55 | 1.24 | 229 | 100 | 14.60   | 34.62   | 1.06   | 25.79   | 222   | 0.32   |
| 110 | 14.02 | 34.75 | 0.45 | 201 | 125 | 13.54   | 34.72   | 0.43   | 26.09   | 193   | 0.37   |
| 129 | 13.38 | 34.71 | 0.42 | 191 | 150 | 12.53   | 34.67   | 0.33   | 26.26   | 177   | 0.42   |
| 148 | 12.56 | 34.67 | 0.34 | 178 | 200 | 11.71   | 34.71   | 0.18   | 26.44   | 160   | 0.50   |
| 176 | 12.18 | 34.72 | 0.26 | 168 |     |         |         |        |         |       |        |
| 208 | 11.55 | 34.70 | 0.18 | 158 |     |         |         |        |         |       |        |
| 239 | 11.16 | 34.69 | 0.23 | 152 |     |         |         |        |         |       |        |

BLACK DOUGLAS; January 16, 1960; 1612 GCT; 22°27'N, 110°59'W; sounding, 1600 fm; wind, 310°, force 5; weather, overcast; sea, very rough; wire angle, 35°.

153.30

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 21.52 | 34.64 | 4.87 | 383 | 0   | (21.52) | (34.64) | (4.87) | (24.10) | (383) | (0.00) |
| 9   | 21.52 | 34.66 | 4.84 | 381 | 10  | 21.52   | 34.66   | 4.84   | 24.12   | 381   | 0.04   |
| 25  | 21.52 | 34.61 | 4.94 | 385 | 20  | 21.52   | 34.63   | 4.91   | 24.10   | 383   | 0.08   |
| 34  | 21.54 | 34.62 | 4.82 | 385 | 30  | 21.53   | 34.62   | 4.88   | 24.07   | 385   | 0.11   |
| 46  | 21.49 | 34.60 | 4.79 | 385 | 50  | 21.43   | 34.59   | 4.80   | 24.08   | 384   | 0.19   |
| 58  | 21.24 | 34.56 | 4.82 | 381 | 75  | 17.32   | 34.47   | 2.37   | 25.05   | 292   | 0.28   |
| 78  | 17.22 | 34.47 | 2.31 | 290 | 100 | 15.28   | 34.58   | 1.18   | 25.61   | 239   | 0.34   |
| 95  | 15.65 | 34.57 | 1.34 | 248 | 125 | 14.18   | 34.65   | 0.72   | 25.90   | 211   | 0.40   |
| 111 | 14.72 | 34.60 | 0.97 | 226 | 150 | 13.80   | 34.77   | 0.56   | 26.07   | 195   | 0.45   |
| 129 | 14.09 | 34.67 | 0.67 | 208 | 200 | 12.44   | 34.75   | 0.20   | 26.32   | 171   | 0.55   |
| 153 | 13.74 | 34.77 | 0.54 | 194 | 250 | 11.58   | 34.74   | 0.19   | 26.48   | 156   | 0.63   |
| 181 | 12.60 | 34.70 | 0.25 | 177 | 300 | 10.64   | 34.71   | 0.18   | 26.63   | 142   | 0.71   |
| 206 | 12.39 | 34.76 | 0.20 | 169 | 400 | 9.20    | 34.64   | 0.16   | 26.82   | 124   | 0.84   |
| 292 | 10.76 | 34.71 | 0.19 | 143 | 500 | 7.60    | 34.54   | 0.13   | 26.99   | 108   | 0.96   |
| 366 | 9.76  | 34.69 | 0.15 | 128 |     |         |         |        |         |       |        |
| 445 | 8.42  | 34.57 | 0.15 | 117 |     |         |         |        |         |       |        |
| 522 | 7.34  | 34.54 | 0.11 | 104 |     |         |         |        |         |       |        |

BLACK DOUGLAS; January 24, 1960; 0820 GCT; 22°07'N, 111°36.5'W; sounding, 1550 fm; wind, 360°, force 1; weather, partly cloudy; sea, moderate; wire angle, 00°.

153.40

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 21.42 | 34.63 | 5.09 | 380 | 0   | 21.42 | 34.63 | 5.09 | 24.12 | 380 | 0.00 |
| 10  | 21.41 | 34.63 | 5.18 | 380 | 10  | 21.41 | 34.63 | 5.18 | 24.12 | 380 | 0.04 |
| 30  | 20.78 | 34.60 | 5.18 | 366 | 20  | 21.10 | 34.61 | 5.18 | 24.20 | 373 | 0.08 |
| 55  | 20.70 | 34.64 | 5.05 | 361 | 30  | 20.78 | 34.60 | 5.18 | 24.27 | 366 | 0.11 |
| 66  | 20.53 | 34.60 | 4.81 | 360 | 50  | 20.73 | 34.64 | 5.09 | 24.32 | 362 | 0.19 |
| 75  | 17.20 | 34.15 | 4.17 | 312 | 75  | 17.20 | 34.15 | 4.17 | 24.84 | 312 | 0.27 |
| 90  | 15.32 | 34.23 | 2.61 | 265 | 100 | 14.63 | 34.32 | 1.88 | 25.55 | 244 | 0.34 |
| 105 | 14.31 | 34.35 | 1.63 | 236 | 125 | 13.09 | 34.44 | 1.30 | 25.96 | 205 | 0.40 |
| 131 | 12.91 | 34.47 | 1.21 | 199 | 150 | 12.98 | 34.66 | 0.59 | 26.15 | 187 | 0.45 |
| 150 | 12.98 | 34.66 | 0.59 | 187 | 200 | 11.89 | 34.67 | 0.25 | 26.38 | 166 | 0.54 |
| 175 | 12.22 | 34.67 | 0.37 | 172 | 250 | 11.11 | 34.69 | 0.20 | 26.54 | 151 | 0.62 |
| 205 | 11.82 | 34.67 | 0.24 | 165 | 300 | 10.42 | 34.67 | 0.16 | 26.64 | 141 | 0.69 |
| 236 | 11.34 | 34.70 | 0.22 | 154 | 400 | 8.79  | 34.55 | 0.19 | 26.82 | 124 | 0.83 |
| 277 | 10.72 | 34.67 | 0.19 | 146 | 500 | 7.51  | 34.52 | 0.11 | 26.98 | 108 | 0.95 |
| 336 | 9.96  | 34.66 | 0.11 | 134 |     |       |       |      |       |     |      |
| 410 | 8.52  | 34.52 | 0.20 | 122 |     |       |       |      |       |     |      |
| 485 | 7.68  | 34.52 | 0.11 | 110 |     |       |       |      |       |     |      |
| 566 | 6.84  | 34.48 | 0.11 | 102 |     |       |       |      |       |     |      |



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

153.40

BLACK DOUGLAS; January 24, 1960; 0917 GCT; <sup>a)</sup> 22°07'N, 111°36.5'W; sounding, 1550 fm; wind, 360°, force 1; weather, partly cloudy; sea, moderate; wire angle, 00°.

|     |      |       |      |     |
|-----|------|-------|------|-----|
| 436 | 8.34 | 34.53 | 0.19 | 118 |
| 439 | 8.31 | 34.54 | 0.17 | 117 |
| 442 | 8.28 | 34.52 | 0.20 | 118 |
| 467 | 7.98 | 34.54 | 0.15 | 113 |
| 471 | 7.92 | 34.54 | 0.15 | 111 |
| 474 | 7.84 | 34.51 | 0.19 | 113 |
| 499 | 7.72 | 34.52 | 0.14 | 110 |
| 502 | 7.74 | 34.56 | 0.16 | 108 |
| 505 | 7.58 | 34.54 | 0.15 | 107 |
| 530 | 7.25 | 34.50 | 0.15 | 106 |
| 533 | 7.28 | 34.54 | 0.15 | 103 |
| 536 | 7.24 | 34.52 | 0.17 | 104 |
| 561 | 6.97 | 34.51 | 0.16 | 101 |
| 564 | 7.05 | 34.52 | 0.13 | 101 |
| 567 | 7.08 | 34.52 | 0.14 | 102 |
| 592 | 6.78 | 34.55 | 0.15 | 95  |
| 595 | 6.73 | 34.49 | 0.15 | 99  |
| 599 | 6.70 | 34.52 | 0.14 | 97  |

153.50

BLACK DOUGLAS; January 24, 1960; 0302 GCT; 21°46.5'N, 112°13'W; sounding, 1700 fm; wind, 010°, force 2; weather, partly cloudy; sea, rough; wire angle, 07°.

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 22.74 | 34.51 | 4.74 | 424 | 0   | 22.74 | 34.51 | 4.74 | 23.66 | 424 | 0.00 |
| 10  | 22.68 | 34.60 | 4.91 | 417 | 10  | 22.68 | 34.60 | 4.91 | 23.74 | 417 | 0.04 |
| 30  | 21.40 | 34.63 | 5.02 | 380 | 20  | 22.20 | 34.64 | 4.97 | 23.91 | 401 | 0.08 |
| 55  | 21.09 | 34.63 | 5.10 | 372 | 30  | 21.40 | 34.63 | 5.02 | 24.12 | 380 | 0.12 |
| 65  | 20.09 | 34.49 | 4.36 | 357 | 50  | 21.14 | 34.63 | 5.09 | 24.19 | 374 | 0.20 |
| 75  | 17.00 | 34.59 | 1.02 | 276 | 75  | 17.00 | 34.59 | 1.02 | 25.22 | 276 | 0.28 |
| 89  | 14.89 | 34.63 | 0.51 | 227 | 100 | 13.85 | 34.53 | 0.83 | 25.88 | 213 | 0.34 |
| 104 | 13.24 | 34.49 | 0.98 | 205 | 125 | 13.34 | 34.76 | 0.57 | 26.15 | 187 | 0.39 |
| 128 | 13.18 | 34.78 | 0.38 | 182 | 150 | 12.83 | 34.78 | 0.15 | 26.28 | 175 | 0.44 |
| 147 | 12.92 | 34.78 | 0.18 | 177 | 200 | 11.77 | 34.76 | 0.20 | 26.47 | 157 | 0.52 |
| 172 | 12.29 | 34.78 | 0.12 | 166 | 250 | 10.87 | 34.71 | 0.16 | 26.60 | 145 | 0.60 |
| 201 | 11.76 | 34.76 | 0.20 | 157 | 300 | 10.33 | 34.71 | 0.16 | 26.69 | 136 | 0.67 |
| 230 | 11.02 | 34.70 | 0.21 | 149 | 400 | 8.81  | 34.60 | 0.20 | 26.85 | 121 | 0.81 |
| 270 | 10.74 | 34.72 | 0.15 | 142 | 500 | 7.51  | 34.61 | 0.21 | 27.06 | 101 | 0.92 |
| 328 | 9.90  | 34.69 | 0.18 | 131 |     |       |       |      |       |     |      |
| 401 | 8.80  | 34.60 | 0.20 | 120 |     |       |       |      |       |     |      |
| 475 | 7.80  | 34.60 | 0.20 | 106 |     |       |       |      |       |     |      |
| 556 | 6.98  | 34.63 | 0.22 | 92  |     |       |       |      |       |     |      |

153.60

BLACK DOUGLAS; January 23, 1960; 2103 GCT; 21°26.5'N, 112°50.5'W; sounding, 1800 fm; wind, 350°, force 2; weather, partly cloudy; sea, rough; wire angle, 05°.

|     |       |        |      |     |     |         |         |        |         |       |        |
|-----|-------|--------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 22.46 | 34.54  | 4.86 | 415 | 0   | (22.46) | (34.54) | (4.86) | (23.76) | (415) | (0.00) |
| 11  | 22.22 | 34.56  | 4.91 | 407 | 10  | 22.23   | 34.56   | 4.91   | 23.83   | 408   | 0.04   |
| 31  | 21.40 | 34.44  | 4.77 | 394 | 20  | 22.21   | 34.56   | 4.91   | 23.84   | 407   | 0.08   |
| 42  | 18.66 | 34.43  | 3.15 | 326 | 30  | 21.55   | 34.46   | 4.82   | 23.95   | 397   | 0.12   |
| 52  | 16.88 | 34.36  | 2.07 | 290 | 50  | 17.00   | 34.35   | 2.16   | 25.04   | 293   | 0.19   |
| 66  | 15.32 | 34.67  | 0.19 | 233 | 75  | 14.63   | 34.67   | 0.25   | 25.81   | 219   | 0.26   |
| 81  | 14.18 | 34.65  | 0.27 | 211 | 100 | 13.69   | 34.70   | 0.23   | 26.03   | 198   | 0.31   |
| 100 | 13.69 | 34.70  | 0.23 | 198 | 125 | 13.00   | 34.76   | 0.12   | 26.23   | 180   | 0.36   |
| 125 | 13.00 | 34.76  | 0.12 | 180 | 150 | 12.47   | 34.81   | 0.10   | 26.38   | 166   | 0.40   |
| 144 | 12.56 | 34.81  | 0.11 | 168 | 200 | 11.75   | 34.79   | 0.08   | 26.50   | 154   | 0.48   |
| 173 | 12.12 | 34.89u | 0.06 | -   | 250 | 11.09   | 34.77   | 0.06   | 26.60   | 144   | 0.56   |
| 204 | 11.68 | 34.79  | 0.08 | 154 | 300 | 10.45   | 34.73   | 0.06   | 26.68   | 137   | 0.63   |
| 232 | 11.29 | 34.76  | 0.05 | 149 | 400 | 9.07    | 34.62   | 0.08   | 26.83   | 123   | 0.76   |
| 272 | 10.85 | 34.78  | 0.06 | 140 | 500 | 7.72    | 34.57   | 0.10   | 27.00   | 107   | 0.88   |
| 332 | 9.98  | 34.67  | 0.06 | 133 |     |         |         |        |         |       |        |
| 406 | 8.99  | 34.62  | 0.09 | 122 |     |         |         |        |         |       |        |
| 481 | 7.96  | 34.58  | 0.09 | 109 |     |         |         |        |         |       |        |
| 561 | 7.13  | 34.56  | 0.10 | 100 |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; January 23, 1960; 1520 GCT; 21°01.5'N, 113°26'W; sounding, 2000+ fm; wind, 360°, force 3; weather, clear; sea, moderate; wire angle, 13°.

153.70

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 21.80 | 34.58 | 4.81 | 394 | 0   | 21.80 | 34.58 | 4.81 | 23.98 | 394 | 0.00 |
| 10  | 21.79 | 34.58 | 4.72 | 394 | 10  | 21.79 | 34.58 | 4.72 | 23.98 | 394 | 0.04 |
| 29  | 21.72 | 34.60 | 4.60 | 391 | 20  | 21.77 | 34.59 | 4.67 | 23.99 | 393 | 0.08 |
| 40  | 21.66 | 34.64 | 4.51 | 386 | 30  | 21.72 | 34.60 | 4.60 | 24.01 | 391 | 0.12 |
| 49  | 18.66 | 34.63 | 2.27 | 312 | 50  | 18.00 | 34.63 | 1.78 | 25.01 | 296 | 0.19 |
| 64  | 16.02 | 34.63 | 0.49 | 251 | 75  | 15.42 | 34.65 | 0.31 | 25.63 | 237 | 0.25 |
| 77  | 15.31 | 34.65 | 0.30 | 234 | 100 | 13.70 | 34.73 | 0.17 | 26.07 | 195 | 0.31 |
| 97  | 13.98 | 34.72 | 0.20 | 202 | 125 | 13.03 | 34.82 | 0.09 | 26.26 | 177 | 0.36 |
| 120 | 13.10 | 34.81 | 0.09 | 178 | 150 | 12.46 | 34.81 | 0.10 | 26.37 | 166 | 0.40 |
| 139 | 12.69 | 34.82 | 0.09 | 170 | 200 | 11.69 | 34.79 | 0.07 | 26.50 | 154 | 0.48 |
| 167 | 12.16 | 34.79 | 0.10 | 162 | 250 | 10.99 | 34.72 | 0.06 | 26.58 | 147 | 0.56 |
| 195 | 11.75 | 34.79 | 0.08 | 155 | 300 | 10.29 | 34.68 | 0.09 | 26.67 | 138 | 0.63 |
| 223 | 11.44 | 34.77 | 0.06 | 151 | 400 | 8.82  | 34.60 | 0.08 | 26.86 | 120 | 0.76 |
| 261 | 10.80 | 34.70 | 0.06 | 145 | 500 | 7.63  | 34.55 | 0.09 | 27.00 | 107 | 0.88 |
| 318 | 10.04 | 34.68 | 0.09 | 134 |     |       |       |      |       |     |      |
| 391 | 8.96  | 34.61 | 0.07 | 122 |     |       |       |      |       |     |      |
| 462 | 8.08  | 34.58 | 0.09 | 111 |     |       |       |      |       |     |      |
| 543 | 7.14  | 34.52 | 0.10 | 103 |     |       |       |      |       |     |      |

BLACK DOUGLAS; January 23, 1960; 1014 GCT; 20°46'N, 114°04'W; sounding, 2000+ fm; wind, 330°, force 2; weather, partly cloudy; sea, moderate; wire angle, 05°.

153.80

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 21.10 | 34.60 | 5.01 | 374 | 0   | 21.10 | 34.60 | 5.01 | 24.18 | 374 | 0.00 |
| 11  | 21.10 | 34.58 | 4.96 | 376 | 10  | 21.10 | 34.58 | 4.97 | 24.17 | 376 | 0.04 |
| 31  | 21.00 | 34.59 | 5.02 | 373 | 20  | 21.03 | 34.59 | 5.00 | 24.19 | 374 | 0.08 |
| 57  | 21.02 | 34.61 | 4.87 | 372 | 30  | 21.00 | 34.59 | 5.01 | 24.20 | 373 | 0.11 |
| 66  | 19.56 | 34.31 | 5.05 | 357 | 50  | 21.02 | 34.61 | 4.88 | 24.21 | 372 | 0.19 |
| 77  | 17.22 | 33.97 | 5.02 | 326 | 75  | 17.38 | 33.98 | 5.03 | 24.66 | 329 | 0.27 |
| 91  | 16.00 | 33.98 | 4.79 | 298 | 100 | 14.97 | 33.94 | 4.45 | 25.18 | 279 | 0.35 |
| 106 | 14.19 | 33.92 | 4.07 | 265 | 125 | 12.80 | 34.08 | 2.48 | 25.74 | 226 | 0.42 |
| 132 | 12.62 | 34.15 | 2.09 | 218 | 150 | 12.85 | 34.55 | 0.71 | 26.09 | 193 | 0.47 |
| 151 | 12.86 | 34.56 | 0.69 | 192 | 200 | 12.17 | 34.78 | 0.15 | 26.41 | 163 | 0.56 |
| 177 | 12.26 | 34.62 | 0.58 | 176 | 250 | 11.36 | 34.77 | 0.12 | 26.55 | 150 | 0.64 |
| 206 | 12.13 | 34.81 | 0.12 | 160 | 300 | 10.78 | 34.76 | 0.12 | 26.65 | 140 | 0.72 |
| 237 | 11.56 | 34.76 | 0.13 | 154 | 400 | 9.43  | 34.66 | 0.16 | 26.81 | 125 | 0.85 |
| 277 | 11.01 | 34.78 | 0.11 | 143 | 500 | 7.77  | 34.55 | 0.16 | 26.98 | 109 | 0.98 |
| 336 | 10.38 | 34.72 | 0.14 | 136 |     |       |       |      |       |     |      |
| 412 | 9.23  | 34.65 | 0.16 | 124 |     |       |       |      |       |     |      |
| 487 | 7.96  | 34.56 | 0.14 | 111 |     |       |       |      |       |     |      |
| 568 | 6.86  | 34.52 | 0.27 | 99  |     |       |       |      |       |     |      |

BLACK DOUGLAS; January 17, 1960; 1040 GCT; 22°33'N, 109°23'W; sounding, 1450 fm; wind, 320°, force 5; weather, overcast; sea, rough; wire angle, 25°.

157.10

|     |       |       |      |     |     |       |         |      |         |       |        |
|-----|-------|-------|------|-----|-----|-------|---------|------|---------|-------|--------|
| 4   | 22.66 | 34.72 | 4.56 | 408 | 0   | 22.7  | (34.72) |      | (23.82) | (409) | (0.00) |
| 14  | 22.66 | 34.71 | 4.60 | 408 | 10  | 22.66 | 34.71   | 4.59 | 23.83   | 408   | 0.04   |
| 30  | 22.66 | 34.74 | 4.61 | 406 | 20  | 22.66 | 34.72   | 4.60 | 23.83   | 408   | 0.08   |
| 39  | 21.88 | 34.71 | 4.11 | 387 | 30  | 22.66 | 34.74   | 4.61 | 23.85   | 406   | 0.12   |
| 52  | 19.12 | 34.52 | 3.33 | 331 | 50  | 19.15 | 34.52   | 3.34 | 24.64   | 331   | 0.20   |
| 64  | 18.20 | 34.70 | 2.67 | 296 | 75  | 16.15 | 34.74   | 1.47 | 25.53   | 246   | 0.27   |
| 84  | 15.43 | -     | -    | -   | 100 | 14.27 | 34.72   | 0.77 | 25.93   | 208   | 0.33   |
| 101 | 14.28 | 34.74 | 0.75 | 207 | 125 | 14.09 | 34.87   | 0.57 | 26.09   | 193   | 0.38   |
| 116 | 14.16 | 34.83 | 0.64 | 198 | 150 | 12.89 | 34.80   | 0.38 | 26.29   | 174   | 0.42   |
| 131 | 13.52 | 34.87 | 0.42 | 182 | 200 | 11.63 | 34.73   | 0.16 | 26.46   | 158   | 0.51   |
| 155 | 12.74 | 34.79 | 0.37 | 173 | 250 | 10.94 | 34.69   | 0.14 | 26.56   | 148   | 0.59   |
| 180 | 12.09 | 34.74 | 0.20 | 165 | 300 | 10.12 | 34.67   | 0.10 | 26.69   | 136   | 0.66   |
| 205 | 11.53 | 34.72 | 0.16 | 156 | 400 | 8.83  | 34.60   | 0.09 | 26.85   | 121   | 0.79   |
| 243 | 11.05 | 34.69 | 0.15 | 150 | 500 | 7.59  | 34.56   | 0.07 | 27.01   | 106   | 0.91   |
| 287 | 10.30 | 34.68 | 0.10 | 138 |     |       |         |      |         |       |        |
| 356 | 9.42  | 34.63 | 0.11 | 128 |     |       |         |      |         |       |        |
| 432 | 8.40  | 34.58 | 0.08 | 116 |     |       |         |      |         |       |        |
| 513 | 7.46  | 34.56 | 0.07 | 104 |     |       |         |      |         |       |        |



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| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

157.15

BLACK DOUGLAS; January 17, 1960; 0711 GCT; 22°23'N, 109°42'W; sounding, 1540 fm; wind, 320°, force 3;  
weather, overcast; sea, rough; wire angle, 03°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 23.04 | 34.65 | 4.67 | 422 | 0   | (23.04) | (34.65) | (4.67) | (23.68) | (422) | (0.00) |
| 12  | 23.04 | 34.63 | 4.62 | 424 | 10  | 23.04   | 34.63   | 4.63   | 23.66   | 424   | 0.04   |
| 37  | 23.02 | 34.67 | 4.61 | 421 | 20  | 23.04   | 34.65   | 4.61   | 23.67   | 423   | 0.08   |
| 47  | 22.93 | 34.67 | 4.50 | 418 | 30  | 23.04   | 34.66   | 4.61   | 23.69   | 421   | 0.13   |
| 62  | 19.92 | 34.60 | 2.95 | 344 | 50  | 22.55   | 34.66   | 4.31   | 23.82   | 409   | 0.21   |
| 78  | 16.77 | 34.65 | 1.59 | 266 | 75  | 17.25   | 34.65   | 1.80   | 25.20   | 277   | 0.30   |
| 103 | 14.59 | 34.67 | 0.35 | 218 | 100 | 14.77   | 34.67   | 0.45   | 25.78   | 222   | 0.36   |
| 123 | 13.74 | 34.77 | 0.14 | 194 | 125 | 13.67   | 34.77   | 0.15   | 26.10   | 192   | 0.41   |
| 143 | 13.02 | 34.75 | 0.21 | 181 | 150 | 12.88   | 34.76   | 0.19   | 26.26   | 177   | 0.46   |
| 173 | 12.47 | 34.81 | 0.14 | 167 | 200 | 12.02   | 34.81   | 0.19   | 26.46   | 158   | 0.54   |
| 203 | 11.98 | 34.81 | 0.19 | 157 | 250 | 11.27   | 34.76   | 0.13   | 26.56   | 148   | 0.62   |
| 243 | 11.39 | 34.77 | 0.11 | 150 | 300 | 10.54   | 34.72   | 0.26   | 26.65   | 140   | 0.70   |
| 274 | 10.86 | 34.72 | 0.21 | 144 | 400 | 9.10    | 34.66   | 0.18   | 26.86   | 120   | 0.83   |
| 324 | 10.27 | 34.71 | 0.27 | 135 | 500 | 7.62    | 34.59   | 0.18   | 27.03   | 104   | 0.95   |
| 390 | 9.24  | 34.67 | 0.19 | 122 | 600 | 6.41    | 34.55   | 0.17   | 27.16   | 91    | 1.05   |
| 489 | 7.79  | 34.60 | 0.18 | 106 |     |         |         |        |         |       |        |
| 580 | 6.60  | 34.56 | 0.16 | 92  |     |         |         |        |         |       |        |
| 655 | 6.04  | 34.53 | 0.19 | 88  |     |         |         |        |         |       |        |

157.20

BLACK DOUGLAS; January 17, 1960; 0341 GCT; 22°13'N, 110°00'W; sounding, 1500 fm; wind, 320°, force 6;  
weather, overcast; sea, very rough; wire angle, 24°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 22.83 | 34.57 | 4.69 | 423 | 0   | (22.83) | (34.57) | (4.69) | (23.68) | (423) | (0.00) |
| 11  | 22.84 | 34.52 | 4.73 | 427 | 10  | 22.84   | 34.52   | 4.73   | 23.63   | 427   | 0.04   |
| 34  | 22.84 | 34.60 | 4.69 | 421 | 20  | 22.84   | 34.55   | 4.72   | 23.66   | 424   | 0.08   |
| 61  | 21.09 | 34.65 | 3.63 | 371 | 30  | 22.84   | 34.59   | 4.70   | 23.69   | 422   | 0.13   |
| 71  | 18.72 | 34.54 | 2.31 | 320 | 50  | 22.68   | 34.60   | 4.62   | 23.75   | 416   | 0.21   |
| 90  | 16.26 | 34.52 | 1.32 | 265 | 75  | 18.20   | 34.53   | 2.05   | 24.88   | 308   | 0.30   |
| 104 | 14.94 | 34.67 | 0.85 | 225 | 100 | 15.28   | 34.63   | 0.98   | 25.65   | 235   | 0.37   |
| 117 | 14.20 | 34.69 | 0.37 | 209 | 125 | 13.79   | 34.69   | 0.33   | 26.02   | 200   | 0.43   |
| 146 | 12.90 | 34.70 | 0.28 | 182 | 150 | 12.85   | 34.71   | 0.25   | 26.22   | 181   | 0.47   |
| 165 | 12.76 | 34.80 | 0.11 | 172 | 200 | 11.94   | 34.81   | 0.10   | 26.47   | 157   | 0.56   |
| 193 | 12.04 | 34.81 | 0.09 | 159 | 250 | 11.25   | 34.79   | 0.11   | 26.58   | 146   | 0.64   |
| 225 | 11.59 | 34.80 | 0.11 | 151 | 300 | 10.59   | 34.73   | 0.10   | 26.66   | 139   | 0.71   |
| 254 | 11.19 | 34.78 | 0.11 | 146 | 400 | 9.14    | 34.66   | 0.11   | 26.85   | 121   | 0.85   |
| 301 | 10.58 | 34.73 | 0.10 | 139 | 500 | 7.90    | 34.61   | 0.10   | 27.01   | 106   | 0.97   |
| 364 | 9.64  | 34.69 | 0.11 | 127 | 600 | 6.88    | 34.57   | 0.10   | 27.12   | 95    | 1.08   |
| 460 | 8.36  | 34.62 | 0.11 | 112 |     |         |         |        |         |       |        |
| 548 | 7.39  | 34.60 | 0.10 | 100 |     |         |         |        |         |       |        |
| 622 | 6.67  | 34.56 | 0.11 | 94  |     |         |         |        |         |       |        |

157.30

BLACK DOUGLAS; January 16, 1960; 2050 GCT; 21°52.5'N, 110°37.5'W; sounding, 1600 fm; wind, 310°, force 6;  
weather, overcast; sea, very rough; wire angle, 30°.

|     |       |         |      |     |     |         |         |        |         |       |        |
|-----|-------|---------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 22.92 | 34.54   | 4.57 | 428 | 0   | (22.92) | (34.54) | (4.57) | (23.62) | (428) | (0.00) |
| 10  | 22.92 | 34.52   | 4.84 | 429 | 10  | 22.92   | 34.52   | 4.84   | 23.61   | 429   | 0.04   |
| 32  | 22.90 | 34.53   | 4.85 | 428 | 20  | 22.91   | 34.52   | 4.84   | 23.62   | 428   | 0.09   |
| 40  | 22.86 | 34.52   | 4.47 | 427 | 30  | 22.90   | 34.53   | 4.85   | 23.62   | 428   | 0.13   |
| 53  | 18.82 | 34.12   | 5.04 | 352 | 50  | 22.20   | 34.40   | 4.52   | 23.72   | 418   | 0.21   |
| 64  | 17.66 | 34.43   | 1.91 | 303 | 75  | 16.80   | 34.53   | 1.24   | 25.22   | 276   | 0.30   |
| 84  | 15.54 | 34.63   | 0.61 | 241 | 100 | 14.73   | 34.75   | 0.10   | 25.86   | 215   | 0.36   |
| 99  | 14.74 | 34.75   | 0.10 | 216 | 125 | 13.57   | 34.74   | 0.40   | 26.10   | 192   | 0.41   |
| 115 | 14.17 | 34.72   | 0.22 | 206 | 150 | 12.68   | 34.77   | 0.34   | 26.30   | 173   | 0.46   |
| 137 | 13.11 | 34.76   | 0.48 | 182 | 200 | 11.97   | 34.82   | 0.10   | 26.48   | 156   | 0.54   |
| 160 | 12.48 | 34.77   | 0.23 | 170 | 250 | 11.29   | 34.80   | 0.10   | 26.59   | 146   | 0.62   |
| 190 | 12.12 | 34.85a) | 0.10 | 157 | 300 | 10.69   | 34.72   | 0.11   | 26.64   | 141   | 0.70   |
| 214 | 11.72 | 34.78   | 0.10 | 155 | 400 | 9.28    | 34.67   | 0.08   | 26.84   | 122   | 0.83   |
| 254 | 11.22 | 34.80   | 0.10 | 145 | 500 | 8.02    | 34.63   | 0.09   | 27.01   | 106   | 0.95   |
| 308 | 10.58 | 34.71   | 0.12 | 140 |     |         |         |        |         |       |        |
| 394 | 9.36  | 34.67   | 0.08 | 124 |     |         |         |        |         |       |        |
| 476 | 8.30  | 34.67   | 0.09 | 108 |     |         |         |        |         |       |        |
| 548 | 7.45  | 34.54   | 0.09 | 106 |     |         |         |        |         |       |        |



| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

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BLACK DOUGLAS; January 22, 1960; 0615 GCT; 21°33'N, 111°15.5'W; sounding, 1620 fm; wind, 300°, force 2; weather, cloudy; sea, moderate; wire angle, 00°.

157.40

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 23.46 | 34.42 | 4.64 | 451 | 0   | 23.46 | 34.42 | 4.64 | 23.38 | 451 | 0.00 |
| 10  | 23.46 | 34.42 | 4.60 | 451 | 10  | 23.46 | 34.42 | 4.60 | 23.38 | 451 | 0.04 |
| 30  | 23.46 | 34.49 | 4.46 | 446 | 20  | 23.46 | 34.46 | 4.47 | 23.41 | 448 | 0.09 |
| 40  | 22.77 | 34.45 | 4.52 | 430 | 30  | 23.46 | 34.49 | 4.46 | 23.43 | 446 | 0.13 |
| 50  | 20.94 | 34.28 | 4.30 | 394 | 50  | 20.94 | 34.28 | 4.30 | 23.98 | 394 | 0.22 |
| 65  | 16.24 | 34.17 | 2.53 | 290 | 75  | 14.54 | 34.20 | 1.86 | 25.47 | 252 | 0.30 |
| 81  | 14.26 | 34.24 | 1.63 | 243 | 100 | 13.78 | 34.42 | 0.77 | 25.80 | 220 | 0.36 |
| 101 | 13.78 | 34.43 | 0.71 | 219 | 125 | 13.68 | 34.74 |      | 26.07 | 195 | 0.41 |
| 126 | 13.64 | 34.74 | -    | 194 | 150 | 13.00 | 34.77 |      | 26.24 | 179 | 0.46 |
| 146 | 13.09 | 34.76 | -    | 182 | 200 | 11.99 | 34.80 |      | 26.46 | 158 | 0.55 |
| 176 | 12.40 | 34.85 | -    | 162 | 250 | 11.28 | 34.78 |      | 26.58 | 147 | 0.62 |
| 206 | 11.89 | 34.79 | -    | 157 | 300 | 10.61 | 34.73 |      | 26.66 | 139 | 0.70 |
| 236 | 11.48 | 34.79 | -    | 150 | 400 | 9.12  | 34.61 |      | 26.82 | 124 | 0.84 |
| 278 | 10.88 | 34.75 | -    | 143 | 500 | 7.81  | 34.59 |      | 27.01 | 106 | 0.96 |
| 338 | 10.13 | 34.71 | -    | 133 |     |       |       |      |       |     |      |
| 414 | 8.92  | 34.60 | -    | 122 |     |       |       |      |       |     |      |
| 488 | 7.95  | 34.60 | -    | 108 |     |       |       |      |       |     |      |
| 569 | 7.05  | 34.54 | -    | 100 |     |       |       |      |       |     |      |

BLACK DOUGLAS; January 22, 1960; 1125 GCT; 21°15'N, 111°53'W; sounding, 1800 fm; wind, 330°, force 3; weather, partly cloudy; sea, moderate; wire angle, 08°.

157.50

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 21.55 | 34.58 | 4.53 | 388 | 0   | 21.55 | 34.58 | 4.53 | 24.04 | 388 | 0.00 |
| 10  | 21.54 | 34.60 | 4.61 | 386 | 10  | 21.54 | 34.60 | 4.61 | 24.06 | 386 | 0.04 |
| 30  | 21.51 | 34.60 | 4.69 | 385 | 20  | 21.53 | 34.60 | 4.67 | 24.07 | 385 | 0.08 |
| 40  | 17.94 | 34.55 | 1.55 | 300 | 30  | 21.51 | 34.60 | 4.69 | 24.07 | 385 | 0.12 |
| 55  | 15.87 | 34.68 | 0.42 | 245 | 50  | 16.35 | 34.66 | 0.55 | 25.43 | 256 | 0.18 |
| 70  | 14.74 | 34.73 | 0.19 | 217 | 75  | 14.52 | 34.74 | 0.16 | 25.89 | 212 | 0.24 |
| 95  | 13.76 | 34.76 | 0.11 | 195 | 100 | 13.58 | 34.76 | 0.16 | 26.11 | 191 | 0.29 |
| 114 | 13.10 | 34.78 | 0.26 | 181 | 125 | 12.72 | 34.80 | 0.24 | 26.31 | 172 | 0.34 |
| 133 | 12.52 | 34.82 | 0.20 | 167 | 150 | 12.24 | 34.82 | 0.14 | 26.42 | 162 | 0.38 |
| 154 | 12.16 | 34.82 | 0.13 | 160 | 200 | 11.38 | 34.77 | 0.13 | 26.55 | 150 | 0.46 |
| 182 | 11.68 | 34.78 | 0.14 | 154 | 250 | 10.62 | 34.74 | 0.18 | 26.66 | 139 | 0.53 |
| 217 | 11.09 | 34.76 | 0.12 | 146 | 300 | 10.00 | 34.69 | 0.17 | 26.73 | 132 | 0.60 |
| 248 | 10.64 | 34.74 | 0.18 | 139 | 400 | 8.83  | 34.62 | 0.24 | 26.87 | 119 | 0.73 |
| 297 | 10.03 | 34.70 | 0.17 | 132 | 500 | 7.62  | 34.60 | 0.17 | 27.04 | 103 | 0.85 |
| 351 | 9.41  | 34.63 | 0.23 | 128 | 600 | 6.48  | 34.57 | 0.18 | 27.17 | 90  | 0.95 |
| 436 | 8.41  | 34.62 | 0.24 | 113 |     |       |       |      |       |     |      |
| 520 | 7.38  | 34.59 | 0.15 | 100 |     |       |       |      |       |     |      |
| 605 | 6.43  | 34.57 | 0.18 | 90  |     |       |       |      |       |     |      |

BLACK DOUGLAS; January 22, 1960; 1640 GCT; 20°53.5'N, 112°30.5'W; sounding, 1580 fm; wind, 360°, force 3; weather, partly cloudy; sea, moderate; wire angle, 08°.

157.60

|     |       |       |      |     |     |       |       |      |       |     |      |
|-----|-------|-------|------|-----|-----|-------|-------|------|-------|-----|------|
| 0   | 21.41 | 34.64 | 4.65 | 380 | 0   | 21.41 | 34.64 | 4.65 | 24.12 | 380 | 0.00 |
| 10  | 21.40 | 34.64 | 4.63 | 380 | 10  | 21.40 | 34.64 | 4.63 | 24.12 | 380 | 0.04 |
| 30  | 21.40 | 34.66 | 4.65 | 378 | 20  | 21.40 | 34.65 | 4.64 | 24.13 | 379 | 0.08 |
| 40  | 21.34 | 34.69 | 4.48 | 374 | 30  | 21.40 | 34.66 | 4.65 | 24.14 | 378 | 0.11 |
| 55  | 16.17 | 34.67 | 0.57 | 252 | 50  | 17.60 | 34.67 | 1.57 | 25.14 | 283 | 0.18 |
| 69  | 15.39 | 34.72 | 0.18 | 231 | 75  | 15.09 | 34.75 | 0.12 | 25.78 | 223 | 0.24 |
| 93  | 14.28 | 34.80 | 0.06 | 202 | 100 | 14.07 | 34.81 | 0.06 | 26.05 | 197 | 0.30 |
| 113 | 13.73 | 34.81 | 0.06 | 191 | 125 | 13.44 | 34.79 | 0.06 | 26.16 | 186 | 0.35 |
| 134 | 13.23 | 34.78 | 0.06 | 183 | 150 | 12.93 | 34.80 | 0.06 | 26.27 | 176 | 0.39 |
| 153 | 12.88 | 34.80 | 0.06 | 175 | 200 | 12.01 | 34.81 | 0.06 | 26.46 | 158 | 0.48 |
| 184 | 12.40 | 34.81 | 0.06 | 165 | 250 | 10.72 | 34.77 | 0.04 | 26.67 | 138 | 0.55 |
| 217 | 11.57 | 34.80 | 0.06 | 151 | 300 | 9.23  | 34.65 | 0.06 | 26.83 | 123 | 0.62 |
| 247 | 10.80 | 34.78 | 0.04 | 139 | 400 | 7.64  | 34.56 | 0.09 | 27.01 | 106 | 0.74 |
| 297 | 9.32  | 34.66 | 0.06 | 124 | 500 | 6.60  | 34.51 | 0.10 | 27.11 | 96  | 0.84 |
| 352 | 8.14  | 34.56 | 0.06 | 113 | 600 | 6.04  | 34.54 | 0.10 | 27.21 | 87  | 0.94 |
| 435 | 7.28  | 34.56 | 0.11 | 102 |     |       |       |      |       |     |      |
| 520 | 6.42  | 34.51 | 0.11 | 94  |     |       |       |      |       |     |      |
| 605 | 6.02  | 34.54 | 0.10 | 87  |     |       |       |      |       |     |      |



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| OBSERVED |    |   |                | COMPUTED       | INTERPOLATED |    |   |                | COMPUTED       |                |       |
|----------|----|---|----------------|----------------|--------------|----|---|----------------|----------------|----------------|-------|
| Z        | T  | S | O <sub>2</sub> | δ <sub>T</sub> | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δ <sub>T</sub> | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton         | m            | °C | ‰ | ml/L           | g/L            | cl/ton         | dyn m |

157.70

BLACK DOUGLAS; January 22, 1960; 2120 GCT; 20°32'N, 113°06'W; sounding, 1800 fm; wind, 360°, force 3; weather, partly cloudy; sea, moderate; wire angle, 10°.

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 2   | 22.00 | 34.56 | 4.81 | 401 | 0   | (22.00) | (34.56) | (4.81) | (23.90) | (401) | (0.00) |
| 12  | 21.71 | 34.59 | 4.62 | 391 | 10  | 21.73   | 34.59   | 4.67   | 24.00   | 392   | 0.04   |
| 36  | 21.66 | 34.56 | 4.56 | 392 | 20  | 21.68   | 34.58   | 4.60   | 24.01   | 391   | 0.08   |
| 47  | 19.76 | 34.58 | 2.78 | 342 | 30  | 21.67   | 34.57   | 4.57   | 24.00   | 392   | 0.12   |
| 60  | 16.06 | 34.18 | 3.01 | 285 | 50  | 19.10   | 34.52   | 2.79   | 24.65   | 330   | 0.19   |
| 76  | 14.06 | 34.00 | 2.95 | 256 | 75  | 14.12   | 34.00   | 2.96   | 25.41   | 257   | 0.26   |
| 100 | 12.92 | 34.46 | 1.17 | 201 | 100 | 12.92   | 34.46   | 1.17   | 26.01   | 201   | 0.32   |
| 120 | 13.14 | 34.63 | 0.68 | 192 | 125 | 13.14   | 34.65   | 0.61   | 26.11   | 191   | 0.37   |
| 139 | 12.39 | 34.67 | 0.39 | 175 | 150 | 12.29   | 34.71   | 0.25   | 26.32   | 171   | 0.42   |
| 169 | 12.18 | 34.78 | 0.08 | 163 | 200 | 11.69   | 34.80   | 0.17   | 26.52   | 153   | 0.50   |
| 200 | 11.69 | 34.80 | 0.17 | 153 | 250 | 10.89   | 34.73   | 0.08   | 26.61   | 144   | 0.58   |
| 239 | 11.08 | 34.76 | 0.10 | 146 | 300 | 10.07   | 34.70   | 0.05   | 26.72   | 133   | 0.65   |
| 270 | 10.48 | 34.70 | 0.06 | 140 | 400 | 8.54    | 34.59   | 0.09   | 26.89   | 117   | 0.78   |
| 321 | 9.81  | 34.69 | 0.05 | 129 | 500 | 7.30    | 34.55   | 0.10   | 27.05   | 102   | 0.89   |
| 384 | 8.79  | 34.60 | 0.09 | 120 | 600 | 6.44    | 34.56   | 0.11   | 27.16   | 91    | 0.99   |
| 484 | 7.46  | 34.56 | 0.10 | 104 |     |         |         |        |         |       |        |
| 575 | 6.62  | 34.56 | 0.10 | 93  |     |         |         |        |         |       |        |
| 651 | 6.12  | 34.55 | 0.12 | 87  |     |         |         |        |         |       |        |

157.80

BLACK DOUGLAS; January 23, 1960; 0205, 0405 GCT; 20°12'N, 113°42'W; sounding, 2000+ fm; wind, 300°, force 3; weather, partly cloudy; sea, moderate; wire angle, 12°, 25°.

|       |         |         |      |     |      |       |       |      |       |     |      |
|-------|---------|---------|------|-----|------|-------|-------|------|-------|-----|------|
| 0     | 21.63   | 34.61   | 4.96 | 388 | 0    | 21.63 | 34.61 | 4.96 | 24.04 | 388 | 0.00 |
| 10    | 21.52   | 34.60   | 4.83 | 386 | 10   | 21.52 | 34.60 | 4.83 | 24.06 | 386 | 0.04 |
| 29    | 21.45a) | 34.57   | 4.89 | 386 | 20   | 21.48 | 34.58 | 4.86 | 24.06 | 386 | 0.08 |
| 59    | 21.02   | 34.60   | 4.89 | 373 | 30   | 21.45 | 34.57 | 4.89 | 24.06 | 386 | 0.12 |
| 69    | 18.42   | 34.14   | 4.59 | 342 | 50   | 21.40 | 34.57 | 4.89 | 24.07 | 385 | 0.19 |
| 83    | 15.48   | 34.00   | 4.15 | 286 | 75   | 17.85 | 34.13 | 4.51 | 24.66 | 329 | 0.28 |
| 97    | 13.54   | 33.93   | 3.46 | 252 | 100  | 13.37 | 33.95 | 3.25 | 25.52 | 247 | 0.36 |
| 112   | 12.94   | 34.09   | 2.40 | 228 | 125  | 12.32 | 34.18 | 1.83 | 25.91 | 210 | 0.41 |
| 135   | 12.08   | 34.24   | 1.59 | 202 | 150  | 12.06 | 34.52 | 0.86 | 26.22 | 181 | 0.46 |
| 156   | 12.05   | 34.57   | 0.74 | 177 | 200  | 11.19 | 34.56 | 0.49 | 26.42 | 162 | 0.55 |
| 184   | 11.52   | 34.54   | 0.51 | 169 | 250  | 10.46 | 34.63 | 0.28 | 26.60 | 145 | 0.63 |
| 213   | 10.96   | 34.58   | 0.47 | 156 | 300  | 9.70  | 34.63 | 0.20 | 26.74 | 132 | 0.70 |
| 243   | 10.56   | 34.62   | 0.30 | 147 | 400  | 8.40  | 34.60 | 0.18 | 26.92 | 114 | 0.83 |
| 290   | 9.84    | 34.63   | 0.21 | 134 | 500  | 7.36  | 34.55 | 0.15 | 27.04 | 103 | 0.94 |
| 345   | 9.04    | 34.63   | 0.15 | 122 | 600  | 6.43  | 34.49 | 0.16 | 27.12 | 95  | 1.05 |
| 427   | 8.02    | 34.60   | 0.15 | 109 | 700  | 5.71  | 34.49 | 0.20 | 27.21 | 87  | 1.14 |
| 510   | 7.26    | 34.55   | 0.15 | 102 | 800  | 5.13  | 34.50 | 0.26 | 27.28 | 80  | 1.24 |
| 594   | 6.39    | 34.52   | 0.17 | 93  | 1000 | 4.33  | 34.53 | 0.45 | 27.40 | 69  | 1.40 |
|       |         |         |      |     | 1200 | 3.72  | 34.57 | 0.64 | 27.49 | 60  | 1.55 |
| 381b) | 8.69    | 34.51 6 | 0.27 | 125 | 1500 | 2.93  | 34.59 | 1.20 | 27.59 | 51  | 1.74 |
| 478   | 7.58    | 34.50 0 | 0.28 | 110 | 2000 | 2.13  | 34.63 | 2.08 | 27.68 | 42  | 2.03 |
| 574   | 6.71    | 34.48 2 | 0.19 | 99  | 2500 | 1.79  | 34.65 | 2.60 | 27.73 | 37  | 2.28 |
| 671   | 5.91    | 34.49 1 | 0.19 | 89  | 3000 | 1.60  | 34.66 | 2.80 | 27.75 | 36  | 2.51 |
| 769   | 5.29    | 34.49 6 | 0.21 | 82  |      |       |       |      |       |     |      |
| 964   | 4.46    | 34.52 5 | 0.43 | 71  |      |       |       |      |       |     |      |
| 1155  | 3.86    | 34.55 8 | 0.60 | 62  |      |       |       |      |       |     |      |
| 1350  | 3.30    | 34.61 1 | 0.89 | 53  |      |       |       |      |       |     |      |
| 1544  | 2.84    | 34.58 5 | 1.30 | 51  |      |       |       |      |       |     |      |
| 1740  | 2.50    | 34.61 2 | 1.71 | 46  |      |       |       |      |       |     |      |
| 1936  | 2.20    | 34.62 0 | 1.99 | 43  |      |       |       |      |       |     |      |
| 2134  | 2.02    | 34.64 5 | 2.33 | 40  |      |       |       |      |       |     |      |
| 2328  | 1.90    | 34.64 9 | 2.39 | 38  |      |       |       |      |       |     |      |
| 2524  | 1.78    | 34.65 7 | 2.61 | 37  |      |       |       |      |       |     |      |
| 2722  | 1.71    | 34.66 7 | 2.73 | 36  |      |       |       |      |       |     |      |
| 2921  | 1.64    | 34.65 8 | 2.78 | 36  |      |       |       |      |       |     |      |
| 3020  | 1.60    | 34.65 1 | 2.80 | 36  |      |       |       |      |       |     |      |
| 3120  | 1.61    | 34.67 3 | 2.91 | 35  |      |       |       |      |       |     |      |

a) Alternate value, 21.30°C, not used in interpolation.

b) Overlapping casts; reconciliation of property curves when necessary.



| OBSERVED |    |   |                | COMPUTED | INTERPOLATED |    |   |                | COMPUTED       |        |       |
|----------|----|---|----------------|----------|--------------|----|---|----------------|----------------|--------|-------|
| Z        | T  | S | O <sub>2</sub> | δT       | Z            | T  | S | O <sub>2</sub> | σ <sub>t</sub> | δT     | ΔD    |
| m        | °C | ‰ | ml/L           | cl/ton   | m            | °C | ‰ | ml/L           | g/L            | cl/ton | dyn m |

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BLACK DOUGLAS; January 19, 1960; 0408 GCT; 23°40'N, 109°27.5'W; sounding, 270 fm; wind, 320°, force 6; weather, cloudy; sea, very rough; wire angle, 30°.

7/1516.40

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 19.78 | 35.26 | 4.32 | 293 | 0   | (19.78) | (35.26) | (4.32) | (25.04) | (293) | (0.00) |
| 9   | 19.76 | 35.28 | 4.40 | 291 | 10  | 19.76   | 35.28   | 4.39   | 25.06   | 291   | 0.03   |
| 27  | 19.78 | 35.28 | 4.27 | 292 | 20  | 19.77   | 35.28   | 4.31   | 25.06   | 291   | 0.06   |
| 45  | 19.81 | 35.25 | 4.31 | 294 | 30  | 19.79   | 35.28   | 4.28   | 25.05   | 292   | 0.09   |
| 66  | 19.74 | 35.28 | 4.18 | 291 | 50  | 19.80   | 35.26   | 4.28   | 25.03   | 294   | 0.15   |
| 87  | 19.64 | 35.24 | 4.25 | 291 | 75  | 19.71   | 35.26   | 4.22   | 25.06   | 291   | 0.22   |
| 109 | 16.34 | 34.87 | 1.01 | 240 | 100 | 16.80   | 34.91   | 1.39   | 25.51   | 248   | 0.29   |
| 146 | 14.24 | 34.76 | 0.38 | 204 | 125 | 15.00   | 34.81   | 0.52   | 25.84   | 217   | 0.35   |
| 181 | 12.58 | 34.78 | 0.20 | 170 | 150 | 13.90   | 34.76   | 0.33   | 26.04   | 198   | 0.40   |
| 225 | 11.77 | 34.76 | 0.11 | 157 | 200 | 12.19   | 34.77   | 0.15   | 26.40   | 164   | 0.49   |
| 270 | 11.10 | 34.74 | 0.07 | 147 | 250 | 11.39   | 34.75   | 0.08   | 26.54   | 151   | 0.57   |
| 369 | 9.45  | 34.65 | 0.07 | 127 | 300 | 10.65   | 34.71   | 0.07   | 26.64   | 141   | 0.65   |

BLACK DOUGLAS; January 17, 1960; 1432 GCT; 22°40.5'N, 109°09'W; sounding, 1500+ fm; wind, 320°, force 7; weather, cloudy; sea, rough; wire angle, 15°.

7/1576.25

|     |       |       |      |     |     |       |       |      |         |       |        |
|-----|-------|-------|------|-----|-----|-------|-------|------|---------|-------|--------|
| 1   | 22.38 | 34.64 | 4.78 | 406 | 0   | 22.38 | 34.64 | 4.78 | (23.85) | (406) | (0.00) |
| 10  | 22.38 | 34.67 | 4.78 | 403 | 10  | 22.38 | 34.67 | 4.78 | 23.88   | 403   | 0.04   |
| 34  | 21.63 | 34.58 | 4.45 | 390 | 20  | 22.38 | 34.67 | 4.77 | 23.88   | 403   | 0.08   |
| 44  | 20.12 | 34.58 | 4.03 | 351 | 30  | 22.38 | 34.67 | 4.77 | 23.88   | 403   | 0.12   |
| 58  | 18.15 | 34.46 | 2.05 | 312 | 50  | 18.80 | 34.45 | 2.82 | 24.67   | 328   | 0.19   |
| 73  | 18.26 | 34.92 | 2.18 | 281 | 75  | 18.30 | 34.94 | 2.17 | 25.17   | 281   | 0.27   |
| 98  | 14.54 | 34.63 | 0.83 | 220 | 100 | 14.52 | 34.63 | 0.83 | 25.81   | 219   | 0.34   |
| 118 | 14.23 | 34.81 | 0.91 | 201 | 125 | 13.98 | 34.81 | 0.84 | 26.06   | 196   | 0.39   |
| 136 | 13.61 | 34.80 | 0.68 | 189 | 150 | 13.27 | 34.82 | 0.54 | 26.22   | 181   | 0.44   |
| 166 | 12.89 | 34.84 | 0.42 | 172 | 200 | 11.90 | 34.77 | 0.22 | 26.45   | 159   | 0.52   |
| 195 | 12.06 | 34.78 | 0.25 | 161 | 250 | 10.88 | 34.70 | 0.14 | 26.59   | 146   | 0.60   |
| 234 | 11.11 | 34.72 | 0.15 | 149 | 300 | 10.11 | 34.68 | 0.09 | 26.71   | 134   | 0.67   |
| 264 | 10.67 | 34.69 | 0.13 | 144 | 400 | 8.56  | 34.59 | 0.11 | 26.89   | 117   | 0.80   |
| 312 | 9.92  | 34.68 | 0.09 | 132 | 500 | 7.52  | 34.59 | 0.10 | 27.05   | 102   | 0.92   |
| 378 | 8.82  | 34.60 | 0.11 | 121 | 600 | 6.50  | 34.57 | 0.08 | 27.17   | 91    | 1.02   |
| 475 | 7.78  | 34.60 | 0.11 | 105 |     |       |       |      |         |       |        |
| 564 | 6.84  | 34.58 | 0.08 | 94  |     |       |       |      |         |       |        |
| 638 | 6.20  | 34.57 | 0.08 | 87  |     |       |       |      |         |       |        |

BLACK DOUGLAS; January 17, 1960; 1712 GCT; 22°48'N, 108°55'W; sounding, 1500 fm; wind, 320°, force 7; weather, overcast; sea, very rough; wire angle, 30°.

7/1576.40

|     |       |       |      |     |     |         |         |        |         |       |        |
|-----|-------|-------|------|-----|-----|---------|---------|--------|---------|-------|--------|
| 1   | 22.28 | 34.75 | 4.86 | 395 | 0   | (22.28) | (34.75) | (4.86) | (23.97) | (395) | (0.00) |
| 9   | 22.26 | 34.77 | 4.89 | 393 | 10  | 22.26   | 34.77   | 4.89   | 23.99   | 393   | 0.04   |
| 27  | 22.29 | 34.81 | 4.89 | 391 | 20  | 22.28   | 34.80   | 4.89   | 24.01   | 391   | 0.08   |
| 36  | 22.04 | 34.88 | 4.65 | 379 | 30  | 22.28   | 34.81   | 4.87   | 24.02   | 390   | 0.12   |
| 50  | 21.40 | 35.08 | 4.10 | 348 | 50  | 21.40   | 35.08   | 4.10   | 24.46   | 348   | 0.19   |
| 64  | 18.46 | 34.72 | 2.62 | 300 | 75  | 16.60   | 34.59   | 1.25   | 25.31   | 267   | 0.27   |
| 85  | 15.98 | 34.58 | 0.93 | 254 | 100 | 15.40   | 34.73   | 0.98   | 25.69   | 231   | 0.33   |
| 102 | 15.02 | 34.74 | 1.01 | 222 | 125 | 13.96   | 34.82   | 0.69   | 26.08   | 194   | 0.39   |
| 120 | 14.08 | 34.78 | 0.66 | 200 | 150 | 13.34   | 34.88   | 0.70   | 26.25   | 178   | 0.43   |
| 138 | 13.64 | 34.89 | 0.77 | 183 | 200 | 12.01   | 34.81   | 0.24   | 26.46   | 158   | 0.52   |
| 194 | 12.13 | 34.81 | 0.28 | 160 | 250 | 11.18   | 34.79   | 0.14   | 26.60   | 145   | 0.60   |
| 221 | 11.66 | 34.83 | 0.20 | 150 | 300 | 10.24   | 34.67   | 0.10   | 26.67   | 138   | 0.67   |
| 264 | 10.92 | 34.76 | 0.12 | 143 | 400 | 9.06    | 34.64   | 0.12   | 26.84   | 122   | 0.80   |
| 312 | 10.06 | 34.66 | 0.10 | 136 | 500 | 7.55    | 34.58   | 0.08   | 27.04   | 103   | 0.92   |
| 386 | 9.26  | 34.64 | 0.12 | 124 |     |         |         |        |         |       |        |
| 465 | 8.02  | 34.61 | 0.11 | 108 |     |         |         |        |         |       |        |
| 546 | 7.07  | 34.56 | 0.07 | 99  |     |         |         |        |         |       |        |



| Station  | Date  | Time<br>GCT | Latitude<br>North | Longitude<br>West | Sounding<br>(fm) | Wind |       | Weather       | Sea        | 10 Meters |       |
|----------|-------|-------------|-------------------|-------------------|------------------|------|-------|---------------|------------|-----------|-------|
|          |       |             |                   |                   |                  | Dir  | Force |               |            | T         | S     |
| 40.55-H  | II-4  | 1502        | 41°14.5'          | 125°42.0'         | 1660             | 160° | 6     | drizzle       | very rough | 10.90     | 32.84 |
| 60.52-H  | I-24  | 0616        | 37°54.0'          | 123°02.0'         | 42               | 090° | 3     | overcast      | moderate   | 12.08     | 33.46 |
| 63.52-H  | II-11 | 2020        | 37°17.5'          | 122°36.5'         | 45               | 360° | 2     | clear         | very rough | 12.51     | 33.33 |
| 77.50-H  | I-17  | 1730        | 35°04.0'          | 120°52.5'         | 80               | 090° | 2     | partly cloudy | very rough | 13.00     | 33.56 |
| 80.52-H  | 17    | 0725        | 34°25.0'          | 120°35.0'         | 135              | 320° | 3     | partly cloudy | moderate   | 13.30     | 33.57 |
| 87.50-H  | 12    | 1350        | 33°20.0'          | 119°39.5'         | 37               | 320° | 7     | partly cloudy | high       | 13.70     | 33.54 |
| 93.35-O  | 9     | 0609        | 32°40.5'          | 117°51.5'         | 380              | 180° | 1     | cloudy        | moderate   | 15.33     | 33.63 |
| 93.45-O  | 9     | 1135        | 32°18.0'          | 118°33.0'         | 900              | 170° | 3     | cloudy        | moderate   | 16.38     | 33.76 |
| 93.55-O  | 9     | 1750        | 31°55.0'          | 119°11.0'         | 600              | 170° | 4     | cloudy        | moderate   | 15.68     | 33.70 |
| 97.35-O  | 12    | 0540        | 32°03.0'          | 117°29.0'         | 600              | 290° | 2     | cloudy        | rough      | 15.67     | 33.65 |
| 97.45-O  | 12    | 0018        | 31°47.5'          | 118°06.5'         | 650              | 300° | 4     | cloudy        | high       | 16.44     | 33.81 |
| 97.55-O  | 11    | 1818        | 31°28.5'          | 118°48.5'         | 2000+            | 300° | 5     | cloudy        | very rough | 16.01     | 33.77 |
| 100.29-O | 13    | 1535        | 31°42.0'          | 116°43.5'         | 50               | 200° | 3     | overcast      | rough      | 14.76     | 33.62 |
| 100.35-O | 13    | 1925        | 31°31.0'          | 117°06.5'         | 580              | 290° | 2     | partly cloudy | very rough | 15.27     | 33.65 |
| 100.45-O | 14    | 0150        | 31°08.0'          | 117°45.5'         | 1100             | 290° | 4     | cloudy        | high       | 15.32     | 33.64 |
| 100.55-O | 14    | 0750        | 30°48.0'          | 118°22.5'         | 1500             | 290° | 4     | partly cloudy | very rough | 15.50     | 33.66 |
| 103.45-O | 17    | 0205        | 30°39.0'          | 117°23.0'         | 1500             | 310° | 5     | cloudy        | very rough | 15.98     | 33.75 |
| 103.55-O | 16    | 2001        | 30°21.5'          | 118°03.5'         | 1600             | 310° | 5     | partly cloudy | high       | 15.66     | 33.71 |
| 107.45-O | 18    | 0643        | 30°00.0'          | 117°04.0'         | 1050             | calm |       | clear         | very rough | 16.09     | 33.84 |

TEMPERATURE AND SALINITY AT 10 METERS (NET-TOW STATIONS)



| Station  | Date  | Time<br>GCT | Latitude<br>North | Longitude<br>West | Sounding<br>(fm) | Wind |       | Weather       | Sea        | 10 Meters |       |
|----------|-------|-------------|-------------------|-------------------|------------------|------|-------|---------------|------------|-----------|-------|
|          |       |             |                   |                   |                  | Dir  | Force |               |            | T         | S     |
| 107.55-O | I-18  | 1219        | 29°35.0'          | 117°39.5'         | 1750             | -    | 1     | partly cloudy | moderate   | 15.56     | 33.63 |
| 110.45-O | 21    | 1026        | 29°29.5'          | 116°41.5'         | 1675             | -    | 1     | clear         | slight     | 15.91     | 33.74 |
| 110.55-O | 21    | 0440        | 29°07.0'          | 117°21.0'         | 1830             | -    | 1     | clear         | slight     | 15.70     | 33.65 |
| 113.45-O | 22    | 0952        | 28°50.0'          | 116°15.0'         | 1500             | 310° | 1     | clear         | slight     | 16.30     | 33.71 |
| 113.55-O | 22    | 1522        | 28°24.5'          | 116°49.5'         | 2000+            | 300° | 2     | partly cloudy | moderate   | 16.08     | 33.65 |
| 117.45-O | 24    | 2120        | 28°16.5'          | 115°56.0'         | 1745             | 310° | 3     | cloudy        | rough      | 16.84     | 34.07 |
| 117.55-O | 24    | 1302        | 27°58.0'          | 116°37.0'         | 2000             | 320° | 3     | cloudy        | rough      | 16.28     | 33.68 |
| 120.40-O | 26    | 0505        | 27°56.0'          | 115°14.5'         | 21               | 310° | 3     | clear         | rough      | 16.28     | 34.09 |
| 120.55-B | II- 5 | 1810        | 27°20.0'          | 116°13.5'         | 2100             | 360° | 4     | partly cloudy | rough      | 16.76     | 33.96 |
| 123.45-B | 3     | 2010        | 27°08.0'          | 115°11.5'         | 2200             | 340° | 6     | clear         | high       | 16.78     | 34.12 |
| 123.55-B | 4     | 0345        | 26°48.5'          | 115°49.5'         | 2000             | 320° | 5     | clear         | high       | 17.26     | 33.95 |
| 127.45-B | 3     | 0310        | 26°33.0'          | 114°48.5'         | 1800             | 320° | 5     | partly cloudy | very rough | 17.25     | 34.06 |
| 127.55-B | 2     | 2145        | 26°15.5'          | 115°25.5'         | 2000             | 320° | 4     | overcast      | high       | 17.92     | 34.04 |
| 130.45-B | 1     | 1140        | 25°58.5'          | 114°26.5'         | 1800             | 310° | 4     | clear         | moderate   | 17.62     | 34.11 |
| 130.55-B | 1     | 1645        | 25°39.0'          | 115°04.0'         | 1850             | 320° | 3     | clear         | rough      | 17.96     | 34.03 |
| 133.35-B | I-31  | 1330        | 25°44.5'          | 113°26.5'         | 320              | 300° | 3     | partly cloudy | moderate   | 18.24     | 34.29 |
| 133.45-B | 31    | 0745        | 25°23.0'          | 113°59.5'         | 2120             | 320° | 2     | cloudy        | moderate   | 19.10     | 34.42 |
| 133.55-B | 31    | 0215        | 25°03.0'          | 114°42.0'         | 1800             | 360° | 3     | cloudy        | moderate   | 18.68     | 34.18 |
| 134.36-B | 31    | 1200        | 25°34.0'          | 113°22.5'         | 95               | 300° | 2     | cloudy        | slight     | 18.12     | 34.29 |

TEMPERATURE AND SALINITY AT 10 METERS (NET-TOW STATIONS)

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## TEMPERATURE AND SALINITY AT 10 METERS (NET-TOW STATIONS)

| Station  | Date | Time<br>GCT | Latitude<br>North | Longitude<br>West | Sounding<br>(fm) | Wind |       | Weather       | Sea        | 10 Meters |       |
|----------|------|-------------|-------------------|-------------------|------------------|------|-------|---------------|------------|-----------|-------|
|          |      |             |                   |                   |                  | Dir  | Force |               |            | T         | S     |
| 137.45-B | I-29 | 1945        | 24°53.5'          | 113°43.5'         | 1800             | 320° | 2     | overcast      | moderate   | 19.19     | 34.38 |
| 137.55-B | 30   | 0120        | 24°33.0'          | 114°26.0'         | 1800             | 320° | 2     | overcast      | moderate   | 19.04     | 34.34 |
| 140.45-B | 28   | 1420        | 24°15.0'          | 113°21.0'         | 1800             | 340° | 4     | cloudy        | rough      | 19.54     | 34.51 |
| 140.55-B | 28   | 0835        | 23°55.5'          | 113°58.5'         | 1800             | 340° | 6     | missing       | very rough | 19.11     | 34.33 |
| 143.45-B | 27   | 1400        | 23°45.0'          | 113°00.0'         | 1600             | 320° | 4     | partly cloudy | rough      | 21.02     | 34.65 |
| 143.55-B | 27   | 1915        | 23°23.0'          | 113°37.0'         | 1820             | 320° | 6     | cloudy        | rough      | 21.22     | 34.67 |
| 147.35-B | 26   | 1435        | 23°25.0'          | 112°00.0'         | 1000             | 330° | 4     | cloudy        | rough      | 20.53     | 34.58 |
| 147.45-B | 26   | 0900        | 23°05.5'          | 112°37.5'         | 1700             | 330° | 3     | clear         | rough      | 20.72     | 34.62 |
| 147.55-B | 26   | 0315        | 22°45.5'          | 113°15.0'         | 1950             | 320° | 3     | cloudy        | rough      | 21.84     | 34.94 |
| 150.35-B | 25   | 0500        | 22°51.0'          | 111°38.5'         | 1540             | 320° | 3     | partly cloudy | rough      | 20.66     | 34.63 |
| 150.45-B | 25   | 1005        | 22°33.0'          | 112°16.0'         | 1700             | 320° | 3     | partly cloudy | rough      | 21.26     | 34.70 |
| 150.55-B | 25   | 1430        | 22°13.0'          | 112°54.0'         | 1750             | 320° | 2     | partly cloudy | rough      | 21.54     | 34.70 |
| 153.25-B | 16   | 1250        | 22°37.0'          | 110°40.0'         | 1300             | 300° | 5     | overcast      | very rough | 21.07     | 34.70 |
| 153.35-B | 24   | 1210        | 22°17.0'          | 111°17.5'         | 1800             | 310° | 3     | partly cloudy | moderate   | 21.62     | 34.74 |
| 153.45-B | 24   | 0545        | 21°57.0'          | 111°55.0'         | 1640             | 360° | 2     | partly cloudy | rough      | 21.30     | 34.68 |
| 153.55-B | 23   | 2350        | 21°36.5'          | 112°31.5'         | 1700             | 010° | 3     | partly cloudy | rough      | 22.34     | 34.60 |
| 157.25-B | 17   | 0015        | 22°02.5'          | 110°19.0'         | 1000             | 350° | 7     | overcast      | very rough | 23.10     | 34.60 |
| 157.35-B | 22   | 0340        | 21°42.5'          | 110°56.0'         | 1600             | 300° | 2     | cloudy        | moderate   | 22.87     | 34.56 |
| 157.45-B | 22   | 0850        | 21°24.0'          | 111°34.0'         | 1850             | 330° | 4     | partly cloudy | rough      | 23.08     | 34.44 |
| 157.55-B | 22   | 1355        | 21°06.5'          | 112°11.0'         | 1600             | 330° | 3     | partly cloudy | moderate   | 21.26     | 34.67 |



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