

LIMNOLOGICAL DATA REPORT NO. 4

# LAKE ONTARIO

CRUISE 66 - 5 JUNE 26 - 30

PUBLISHED BY  
CANADIAN OCEANOGRAPHIC DATA CENTRE

CANADA CENTRE FOR INLAND WATERS

BURLINGTON • ONTARIO

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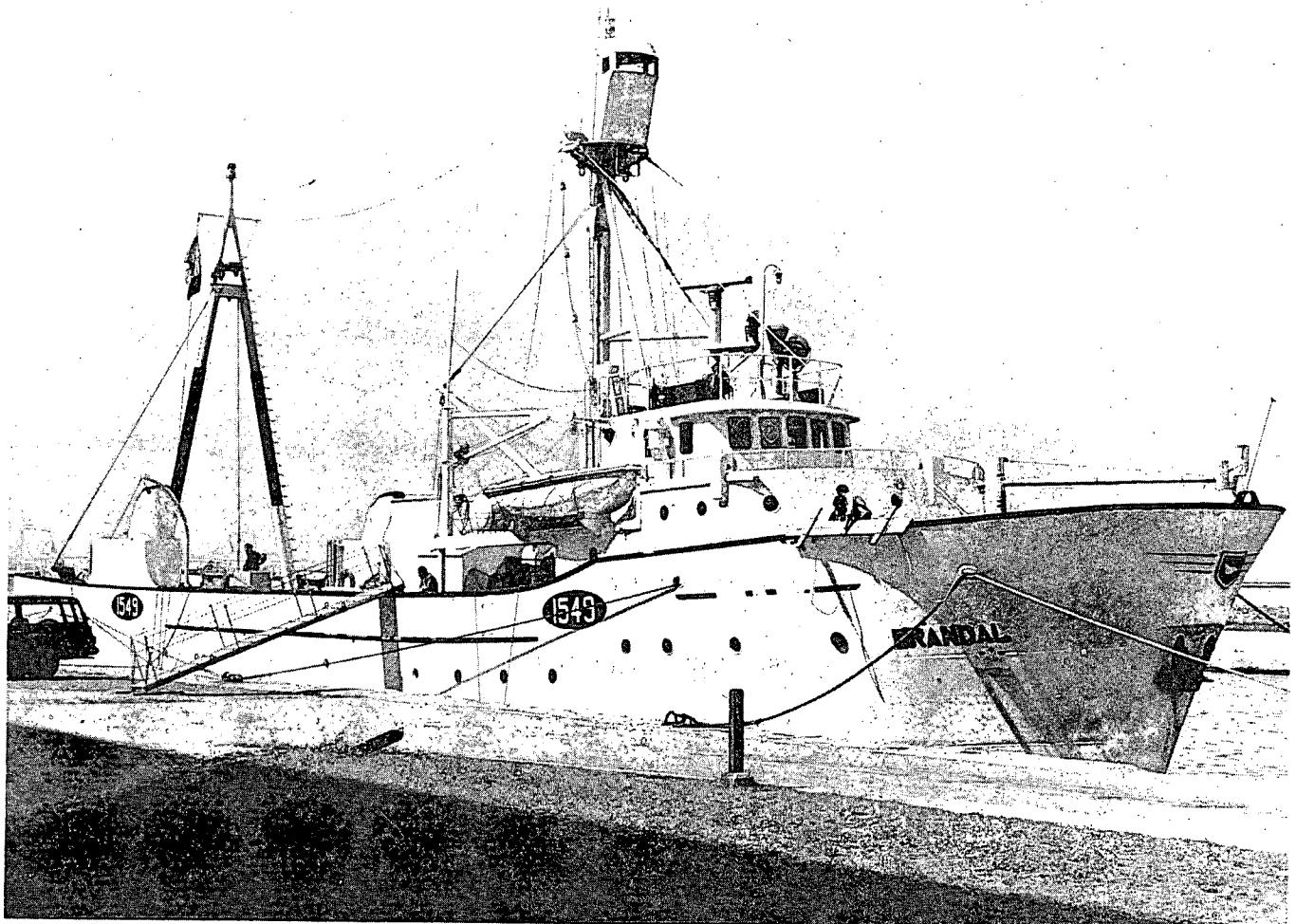
**DEPARTMENT of ENERGY, MINES & RESOURCES**

**and**

**PUBLIC HEALTH ENGINEERING DIVISION**

**DEPARTMENT of NATIONAL HEALTH & WELFARE**

**CANADA**



M. V. "Brandal"



**LIMNOLOGICAL DATA REPORT NO.4**

**LAKE ONTARIO**

**CRUISE 66 - 5, JUNE 26 - 30**

**1966**

**CANADA CENTRE FOR INLAND WATERS  
BURLINGTON, ONTARIO**

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CANADIAN OCEANOGRAPHIC DATA CENTRE  
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## FOREWORD

This report contains limnological data gathered for research and monitoring purposes, primarily to provide data required in connection with the IJC reference on pollution of Lakes Erie and Ontario.

The agencies involved were:

Department of Energy, Mines and Resources  
Department of National Health and Welfare

The joint reference of the Governments of Canada and the United States to the International Joint Commission was for information on the following questions:

- (1) Are the waters of Lake Erie, Lake Ontario and the International Section of the St. Lawrence River being polluted on either side of the boundary to an extent which is causing or is likely to cause injury to health or property on the other side of the boundary?
- (2) If the foregoing question is answered in the affirmative, to what extent, by what causes, and in what localities is such pollution taking place?
- (3) If the Commission should find that pollution of the character just referred to is taking place, what remedial measures would, in its judgement, be most practicable from the economic, sanitary and other points of view and what would be the probable cost thereof?

These data have been made available to International Joint Commission agencies, federal and provincial, operating under the respective Boards: The International Lake Erie Water Pollution Board and the International Lake Ontario - St. Lawrence River Water Pollution Board.

In view of their interest to limnological research workers who are not formally charged with studies on behalf of the International Joint Commission, these data are distributed widely in this report. Because of difficulties in interpretation, anyone using these data in the preparation of a paper or report which draws conclusions pertaining to the three questions posed above, is requested by the IJC Pollution Reference Boards to discuss the data interpretation with the agencies concerned before publishing the report or paper. Such discussion can be arranged through the Canada Centre for Inland Waters, P.O. Box 5050, Burlington, Ontario.

In all other respects, the data are free to be used for scientific research and studies and should be acknowledged in accordance with the usual scientific practice.

## INTRODUCTION

This report is one of a series listing chemical, bacteriological and physical data for waters of Lake Ontario and Lake Erie, observed by Government of Canada agencies. The first twelve reports cover the year 1966, during which Lake Ontario was surveyed from June 1 to October 3, and Lake Erie, from August 8 to August 14.

The 1966 surveys were carried out by the Great Lakes Division (Inland Waters Branch) and the Canadian Hydrographic Service (Marine Sciences Branch), both of which are Branches of the Department of Energy, Mines and Resources, and by the Public Health Engineering Division of the Department of National Health and Welfare. Staff from the three agencies carried out the work aboard the 140-foot stern trawler "Brandal", chartered by the Department of Energy, Mines and Resources.

Water-quality data gathered during eighteen cruises in 1966 are contained in twelve separate reports in the present series. Not reported on is a nineteenth cruise, from August 23 to 28, which was for seismic purposes only. Supplementary bathythermograph data and weather data are available on request from the Canada Centre for Inland Waters, P.O. Box 5050, Burlington, Ontario.

The Canadian Government's program developed in response to a request directed to the International Joint Commission by the Governments of Canada and the United States, that information relating to pollution of Lake Ontario, Lake Erie, and the international section of the St. Lawrence River be gathered. Preliminary listings of the data have already been made available to agencies preparing a report for the International Joint Commission.

The bacteriological data have already been published in Manuscript Report No. 67-1 of the Public Health Engineering Division, Department of National Health and Welfare. These data are again published in the present series of reports to facilitate comparison with the chemical and physical data.

Figure 1 shows the geographical locations of the observations listed in this data record, together with the vessel's track and the locations of bathythermograph lowerings.

LAKE ONTARIO  
JUNE 26 - 30 1966  
CODEC. REF. NO. 66-22-005

LEGEND  
LIMNOLOGICAL STATIONS---•  
SMALL CRAFT SAMPLING---○  
BOTTOM GRAB ---□  
B.T. ONLY ---X  
ANCHOR STATIONS---]

**Summary of the cruises and data listed in Data Reports Nos. 1 to 12. (An "X" indicates that the parameter is reported for one or more stations in the particular cruise).**

| Data Report No.  | 1                 |                    | 2                   | 3                   | 4                   | 5                  | 6                   |                     |
|------------------|-------------------|--------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------------------|
| Cruise No.       | 66-1              | 66-2               | 66-3                | 66-4                | 66-5                | 66-6               | 66-7                | 66-8                |
| Dates (1966)     | June 1<br>-June 5 | June 7<br>-June 10 | June 15<br>-June 19 | June 21<br>-June 25 | June 26<br>-June 30 | July 4<br>-July 10 | July 12<br>-July 15 | July 19<br>-July 24 |
| Cruise type      | Physical          | Monitor            | Physical            | Monitor             | Coastal             | Monitor            | Geology             | Monitor             |
| Lake             | Ontario           | Ontario            | Ontario             | Ontario             | Ontario             | Ontario            | Ontario             | Ontario             |
| Vessel           | Brandal           | Brandal            | Brandal             | Brandal             | Brandal             | Brandal            | Brandal             | Brandal             |
| No. of stations  | 35                | 39                 | 107                 | 88                  | 113                 | 125                | 75                  | 88                  |
| No. of BT slides | 133               | 39                 | 120                 | 88                  | 115                 | 125                | 76                  | 116                 |

**Station data:**

|                           |   |   |   |   |   |   |   |   |
|---------------------------|---|---|---|---|---|---|---|---|
| Date/time                 | X | X | X | X | X | X | X | X |
| Sounding                  | X | X | X | X | X | X | X | X |
| BT slide no.              | X | X | X | X | X | X | X | X |
| Secchi depth              | X | X | X | X | X | X |   | X |
| Sample depth              | X | X | X | X | X | X | X | X |
| Temperature               | X | X | X | X | X | X |   | X |
| Conductance, 18°C.        | X | X |   | X | X | X | X | X |
| Dissolved oxygen          |   |   |   | X | X | X | X | X |
| pH at 25°C.               |   |   |   | X | X | X | X | X |
| Turbidity                 |   |   |   |   | X |   |   | X |
| B.O.D.                    |   |   |   |   |   | X |   | X |
| Total alkalinity          |   | X |   | X | X | X |   | X |
| Hardness                  |   |   |   |   | X | X |   | X |
| Chloride                  |   |   |   |   | X | X |   | X |
| Nitrate + nitrite         |   |   |   |   |   |   |   |   |
| Nitrite                   |   |   |   | X | X | X |   | X |
| Reactive phosphate        |   |   |   |   |   |   |   |   |
| Phenol                    |   |   |   |   | X | X |   | X |
| Total residue             |   |   |   |   |   |   |   |   |
| MP coliforms              | X | X |   | X | X | X |   | X |
| MP enterococci            | X | X |   | X | X | X |   | X |
| 20°C standard plate count |   | X |   |   | X | X |   | X |
| 35°C standard plate count |   | X |   |   | X | X |   | X |

| 7                              |                               | 8                  | 9                   |                     | 10                   |                       | 11                    | 12                    |                                |
|--------------------------------|-------------------------------|--------------------|---------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|--------------------------------|
| 66-9                           | 66-10                         | 66-11              | 66-12               | 66-14               | 66-15                | 66-16                 | 66-17                 | 66-18                 | 66-19                          |
| July 26<br>-July 29            | Aug. 2<br>-Aug. 7             | Aug. 8<br>-Aug. 14 | Aug. 15<br>-Aug. 19 | Aug. 29<br>-Sept. 2 | Sept. 6<br>-Sept. 11 | Sept. 12<br>-Sept. 16 | Sept. 20<br>-Sept. 24 | Sept. 26<br>-Sept. 29 | Oct. 1<br>-Oct. 3              |
| Physical<br>Ontario<br>Brandal | Monitor<br>Ontario<br>Brandal | Monitor<br>Erie    | Monitor<br>Ontario  | Monitor<br>Ontario  | Geology<br>Ontario   | Monitor<br>Ontario    | Coastal<br>Ontario    | Monitor<br>Ontario    | Physical<br>Ontario<br>Brandal |
| 62<br>105                      | 79<br>106                     | 105<br>97          | 69<br>96            | 47<br>70            | 92<br>92             | 54<br>81              | 109<br>109            | 47<br>72              | 45<br>94                       |

|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X |   | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X |   | X | X | X | X |
|   | X | X | X | X | X | X | X | X |   |
|   | X | X | X | X | X | X | X | X | X |
|   | X | X | X | X | X | X | X | X |   |
|   | X | X | X | X |   | X | X | X |   |
|   | X | X | X | X |   | X | X | X |   |
|   | X | X | X | X |   | X | X | X |   |
|   |   | X | X | X |   | X | X | X |   |
|   | X | X | X | X |   | X | X | X |   |
|   | X | X | X | X |   | X | X | X |   |
|   |   |   |   |   |   |   |   |   |   |
|   | X | X | X | X |   | X | X | X |   |
|   | X | X | X | X |   | X | X | X |   |
|   | X | X | X | X |   | X | X | X |   |
|   | X | X | X | X |   | X | X | X |   |

### Description of the Data Record

Information in the headings for each station:

|              |         |          |                  |
|--------------|---------|----------|------------------|
| 1. C-REF-No. | 5. LAT. | 7. YEAR  | 11. No. DEPTHS   |
| 2. CONS. No. | 6. LON. | 8. MONTH | 12. SOUNDING     |
| 3. COUNTRY   |         | 9. DAY   | 13. BT SLIDE No. |
| 4. INSTITUTE |         | 10. TIME |                  |

### Explanations:

- (1) Cruise number: the 1966 cruises are numbered consecutively from 01 to 19, without regard for the lake involved. (In following years, consecutive numbers will be assigned to each lake separately).
- (2) Consecutive station number: the stations within each cruise are numbered in chronological order.
- (4) Institute: For filing purposes, the institute code was 22 (Inland Waters Branch, Department of Energy, Mines and Resources).
- (5) and (6) indicate the latitude and longitude of the vessel, in degrees, minutes and seconds, at the time of the observations.
- (7), (8) and (9) indicate the date of the observations, according to Greenwich Mean Time.
- (10) Indicates the messenger time in hours and minutes (Greenwich Mean Time) for the first bottle cast at the station. The hours of each day are numbered from 00 to 23.
- (11) The number of depths at which observations were made. This should correspond to the number of depths actually listed. The count is listed to reveal omissions due to the loss of punch-cards.
- (12) The sounding is listed in meters, to the nearest meter.
- (13) Indicates the bathythermograph slide number corresponding to the particular station. The slides are numbered consecutively within each cruise.

Explanation of the data listing for each station

| Parameter Name            | Abbreviation (column heading) | Units used in the Data Reports        | No. of decimals printed | 1966 processing code | 1967 (Star System) code |
|---------------------------|-------------------------------|---------------------------------------|-------------------------|----------------------|-------------------------|
| Secchi depth              | SECCHI                        | meters                                | 1                       | 026                  | 030                     |
| Sample depth              | DEPTH                         | meters                                | 1                       | 998                  | 001                     |
| Temperature               | TEMP                          | °C                                    | 2                       | 004                  | 100                     |
| Conductance, 18°C.        | CON 18                        | μmhos                                 | 0                       | 014                  | no equivalent           |
| Dissolved oxygen          | D 02                          | mg/L                                  | 2                       | 003                  | 245                     |
| pH at 25°C.               | PH 25                         | pH units                              | 3                       | 055                  | 215                     |
| Turbidity                 | TURB                          | Jackson units                         | 1                       | 015                  | 123                     |
| B.O.D.                    | BOD                           | mg O <sub>2</sub> /L/5 days           | 1                       | 001                  | 239                     |
| Total alkalinity          | T_ALK                         | mg CaCO <sub>3</sub> /L               | 1                       | 051                  | 220                     |
| Hardness                  | HARD                          | mg CaCO <sub>3</sub> /L               | 1                       | 050                  | 300                     |
| Chloride                  | CL                            | mg/L                                  | 1                       | 057                  | 290                     |
| Nitrate + nitrite         | NO3NO2                        | mg N/L                                | 3                       | 022                  | 275                     |
| Nitrite                   | NO2                           | mg N/L                                | 3                       | 021                  | 273                     |
| Reactive phosphate        | R PO4                         | mg PO <sub>4</sub> /L                 | 3                       | 028                  | 262                     |
| Phenol                    | PHEN                          | mg C <sub>6</sub> H <sub>5</sub> OH/L | 3                       | 024                  | 410                     |
| MF coliforms              | MF COL                        | colonies/100 mL                       | *                       | 080                  | 700                     |
| MF enterococci            | MF ENT                        | colonies/100 mL                       | *                       | 084                  | 706                     |
| 20°C standard plate count | SPC 20                        | colonies/mL                           | *                       | 082                  | 720                     |
| 35°C standard plate count | SPC 35                        | colonies/mL                           | *                       | 083                  | 721                     |

Note: The four bacteriological parameters are listed in exponential form:

$$\begin{aligned}130E02 &= 1.30 \times 10^2 = 130. \\100E00 &= 1.00 \times 10^0 = 1. \\000E00 &= 0.00 \times 10^0 = 0.\end{aligned}$$

\* Exponential Notation

Note: For some parameters, the analytical methods listed in the Star System manual (Glennie and MacLeod 1967, pp. 25-33) are not the methods used for Data Reports Nos. 1-12.

## Methods of Sampling and Measurement

Water sampling was carried out on the port side of the vessel, amidships, where a davit and a "chains" platform were installed. A small wooden deckhouse provided shelter for reading the thermometers and for transferring water from the primary sampling devices to small bottles which were taken to the shipboard laboratory. The sampling procedure together with photographs of the equipment are published in Manuscript Report No. 67-1 of the Public Health Division, Department of National Health and Welfare.

Samples were collected at standard depths of 1, 10, 20, 30, 50, 75, 100, 150 and 200 meters, where the depth of water permitted. The water sampling devices were metal Knudsen bottles with a capacity of 1.2 liters, and polyvinylchloride Van Dorn bottles with capacities of 2 and 3 liters. Oceanographic reversing thermometers, and rubber bulbs for bacteriological sampling, were mounted on the Knudsen bottles.

For bacteriological sampling, a sterile deflated pear-shaped rubber bulb was attached to a Knudsen bottle. A brass plug in the opening of the rubber bulb was pulled out by the reversing Knudsen bottle. (I.J.C. agencies 1966, pp 88-90).

Position (Latitude and longitude) was determined using radar ranges and bearings on identifiable shoreline features. Occasionally, dead-reckoning had to be used when the vessel was far from shore.

Sounding The depth of water at each station was measured with the ship's echo sounder. Corrections for the transducer depth have been applied.

Secchi depth is the depth of disappearance of a white disc, 30 centimeters in diameter, when it is lowered slowly into the water.

Sample depth The length of wire was measured with a meter wheel, using the water surface as the reference level. Wire-angle corrections were applied whenever depths were one meter or more.

Temperature Oceanographic reversing thermometers manufactured by Yoshino Keiko Co. of Japan were lowered in series to all the required depths, and were turned over after five minutes. Later, each thermometer was read twice in the vessel's deckhouse. Scale corrections and thermal-expansion corrections were applied to the readings. There were usually two thermometers on each Knudsen bottle. A single mean temperature value is reported in this final data record, but the individual readings are kept on file at the Canada Centre for Inland Waters. The difference between readings of paired thermometers was usually less than 0.05°C. (U.S. hydrographic Office 1955).

Additional temperature measurements were made with bathythermographs, and with a thermistor thermometer towed at a depth of one meter while the ship was underway. The BT and thermistor data are available on request from the Canada Centre for Inland Waters.

Storage conditions for the chemical samples Most of the analyses reported here were done in the ship's laboratory and were completed within about 12 hours after sampling.

Conductance at 18°C The electrical conductance was measured at laboratory temperature with an "Industrial Instruments" Model RC 16 B2 bridge and a dip cell with cell constant 1.00. At the time of the measurement, the temperature of the sample was measured with a mercury thermometer and recorded to the nearest 0.1°C. These temperature readings varied throughout the survey period, with a range of from 15 to 28°C.

Conductance at 18.0°C listed in the Data Reports Nos. 1 to 12, was computed from Dr. G.K. Rodgers' correction tables for Great Lakes Waters (I.J.C. agencies 1966, p. 51). However, 25°C will be the reference temperature used in future data reports in this series. To convert the conductance at 18.0°C to conductance at 25.0°C, multiply by 1.176.

Dissolved oxygen was measured using the Winkler iodometric method. One milliliter of each reagent was added to each sample. In 1966, the alkaline iodide solution contained 700 grams potassium hydroxide and 150 grams potassium iodide per liter. Azide was not used. (I.J.C. agencies 1968, pp. 67-78).

Oxygen percent saturation may be computed (Dobson 1967) from the measured oxygen concentration and the temperature, using the following equations:

Oxygen percent saturation (Lake Erie and upper Great Lakes)

$$= \frac{100 \text{ (oxygen in mg/L)}}{(14.380 - 0.4105 T + 0.008800 T^2 - 0.00009500 T^3)} \%$$

Oxygen percent saturation (Lake Ontario)

$$= \frac{98.8 \text{ (oxygen in mg/L)}}{(14.380 - 0.4105 + 0.008800 T^2 - 0.00009500 T^3)} \%$$

A graph showing percent saturation as a function of oxygen concentration and temperature, according to either of these equations, provides a convenient way to evaluate percent saturation.

pH The pH is an approximate measure of  $(-\log H^+)$  where  $H^+$  is the hydrogen ion concentration.

| <u>pH</u> | <u><math>H^+</math></u> |                |
|-----------|-------------------------|----------------|
| 7.0       | 100. X $10^{-9}$        | gm atoms/liter |
| 7.2       | 63. X $10^{-9}$         | gm atoms/liter |
| 7.5       | 32. X $10^{-9}$         | gm atoms/liter |
| 8.0       | 10. X $10^{-9}$         | gm atoms/liter |
| 8.2       | 6.3 X $10^{-9}$         | gm atoms/liter |
| 8.5       | 3.2 X $10^{-9}$         | gm atoms/liter |
| 9.0       | 1.0 X $10^{-9}$         | gm atoms/liter |

Samples were analysed for pH about 10 to 20 hours after sampling. Changes in pH during the storage interval were probably  $\pm 0.1$  to 0.3 pH units.

The pH near 25°C was measured using a Corning Model 10 meter, and glass and reference electrodes, calibrated with pH 7.4 (phosphate) and pH 9.2 (borax) standard solution. (I.J.C. agencies 1966, pp. 112-120).

Turbidity was measured within 24 hours after sampling, using a Hellige turbidimeter.

B.O.D. (Biochemical oxygen demand) One-liter samples were stored for a few hours so that they attained laboratory temperature. Then air was bubbled through each sample to produce oxygen concentrations near the equilibrium value for that temperature. Two 300-ml B.O.D. bottles were filled from each sample by means of a siphon. Dissolved oxygen in the sample of one of the B.O.D. bottles was measured immediately by the Winkler method. The sample in the other bottle was stored in the dark at 20°C, and after 5 days, its final oxygen concentration was measured. The "B.O.D." was the difference between the initial and final oxygen concentrations. A water seal was maintained around the top of each bottle during incubation. The dilution and seeding procedures of the American Public Health Association (1965, p. 415), were not included.

Alkalinity was measured using an Auto-Analyzer colorimetric instrument system. Samples were mixed with a buffered acidic methyl orange indicator solution. The final color was measured at 550 millimicrons. Standard solutions contained sodium bicarbonate. (I.J.C. agencies 1968, pp. 34-36). The unit for alkalinity in this report is mg CaCO<sub>3</sub>/liter. The constituents reacting with the hydrogen ion during the alkalinity measurement were assumed to be CO<sub>3</sub><sup>-2</sup>, and an equivalent amount of Ca<sup>++</sup> was arbitrarily assumed to be present. Actually most of the alkalinity in Great Lakes waters is HCO<sub>3</sub><sup>-</sup>. Conversion factor for alkalinity: 1 mg CaCO<sub>3</sub>/liter = 1.219 mg HCO<sub>3</sub><sup>-</sup>/liter.

Hardness (Ca<sup>++</sup> + Mg<sup>++</sup>) was measured using an Auto-Analyzer. The sample was mixed with disodium magnesium EDTA + disodium EDTA, then with Eriochrome Black T + pH 10.3 buffer. The resulting color was measured at 520 millimicrons. Standard solutions contained calcium. (I.J.C. agencies 1966, pp. 91-93). Lake-water samples contained some magnesium as well as calcium. The conventional unit, mg CaCO<sub>3</sub>/L, used in Data Reports Nos. 1 to 12, gives information for (Ca<sup>++</sup> + Mg<sup>++</sup>), but not for Ca<sup>++</sup> or CO<sub>3</sub><sup>-2</sup>. Conversion factor for hardness: 1 mg CaCO<sub>3</sub>/L = 0.0200 milliequivalents (Ca<sup>++</sup> + Mg<sup>++</sup>)/L.

Chloride was measured using an Auto-Analyzer. Unfiltered samples were mixed with ferric ammonium sulfate + nitric acid + mercuric thiocyanate. The resulting color was measured at 480 millimicrons. (I.J.C. agencies 1966, pp. 97-98).

Nitrate + nitrite was measured using an Auto-Analyzer. Samples were not filtered. Nitrate was reduced to nitrite by adding sodium hydroxide, hydrazine sulfate, and copper sulfate. The mixture was passed through a 38°C heating bath. Then total nitrite was measured by adding orthophosphoric acid + sulfanilamide + N-(1-naphthyl) ethylenediamine dihydrochloride, and measuring the resulting color at 520 millimicrons. (I.J.C. agencies 1966, pp. 102-104).

$(NO_3 + NO_2)$  was sampled on cruises 5, 6, 8 and 10, but the results for the  $4^{\circ}C$  water in Lake Ontario on those cruises were near 0.5 mg N/L, about  $2\frac{1}{2}$  times the values found on cruise 66-12 and subsequent cruises in 1966 and 1967. The  $(NO_3 + NO_2)$  results for cruises 5, 6, 8 and 10 are probably in error and have been omitted from these final Data Reports. The  $(NO_3 + NO_2)$  data for cruise 66-11 on Lake Erie include values near 0.1 mg N/L for the eastern bottom water, which is in agreement with the 1967 data. Therefore the  $(NO_3 + NO_2)$  data from cruise 66-11 are probably correct, and have been printed in Data Report No. 8. For cruise 66-12 and following cruises on Lake Ontario, the  $(NO_3 + NO_2)$  data for the  $4^{\circ}C$  water have values near 0.2 mg N/L, which is also in agreement with 1967 results. Therefore the data for cruise 66-12 and later cruises are probably correct, and are included in the final Data Reports.

Nitrite Nitrite in unfiltered samples was measured, using an Auto-Analyzer, by adding sodium hydroxide + ortho-phosphoric acid + sulfanilamide + N-(1-naphthyl) ethylenediamine dihydrochloride. The resulting color was measured at 520 millimicrons. (I.J.C. agencies 1966, pp. 102-104).

Reactive phosphate Phosphate in unfiltered samples was measured, using an Auto-Analyzer, by adding ammonium molybdate + hydrochloric acid + stannous chloride, and measuring the resulting color at 660 millimicrons. (I.J.C. agencies 1966, pp. 94-96).

Ammonia was measured during 1966 on cruises 8, 10, 11, 12, 14, 16, 17 and 18. The maximum value was .072 mg N/L. There were very many results of .000 mg N/L, except for cruise 10 for which the minimum was .020 mg N/L. There was no obvious spatial distribution of the higher values. These data have not been included in the Data Reports Nos. 1 to 12.

Phenol and related substances. The pH of the sample was adjusted to 4.0 by adding ortho-phosphoric acid, and copper sulfate was also added, immediately after sampling. Analyses were done up to one week later. The sample was distilled, and phenol in the distillate was measured by adding ammonium chloride; then, ammonium hydroxide (to produce pH 10.0  $\pm$  0.2), 4-aminoantipyrine and potassium ferricyanide were also added. The resulting color was extracted into chloroform and measured at 460 millimicrons (American Public Health Association 1965, pp. 516-520, distillation step and method A).

Storage conditions for bacteriological samples The analyses began within one or two hours after sampling, except for samples collected between midnight and 7.30 a.m. These night-time samples were stored at  $10^{\circ}C$  for up to 8 hours before their analyses commenced.

Total coliform density determinations were obtained by membrane filtration techniques using Bacto-m Endo MF Broth. Membranes were incubated at  $35^{\circ}C$  for  $20 \pm 2$  hours (American Public Health Association 1965, p. 616, Method A).

Fecal Streptococcus density determinations were obtained by membrane filtration techniques using Bacto-m Enterococcus Agar. Membranes were

incubated at 39°C for 48±3 hours (American Public Health Association 1965, p. 619).

20°C and 35°C Standard Plate Counts were made using 1 ml samples mixed with liquified (45°C) Bacto-Plate Count Agar, allowed to solidify and then incubated at 20°C for 48±3 hours or at 35°C for 24±2 hours. (American Public Health Association 1965, p. 592).

Personnel (Great Lakes Division, Department of Energy, Mines and Resources; Canadian Hydrographic Service; Public Health Engineering Division, Department of National Health and Welfare).

Program co-ordination:

Dr. R.K. Lane (Acting Chief, Great Lakes Division)  
H.H. Dobson (G.L.D.)  
P.M. Higgins (N.H. & W.)  
H.B. Macdonald (C.H.S.)  
H.E. Sweers (G.L.D.)

Chemical analyses aboard "Brandal":

G. Baulne (N.H. & W.)  
M. Charette (N.H. & W.)  
H.H. Dobson (G.L.D.)  
B. Hutcheon (N.H. & W.)  
D. Ide (N.H. & W.)  
D. Jenkinson (G.L.D.)  
R. Orr (N.H. & W.)  
R. Selcage (G.L.D.)

Bacteriology:

J.B. Bell (N.H. & W.)  
A. Bruce (N.H. & W.)  
B.J. Dutka (N.H. & W.)  
J. Reid (N.H. & W.)  
W. Winters (N.H. & W.)

Chemical analyses in shore laboratories:

C. McBratney (N.H. & W.)  
W.J. Traversy (Water Quality Division, E.M. & R.)

Physical studies:

M. Nunez (G.L.D.)  
H.E. Sweers (G.L.D.)  
Dr. H.S. Weiler (G.L.D.)

Geology:

Dr. C.F.M. Lewis (Geological Survey of Canada)

Seismic surveys:

Dr. G.D. Hobson (Geological Survey of Canada)  
E. Holzl (Geological Survey of Canada)

Operations and engineering support:

|                         |                      |
|-------------------------|----------------------|
| H.B. Macdonald (C.H.S.) | P. Davies (C.H.S.)   |
| G. Armstrong (C.H.S.)   | J. Heidt (G.L.D.)    |
| K.N. Birch (G.L.D.)     | M. Landry (C.H.S.)   |
| P. Bishop (G.L.D.)      | P. Lawrence (G.L.D.) |
| R. Boswell (C.H.S.)     | D. Matte (C.H.S.)    |
| E. Brignell (C.H.S.)    | H. Savile (G.L.D.)   |
| T. Charbonneau (C.H.S.) | W. Whyte (C.H.S.)    |

Data processing: (Great Lakes Division, Inland Waters Branch, E.M. & R.)

J.R. Chevrier  
W. Nagel  
Mrs. K. Schopf  
G. Warren

Other Participating Agencies

The Canadian Oceanographic Data Centre produced and distributed the preliminary data records, and published final reports in the present series.

The Meteorological Branch of the Department of Transport provided meteorological instruments, and trained the personnel who carried out the weather observations.

Captain R. Caldwell and the crew of the "Brandal" operated the vessel in support of the limnological program.

References

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**CRUISE 66-5, LAKE ONTARIO**

C-REF-NO 005 LAT 43-50-00N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 001 LON 076-22-12W MONTH 06 SOUNDING 0035  
 COUNTRY 18 DAY 26 BT SLIDE NO 003  
 INSTITUTE 22 TIME 1626

| DEPTH | SECCHI | TEMP  | CON 18 | D O2  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   | 3.5    | 18.55 | 297    | 12.17 | 8.800 | 0.5  |     | 91.0  |
| 15.0  |        | 13.47 | 290    | 10.43 | 8.500 | 0.3  |     | 92.0  |
| 25.0  |        | 8.81  | 262    | 10.44 | 8.200 | 0.2  |     | 90.0  |

| DEPTH | HARD  | CL   | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|-------|--------|--------|
| 1.0   | 135.5 |      | 0.029  | 0.001 |       | 0.000 | 400E00 |        |
| 15.0  | 137.5 | 30.0 | 0.029  | 0.001 |       | 0.000 | 400E00 |        |
| 25.0  | 138.8 |      | 0.029  | 0.001 |       |       | 100E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 110E02 | 900E00 |
| 15.0  |        |        |
| 25.0  |        |        |

C-REF-NO 005 LAT 43-50-00N YEAR 1966 NO. DEPTHS .03  
CONS. NO 002 LON 076-22-12W MONTH 06 SOUNDING 0035  
COUNTRY 18 DAY 26 BT SLIDE NO 005  
INSTITUTE 22 TIME 1715

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   | 3.5    | 18.86 |        |      |       |      |     |      |
| 15.0  |        | 15.91 |        |      |       |      |     |      |
| 25.0  |        | 8.29  |        |      |       |      |     |      |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 15.0  |      |    |        |     |       |      |        |        |
| 25.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |
|------|
| 1.0  |
| 15.0 |
| 25.0 |

C-REF-NO 005      LAT 43-50-18N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 003      LON 076-20-18W      MONTH 06      SOUNDING 0050  
 COUNTRY 18      DAY 26      BT SLIDE NO  
 INSTITUTE 22      TIME 1725

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|-------|-------|------|-----|------|
| 1.0   |        | 297  |        | 12.14 | 8.600 | 0.7  |     |      |
| 24.0  |        | 262  |        | 9.32  |       | 0.4  |     | 91.5 |
| 48.0  |        | 277  |        | 11.58 | 8.700 | 0.6  |     | 90.0 |

| DEPTH | HARD  | CL   | N03N02 | N02   | R PD4 | PHEN  | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|-------|--------|--------|
| 1.0   |       |      |        |       |       | 0.000 | 400E00 | 100E00 |
| 24.0  | 138.8 | 25.0 | 0.025  | 0.003 |       |       | 000E00 | 000E00 |
| 48.0  | 141.6 |      | 0.025  | 0.001 |       |       | 800E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 190EC2 | 200E00 |
| 24.0  |        |        |
| 48.0  |        |        |

C-REF-NO 005            LAT 43-50-00N            YEAR 1966            NO. DEPTHS 03  
CONS. NO 004            LDN 076-22-12W            MONTH 06            SOUNDING 0035  
COUNTRY 18              DAY 26                    BT SLIDE NO 007  
INSTITUTE 22            TIME 1815

DEPTH SECCHI TEMP CON 18 D 02 PH 25 TURB BOD TALK

|      |       |
|------|-------|
| 1.0  | 18.58 |
| 15.0 | 15.57 |
| 25.0 | 11.00 |

DEPTH HARD CL NO3NO2 NO2 R PD4 PHEN MF COL MF ENT

|      |  |
|------|--|
| 1.0  |  |
| 15.0 |  |
| 25.0 |  |

DEPTH SPC 20 SPC 35

|      |  |
|------|--|
| 1.0  |  |
| 15.0 |  |
| 25.0 |  |

C-REF-NO 005 LAT 43-50-30N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 005 LON 076-19-00W MONTH 06 SOUNDING 0013  
 COUNTRY 18 DAY 26 BT SLIDE NO  
 INSTITUTE 22 TIME 1835

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|-------|-------|------|-----|------|
| 1.0   |        | 295  |        | 12.03 | 8.600 | 0.5  |     | 89.0 |
| 6.0   |        | 273  |        | 11.67 | 8.700 | 0.5  |     | 90.0 |
| 12.0  |        | 282  |        | 11.69 | 8.700 | 0.5  |     | 91.0 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 139.4 |    | 0.035  | 0.001 |       | 0.000 | 600E00 | 100E00 |
| 6.0   | 137.0 |    | 0.025  | 0.001 |       |       | 500E00 |        |
| 12.0  | 137.0 |    | 0.026  | 0.001 |       |       |        |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 100E02 | 160E01 |
| 6.0  |        |        |
| 12.0 |        |        |

C-REF-NO 005            LAT 43-50-36N            YEAR 1966            NO. DEPTHS 03  
 CONS. NO 006            LDN 076-18-48W            MONTH 06            SOUNDING 0009  
 COUNTRY 18            DAY 26            BT SLIDE NO  
 INSTITUTE 22            TIME 1910

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   |        |      | 285    | 12.11 | 8.700 | 0.7  |     | 89.0  |
| 4.0   |        |      | 285    | 11.89 |       | 0.4  |     |       |
| 8.0   |        |      | 294    | 11.53 | 8.700 | 0.5  |     |       |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 137.5 |    |        | 0.030 | 0.001 |      | 500E00 | 000E00 |
| 4.0   |       |    |        |       |       |      | 130E01 |        |
| 8.0   |       |    |        |       |       |      |        |        |

DEPTH SPC 20 SPC 35

|     |        |        |
|-----|--------|--------|
| 1.0 | 750E01 | 190E01 |
| 4.0 |        |        |
| 8.0 |        |        |

C-REF-NO 005 LAT 43-50-00N YEAR 1966 NO. DEPTHS 03  
CONS. NO 007 LDN 076-22-12W MONTH 06 SOUNDING 0035  
COUNTRY 18 DAY 26 BT SLIDE NO 009  
INSTITUTE 22 TIME 1914

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 18.64 |        |      |       |      |     |      |
| 15.0  |        | 14.96 |        |      |       |      |     |      |
| 25.0  |        | 10.86 |        |      |       |      |     |      |

DEPTH SPC 20 SPC 35

1.0  
15.0  
25.0

C-REF-NO 005            LAT 43-44-06N            YEAR 1966            NO. DEPTHS 03  
 CONS. NO 008            LON 076-17-00W            MONTH 06            SOUNDING 0031  
 COUNTRY 18            DAY 26            BT SLIDE NO 011  
 INSTITUTE 22            TIME 2102

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   | 3.0    | 17.83 | 274    | 13.64 | 8.800 | 0.5  |     | 91.5  |
| 15.0  |        | 11.65 | 275    | 11.75 | 8.300 | 0.7  |     | 92.0  |
| 25.0  |        | 10.08 | 272    | 11.21 | 8.200 | 0.4  |     | 92.0  |

| DEPTH | HARD  | CL   | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|-------|--------|--------|
| 1.0   | 133.8 | 25.2 | 0.035  | 0.001 |       | 0.000 | 000E00 | 200E00 |
| 15.0  | 134.0 | 25.2 | 0.056  | 0.002 |       |       | 000E00 |        |
| 25.0  | 134.0 | 25.0 | 0.025  | 0.002 |       | 0.000 | 000E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 500E01 | 100E01 |
| 15.0  |        |        |
| 25.0  |        |        |

C-REF-NO 005 LAT 43-44-06N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 009 LON 076-15-27W MONTH 06 SOUNDING 0025  
 COUNTRY 18 DAY 26 BT SLIDE NO 012  
 INSTITUTE 22 TIME 2207

| DEPTH | SECCHI | TEMP  | CDV 18 | D D2  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 16.98 | 273    | 13.21 | 8.800 |      |     | 91.0  |
| 10.0  |        | 15.80 | 274    | 12.69 | 8.700 | 0.7  |     | 79.0  |
| 20.0  |        | 10.39 | 271    | 11.21 | 8.200 | 1.1  |     | 92.0  |

| DEPTH | HARD  | CL   | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|------|--------|--------|
| 1.0   | 134.0 | 27.8 | 0.030  | 0.002 |       |      | 110E01 | 000E00 |
| 10.0  | 136.7 | 27.4 | 0.026  | 0.002 |       |      | 900E00 |        |
| 20.0  | 134.0 | 25.0 | 0.026  | 0.002 |       |      | 200E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 150E01 | 700E00 |
| 10.0  |        |        |
| 20.0  |        |        |

C-REF-NO 005 LAT 43-44-48N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 010 LON 076-13-42W MONTH 06 SOUNDING 0016  
 COUNTRY 18 DAY 26 BT SLIDE NO  
 INSTITUTE 22 TIME 2230

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|-------|-------|------|-----|------|
| 1.0   |        | 287  | 12.37  | 8.700 | 0.8   |      |     | 90.0 |
| 8.0   |        | 279  | 12.94  | 8.800 | 0.7   |      |     | 90.0 |
| 15.0  |        | 277  | 12.80  | 8.800 | 0.5   |      |     | 91.0 |

| DEPTH | HARD  | CL   | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|-------|--------|--------|
| 1.0   | 136.1 | 31.0 | 0.033  | 0.002 |       | 0.000 | 600E00 | 000E00 |
| 8.0   | 135.4 | 29.5 | 0.043  | 0.002 |       |       |        |        |
| 15.0  | 137.0 | 29.5 | 0.043  | 0.001 |       |       | 700E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 860E02 | 800E01 |
| 8.0   |        |        |
| 15.0  |        |        |

C-REF-NO 005 LAT 43-44-54N YEAR 1966 NO. DEPTHS 02  
 CONS. NO 011 LON 076-13-12W MONTH 06 SOUNDING 0304  
 COUNTRY 18 DAY 26 BT SLIDE NO  
 INSTITUTE 22 TIME 2255

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|-------|-------|------|-----|------|
| 1.0   |        |      | 297    | 12.05 | 8.600 | 1.1  |     | 88.0 |
| 3.0   |        |      | 293    | 12.23 | 8.700 | 0.6  |     | 87.0 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 136.7 |    |        | 0.037 | 0.002 |      | 0.000  | 000E00 |
| 3.0   | 134.7 |    |        | 0.025 | 0.002 |      |        |        |

DEPTH SPC 20 SPC 35

|     |        |        |
|-----|--------|--------|
| 1.0 | 490E02 | 740E01 |
| 3.0 |        |        |

C-REF-NO 005 LAT 43-34-09N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 012 LON 076-16-21W MONTH 06 SOUNDING 0026  
 COUNTRY 18 DAY 26 BT SLIDE NO 013  
 INSTITUTE 22 TIME 2343

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   | 3.0    | 19.10 | 273    | 13.17 | 8.800 | 0.5  |     |       |
| 10.0  |        | 15.09 | 274    | 12.66 | 8.600 | 0.7  |     |       |
| 20.0  |        | 9.80  | 277    | 11.83 | 8.200 |      |     |       |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 133.4 |    |        | 0.025 | 0.002 | 0.000 | 700E00 | 200E00 |
| 10.0  | 134.4 |    |        | 0.028 | 0.002 | 0.000 | 140E01 |        |
| 20.0  | 136.1 |    |        | 0.033 | 0.002 |       | 200E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 100E03 | 300E01 |
| 10.0  |        |        |
| 20.0  |        |        |

C-REF-NO 005 LAT 43-33-12N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 013 LON 076-16-45W MONTH 06 SOUNDING 0017  
 COUNTRY 18 DAY 27 BT SLIDE NO 014  
 INSTITUTE 22 TIME 0028

| DEPTH | SECCHI | TEMP  | COV 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 17.52 | 288    | 13.44 | 8.700 | 0.5  |     |      |
| 8.0   |        | 16.82 | 285    | 13.55 | 8.700 | 0.5  |     |      |
| 16.0  |        | 16.01 | 278    | 12.83 | 8.700 | 0.5  |     |      |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 133.6 |    | 0.025  | 0.002 |       | 0.002 | 500E00 | 000E00 |
| 8.0   | 133.6 |    | 0.025  | 0.002 |       |       | 130E01 |        |
| 16.0  | 136.1 |    | 0.025  | 0.002 |       |       | 700E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 260E02 | 110E01 |
| 8.0   |        |        |
| 16.0  |        |        |

C-REF-NO 005            LAT 43-32-21N            YEAR 1966            NO. DEPTHS 02  
 CONS. NO 014            LDN 076-16-06W            MONTH 06            SOUNDING 0007  
 COUNTRY 18                                               DAY 27            BT SLIDE NO 015  
 INSTITUTE 22                                               TIME 0100

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 17.89 | 292    | 13.45 | 8.800 | 0.6  |     |      |
| 3.0   |        | 17.61 | 285    | 13.71 | 8.000 | 0.7  |     |      |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 133.7 |    |        | 0.025 | 0.002 |      | 0.000  | 200E00 |
| 3.0   | 134.7 |    |        | 0.025 | 0.002 |      |        | 400E00 |

DEPTH SPC 20 SPC 35

|     |        |        |
|-----|--------|--------|
| 1.0 | 110E02 | 100E01 |
| 3.0 |        |        |

C-REF-NO 005            LAT 43-33-03N            YEAR 1966            NO. DEPTHS 03  
 CONS. NO 015            LON 076-28-27W            MONTH 06            SOUNDING 0085  
 COUNTRY 18                                               DAY 27            BT SLIDE NO 016  
 INSTITUTE 22                                               TIME 0220

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 19.76 | 271    |      | 8.800 | 0.3  |     |      |
| 35.0  |        | 5.61  | 278    |      | 8.200 | 0.2  |     |      |
| 70.0  |        | 4.56  | 279    |      | 8.100 | 0.4  |     |      |

| DEPTH | HARD | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|------|----|--------|-------|-------|-------|--------|--------|
| 1.0   |      |    | 0.037  | 0.002 |       | 0.000 | 000E00 | 000E00 |
| 35.0  |      |    | 0.035  | 0.002 |       |       | 000E00 |        |
| 70.0  |      |    | 0.043  | 0.002 |       |       | 000E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 100E01 | 100E01 |
| 35.0 |        |        |
| 70.0 |        |        |

C-REF-NO 005      LAT 43-32-09N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 016      LDN 076-27-48W      MONTH 06      SOUNDING 0051  
 COUNTRY 18                DAY 27      BT SLIDE NO 017  
 INSTITUTE 22                TIME 0253

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 18.88 | 271    |      | 8.700 | 0.4  |     |      |
| 25.0  |        | 7.40  | 277    |      | 8.200 | 0.2  |     |      |
| 40.0  |        | 5.92  | 277    |      | 8.100 | 0.2  |     |      |

| DEPTH | HARD | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-------|-------|------|--------|--------|
| 1.0   |      |    |        | 0.035 | 0.002 |      | 0.001  | 200E00 |
| 25.0  |      |    |        | 0.033 | 0.002 |      |        | 100E00 |
| 40.0  |      |    |        | 0.039 | 0.002 |      |        | 100E00 |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 350E01 | 500E00 |
| 25.0 |        |        |
| 40.0 |        |        |

C-REF-NO 005  
 CONS. NO 017  
 COUNTRY 18  
 INSTITUTE 22

LAT 43-31-06N  
 LON 076-27-24W  
 YEAR 1966  
 MONTH 06  
 DAY 27  
 TIME 0327

NO. DEPTHS 03  
 SOUNDING 0013  
 BT SLIDE NO 018

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 20.88 | 270    |      | 8.800 | 0.3  |     |      |
| 10.0  |        | 17.32 | 272    |      | 8.700 | 0.3  |     |      |
| 20.0  |        | 14.41 | 275    |      | 8.600 | 0.3  |     | 91.0 |

| DEPTH | HARD | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|------|----|--------|-------|-------|-------|--------|--------|
| 1.0   |      |    |        | 0.002 |       | 0.000 | 100E00 | 000E00 |
| 10.0  |      |    |        | 0.002 |       |       | 700E00 |        |
| 20.0  |      |    |        | 0.002 |       |       | 100E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 100E02 | 100E01 |
| 10.0  |        |        |
| 20.0  |        |        |

C-REF-NO 005            LAT 43-30-54N            YEAR 1966            NO. DEPTHS 03  
 CONS. NO 018            LON 076-32-06W            MONTH 06            SOUNDING 0051  
 COUNTRY 16            DAY 27            BT SLIDE NO 019  
 INSTITUTE 22            TIME 0414

| DEPTH | SECCHI | TEMP  | CDN 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 20.40 | 273    | 11.78 | 8.900 | 0.5  |     | 90.0 |
| 20.0  |        | 7.99  | 277    | 12.51 | 8.200 | 0.2  |     | 91.0 |
| 40.0  |        | 6.10  | 278    | 12.66 | 8.200 | 0.3  |     | 91.0 |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     | 0.002 |      | 600E00 | 000E00 |
| 20.0  |      |    |        |     | 0.001 |      | 000E00 |        |
| 40.0  |      |    |        |     | 0.002 |      | 000E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 200E01 | 150E01 |
| 20.0  |        |        |
| 40.0  |        |        |

C-REF-NO 005            LAT 43-29-57N            YEAR 1966            NO. DEPTHS 03  
 CONS. NO 019            LON 076-31-45W            MONTH 06            SOUNDING 0035  
 COUNTRY 18            DAY 27            BT SLIDE NO 020  
 INSTITUTE 22            TIME 0450

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 17.41 | 270    | 13.53 | 8.800 | 0.4  |     |      |
| 15.0  |        | 12.15 | 275    | 12.35 | 8.500 | 0.6  |     | 91.0 |
| 30.0  |        | 8.01  | 278    | 12.15 | 8.200 | 0.2  |     | 91.0 |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     | 0.002 |      | 0.000  | 700E00 |
| 15.0  |      |    | 25.0   |     | 0.002 |      |        | 200E00 |
| 30.0  |      |    | 25.0   |     | 0.002 |      |        | 300E00 |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 100E02 | 200E01 |
| 15.0  |        |        |
| 30.0  |        |        |

C-REF-NO 005      LAT 43-23-54N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 020      LON 076-43-42W      MONTH 06      SOUNDING 0044  
 COUNTRY 18      DAY 27      BT SLIDE NO 021  
 INSTITUTE 22      TIME 0616

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 16.66 | 271    | 14.86 | 8.800 | 0.5  |     | 90.0 |
| 20.0  |        | 9.09  | 277    | 12.62 | 8.300 | 0.6  |     | 91.0 |
| 35.0  |        | 7.94  | 273    | 12.37 | 8.200 | 0.5  |     | 90.0 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   |       |    |        | 0.002 |       |      | 000E00 | 000E00 |
| 20.0  |       |    |        | 0.002 |       |      | 200E00 |        |
| 35.0  | 132.7 |    | 25.0   | 0.001 |       |      | 100E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 850E01 | 800E00 |
| 20.0 |        |        |
| 35.0 |        |        |

C-REF-NO 005 LAT 43-22-57N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 021 LON 076-43-12W MONTH 06 SOUNDING 0020  
 COUNTRY 18 DAY 27 BT SLIDE NO 022  
 INSTITUTE 22 TIME 0642

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 18.93 | 265    | 13.09 | 8.700 | 0.4  |     | 90.0 |
| 7.0   |        | 16.68 | 265    | 13.50 | 8.700 | 0.4  |     | 90.0 |
| 14.0  |        | 15.36 | 266    | 12.83 | 8.200 | 0.4  |     | 91.0 |

| DEPTH | HARD  | CL   | NO3NO2 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|-------|--------|--------|
| 1.0   | 132.7 | 25.0 |        | 0.001 |       | 0.000 | 200E00 |        |
| 7.0   | 132.2 | 25.0 |        | 0.001 |       |       | 100E00 |        |
| 14.0  | 131.5 | 25.0 |        | 0.002 |       |       | 000E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 750E01 | 150E01 |
| 7.0   |        |        |
| 14.0  |        |        |

C-REF-NO 005            LAT 43-22-09N            YEAR 1966            NO. DEPTHS 02  
 CONS. NO 022            LON 076-42-51W            MONTH 06            SOUNDING 0007  
 COUNTRY 18            DAY 27            BT SLIDE NO 023  
 INSTITUTE 22            TIME 0708

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 19.38 | 265    | 12.51 | 8.800 | 0.3  |     | 90.0  |
| 6.0   |        | 17.89 | 272    | 12.91 | 8.500 | 0.3  |     | 90.0  |

| DEPTH | HARD  | CL   | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.4 | 25.0 |        | 0.002 |       | 0.000 | 000E00 | 000E00 |
| 6.0   | 131.5 | 25.0 |        | 0.002 |       |       | 200E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 110E02 | 100E01 |
| 6.0   |        |        |

C-REF-NO 005      LAT 43-19-45N      YEAR 1966      NO. DEPTHS 05  
 CONS. NO 023      LON 076-57-54W      MONTH 06      SOUNDING 0048  
 COUNTRY 18      DAY 27      BT SLIDE NO 024  
 INSTITUTE 22      TIME 0845

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 19.00 | 265    | 12.67 | 8.700 | 0.3  |     | 90.0 |
| 10.0  |        | 14.20 |        |       |       |      |     |      |
| 20.0  |        | 10.02 | 283    | 11.84 | 8.200 | 0.2  |     | 91.0 |
| 30.0  |        | 8.61  |        |       |       |      |     |      |
| 40.0  |        | 5.14  | 278    | 12.75 | 8.100 | 0.2  |     | 91.0 |

| DEPTH | HARD  | CL   | NO3NO2 | NO2   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.5 | 25.0 |        | 0.002 |       | 0.000 | 000E00 | 100E00 |
| 10.0  |       |      |        |       |       |       |        |        |
| 20.0  | 134.3 | 27.5 |        | 0.004 |       |       | 100E00 |        |
| 30.0  |       |      |        |       |       |       |        |        |
| 40.0  | 133.0 | 27.5 |        | 0.004 |       | 0.000 | 000E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 200E01 | 700E00 |
| 10.0  |        |        |
| 20.0  |        |        |
| 30.0  |        |        |
| 40.0  |        |        |

C-REF-NO 005      LAT 43-18-42N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 024      LON 076-58-09W      MONTH 06      SOUNDING 0032  
 COUNTRY 18      DAY 27      BT SLIDE NO 025  
 INSTITUTE 22      TIME 0929

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 18.66 | 265    | 12.88 | 8.800 | 0.3  |     | 88.0  |
| 15.0  |        | 14.17 | 272    | 11.25 | 8.800 | 0.3  |     | 90.0  |
| 25.0  |        | 9.68  | 273    | 12.05 | 8.600 | 0.2  |     | 91.0  |

| DEPTH | HARD  | CL   | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|------|--------|-----|-------|------|--------|--------|
| 1.0   | 131.6 | 25.0 |        |     | 0.001 |      | 0.000  | 100E01 |
| 15.0  | 132.4 | 26.8 |        |     | 0.004 |      |        | 300E00 |
| 25.0  | 132.4 | 27.0 |        |     | 0.004 |      |        | 000E00 |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 750E01 | 150E01 |
| 15.0  |        |        |
| 25.0  |        |        |

C-REF-NO 005      LAT 43-17-42N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 025      LON 076-58-15W      MONTH 06      SOUNDING 0018  
 COUNTRY 18      DAY 27      BT SLIDE NO 026  
 INSTITUTE 22      TIME 1057

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   | 3.0    | 19.37 | 264    | 12.11 | 8.700 | 0.2  |     | 88.0 |
| 10.0  |        | 18.49 | 266    | 12.03 |       | 0.2  |     | 89.0 |
| 15.0  |        | 17.26 | 272    | 12.03 | 8.800 | 0.3  |     | 89.0 |

| DEPTH | HARD  | CL   | NO3NO2 | NO2   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|-------|--------|--------|
| 1.0   | 130.9 | 26.7 |        | 0.003 |       | 0.000 | 500E00 | 600E00 |
| 10.0  | 130.8 | 26.8 |        | 0.003 |       |       |        |        |
| 15.0  | 131.4 | 26.8 |        | 0.003 |       |       | 600E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 310E02 | 350E01 |
| 10.0  |        |        |
| 15.0  |        |        |

C-REF-NO 005            LAT 43-20-15N            YEAR 1966            NO. DEPTHS 06  
 CONS. NO 026            LON 077-11-21W            MONTH 06            SOUNDING 0066  
 COUNTRY 18            DAY 27            BT SLIDE NO 027  
 INSTITUTE 22            TIME 1130

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   | 4.5    | 17.88 | 269    | 13.28 | 8.800 | 0.2  |     | 88.0  |
| 10.0  |        | 13.21 |        |       |       |      |     |       |
| 20.0  |        | 9.93  |        |       |       |      |     |       |
| 30.0  |        | 6.41  | 277    | 12.99 | 8.300 | 0.2  |     | 90.0  |
| 49.0  |        | 5.06  |        |       |       |      |     |       |
| 59.0  |        | 4.25  | 276    | 12.78 | 8.200 | 0.4  |     | 89.0  |

| DEPTH | HARD  | CL   | NO3NO2 | ND2   | R PD4 | PHEN  | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.8 | 26.7 |        | 0.003 |       | 0.000 | 300E00 | 100E00 |
| 10.0  |       |      |        |       |       |       |        |        |
| 20.0  |       |      |        |       |       |       |        |        |
| 30.0  | 131.8 | 26.7 |        | 0.003 |       | 0.000 | 100E00 |        |
| 49.0  |       |      |        |       |       |       |        |        |
| 59.0  | 132.5 | 26.7 |        | 0.003 |       | 0.000 | 300E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 450E01 | 800E00 |
| 10.0 |        |        |
| 20.0 |        |        |
| 30.0 |        |        |
| 49.0 |        |        |
| 59.0 |        |        |

C-REF-NO 005 LAT 43-19-15N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 027 LDN 077-11-09W MONTH 06 SOUNDING 0044  
 COUNTRY 18 DAY 27 BT SLIDE NO 028  
 INSTITUTE 22 TIME 1210

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 18.56 | 271    | 12.83 | 8.800 | 0.3  |     | 78.0  |
| 25.0  |        | 8.49  | 275    | 13.47 | 8.200 | 0.3  |     | 89.0  |
| 40.0  |        | 5.88  | 275    | 12.48 | 8.300 | 0.2  |     | 88.0  |

| DEPTH | HARD  | CL   | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|-------|--------|--------|
| 1.0   | 132.3 | 27.5 |        | 0.002 |       | 0.000 | 200E00 | 000E00 |
| 25.0  | 132.9 | 26.7 |        | 0.003 |       |       | 300E01 |        |
| 40.0  | 132.2 | 26.7 |        | 0.004 |       |       | 600E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 500E01 | 100E01 |
| 25.0  |        |        |
| 40.0  |        |        |

C-REF-NO 005      LAT 43-18-12N      YEAR 1966      NO. DEPTHS 02  
 CONS. NO 028      LON 077-11-09W      MONTH 06      SOUNDING 0020  
 COUNTRY 18      DAY 27      BT SLIDE NO 029  
 INSTITUTE 22      TIME 1245

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 20.10 | 269    | 12.78 | 8.800 | 0.4  |     | 87.0  |
| 10.0  |        | 18.75 | 255    | 11.56 | 8.700 | 0.4  |     | 88.0  |

| DEPTH | HARD  | CL   | N03N02 | N02   | R PD4 | PHEN  | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|-------|--------|--------|
| 1.0   | 130.8 | 26.8 |        | 0.003 |       | 0.000 | 400E00 | 300E00 |
| 10.0  | 131.6 | 26.8 |        | 0.004 |       |       | 450E01 | 000E00 |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 240E02 | 850E01 |
| 10.0 |        |        |

C-REF-NO 005      LAT 43-17-42N      YEAR 1966      NO. DEPTHS 02  
 CONS. NO 029      LON 077-11-21W      MONTH 06      SOUNDING 0009  
 COUNTRY 18           DAY 27      BT SLIDE NO 030  
 INSTITUTE 22           TIME 1315

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   |        |      | 275    | 11.41 |       | 0.4  |     | 88.0  |
| 6.0   |        |      | 273    | 11.17 |       |      |     | 88.0  |

| DEPTH | HARD  | CL   | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|------|--------|-------|-------|------|--------|--------|
| 1.0   | 132.4 | 56.8 |        | 0.004 |       |      | 140E01 |        |
| 6.0   | 132.0 | 57.6 |        | 0.004 |       |      | 310E01 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 100E03 | 600E02 |
| 6.0   |        |        |

C-REF-NO 005 LAT 43-19-06N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 030 LDN 077-25-51W MONTH 06 SOUNDING 0066  
 COUNTRY 18 DAY 27 BT SLIDE NO 031  
 INSTITUTE 22 TIME 1455

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 19.26 | 254    | 12.59 | 8.800 | 0.2  |     | 89.5  |
| 30.0  |        | 6.19  | 276    | 12.99 | 8.300 | 0.1  |     | 92.0  |
| 50.0  |        | 4.23  | 277    | 12.82 | 8.200 | 0.2  |     | 90.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.1 |    |        | 0.070 | 0.000 | 0.000 | 100E00 | 000E00 |
| 30.0  | 134.5 |    |        | 0.049 | 0.002 | 0.000 | 200E00 |        |
| 50.0  | 134.1 |    |        | 0.027 | 0.002 | 0.000 | 200E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 300E01 | 540E02 |
| 30.0  |        |        |
| 50.0  |        |        |

C-REF-NO 005      LAT 43-18-06N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 031      LON 077-25-51W      MONTH 06      SCUNDING 0033  
 COUNTRY 18      DAY 27      BT SLIDE NO 032  
 INSTITUTE 22      TIME 1530

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|------|-------|------|-----|-------|
| 1.0   |        | 19.95 | 270    |      | 8.800 | 0.2  |     | 89.0  |
| 15.0  |        | 13.85 | 275    |      | 8.400 | 0.1  |     | 91.0  |
| 20.0  |        | 9.17  | 275    |      | 8.600 | 0.3  |     | 91.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 132.0 |    | 0.125  | 0.002 |       | 0.000 | 100E00 | 100E00 |
| 15.0  | 132.7 |    | 0.160  | 0.002 |       |       | 210E01 |        |
| 20.0  | 133.3 |    | 0.115  | 0.001 |       |       | 120E01 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 500E01 | 400E01 |
| 15.0  |        |        |
| 20.0  |        |        |

C-REF-NO 005 LAT 43-16-36N YEAR 1966 NO. DEPTHS 02  
 CONS. NO 032 LON 077-25-54W MONTH 06 SOUNDING 0007  
 COUNTRY 18 DAY 27 BT SLIDE NO  
 INSTITUTE 22 TIME 1550

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   |        |      | 277    | 11.00 | 8.500 | 0.3  |     | 87.0  |
| 6.0   |        |      | 275    | 10.84 | 8.500 | 0.2  |     | 85.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT        |
|-------|-------|----|--------|-------|-------|------|--------|---------------|
| 1.0   | 133.0 |    |        | 0.115 | 0.003 |      | 0.000  | 100E01 100E00 |
| 6.0   | 132.3 |    |        | 0.100 | 0.002 |      |        | 500E00        |

DEPTH SPC 20 SPC 35

|     |        |        |
|-----|--------|--------|
| 1.0 | 900E01 | 750E01 |
| 6.0 |        |        |

C-REF-NO 005            LAT 43-17-06N            YEAR 1966            NO. DEPTHS 03  
 CONS. NO 033            LON 077-26-00W            MONTH 06            SOUNDING 0018  
 COUNTRY 18            DAY 27            BT SLIDE NO. 033  
 INSTITUTE 22            TIME 1619

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 20.60 | 269    | 11.36 | 8.800 | 0.2  |     | 89.0  |
| 5.0   |        | 20.00 | 269    | 11.64 | 8.800 | 0.5  |     | 89.5  |
| 10.0  |        | 18.65 | 276    | 10.78 | 8.600 | 0.3  |     | 90.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.5 |    | 0.065  | 0.001 |       | 0.001 | 100E00 | 000E00 |
| 5.0   | 131.4 |    | 0.085  | 0.001 |       |       | 300E00 |        |
| 10.0  | 132.3 |    | 0.135  | 0.002 |       |       | 330E01 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 500E01 | 450E01 |
| 5.0   |        |        |
| 10.0  |        |        |

C-REF-NO 005      LAT 43-18-30N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 034      LON 077-34-30W      MONTH 06      SOUNDING 0029  
 COUNTRY 18      DAY 27      BT SLIDE NO 034  
 INSTITUTE 22      TIME 1721

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 19.60 | 269    | 11.80 | 8.800 | 0.3  |     | 89.0  |
| 10.0  |        | 18.26 | 256    | 11.59 | 8.600 | 0.2  |     | 89.5  |
| 20.0  |        | 9.15  | 275    | 11.51 | 8.300 | 0.1  |     | 91.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.8 |    | 0.060  | 0.000 |       | 0.000 | 000E00 | 000E00 |
| 10.0  | 132.4 |    | 0.090  | 0.002 |       | 0.000 | 000E00 |        |
| 20.0  | 139.0 |    | 0.130  | 0.003 |       | 0.001 | 200E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 350E01 | 300E00 |
| 10.0 |        |        |
| 20.0 |        |        |

C-REF-NO 005                    LAT 43-17-33N                    YEAR 1966                    NO. DEPTHS 03  
 CONS. NO 035                    LON 077-35-00W                    MONTH 06                    SOUNDING 0020  
 COUNTRY 18                    DAY 27                            BT SLIDE NO 035  
 INSTITUTE 22                    TIME 1749

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 20.22 | 269    | 11.49 | 8.800 | 0.3  |     | 87.5  |
| 7.0   |        | 19.97 | 269    | 11.52 | 8.800 | 0.3  |     | 88.0  |
| 14.0  |        | 19.15 | 269    | 10.78 | 8.700 | 0.3  |     | 88.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.2 |    | 0.155  | 0.002 |       | 0.001 | 600E00 | 100E00 |
| 7.0   | 131.2 |    | 0.125  | 0.001 |       |       | 300E00 |        |
| 14.0  | 131.8 |    |        |       |       |       | 100E01 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 550E01 | 100E01 |
| 7.0  |        |        |
| 14.0 |        |        |

C-REF-NO 005            LAT 43-16-36N            YEAR 1966            NO. DEPTHS 02  
 CONS. NO 036            LON 077-35-27W            MONTH 06            SOUNDING 0013  
 COUNTRY 18            DAY 27            BT SLIDE NO 036  
 INSTITUTE 22            TIME 1830

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 20.68 | 269    | 11.48 | 8.700 | 0.3  |     | 85.0  |
| 5.0   |        | 20.67 | 268    | 11.00 | 8.800 | 0.4  |     | 87.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R PD4 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 132.0 |    |        | 0.130 | 0.001 |      | 000E00 | 000E00 |
| 5.0   | 131.2 |    |        | 0.085 | 0.002 |      | 200E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 130E02 | 200E01 |
| 5.0   |        |        |

C-REF-NO 005            LAT 43-16-12N            YEAR 1966            NO. DEPTHS 03  
 CONS. NO 037            LON 077-35-42W            MONTH 06            SOUNDING 0007  
 COUNTRY 18            DAY 27            BT SLIDE NO.  
 INSTITUTE 22            TIME 1840

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|-------|-------|------|-----|------|
| 1.0   |        | 270  | 11.75  | 8.700 | 0.5   |      |     | 87.0 |
| 3.0   |        | 270  | 11.24  | 8.700 | 0.4   |      |     | 86.0 |
| 6.0   |        | 259  | 11.25  | 8.700 | 0.4   |      |     | 87.4 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 132.2 |    | 0.115  | 0.002 |       | 0.003 |        |        |
| 3.0   | 133.3 |    | 0.115  | 0.002 |       |       | 000E00 | 000E00 |
| 6.0   | 131.8 |    | 0.110  | 0.001 |       |       | 100E00 |        |

DEPTH SPC 20 SPC 35

|     |        |        |
|-----|--------|--------|
| 1.0 |        |        |
| 3.0 | 350E01 | 150E01 |
| 6.0 |        |        |

C-REF-NO 005            LAT 43-23-36N            YEAR 1966            NO. DEPTHS 06  
 CONS. NO 038            LON 077-45-39W            MONTH 06            SOUNDING 0073  
 COUNTRY 18            DAY 27            BT SLIDE NO 037  
 INSTITUTE 22            TIME 2029

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 19.01 | 262    | 12.32 | 8.800 | 0.2  |     | 89.5  |
| 10.0  |        | 11.35 |        |       |       |      |     |       |
| 20.0  |        | 8.11  |        |       |       |      |     |       |
| 30.0  |        | 6.39  | 266    | 13.23 | 8.400 | 0.2  |     | 89.0  |
| 50.0  |        | 4.32  |        |       |       |      |     |       |
| 65.0  |        | 3.87  | 277    | 12.91 | 8.100 | 0.1  |     | 89.5  |

| DEPTH | HARD  | CL | NO3NO2 | NO2   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 132.7 |    | 0.085  | 0.001 |       |       | 000E00 | 000E00 |
| 10.0  |       |    |        |       |       |       |        |        |
| 20.0  |       |    |        |       |       |       |        |        |
| 30.0  | 135.4 |    | 0.450  | 0.002 |       | 0.000 | 000E00 |        |
| 50.0  |       |    |        |       |       |       |        |        |
| 65.0  | 135.3 |    | 0.510  | 0.002 |       | 0.000 | 000E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 120E01 | 150E01 |
| 10.0 |        |        |
| 20.0 |        |        |
| 30.0 |        |        |
| 50.0 |        |        |
| 65.0 |        |        |

C-REF-NO 005 LAT 43-21-00N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 039 LON 077-45-42W MONTH 06 SOUNDING 0009  
 COUNTRY 18 DAY 27 BT SLIDE NO  
 INSTITUTE 22 TIME 2035

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 269  | 11.43  | 8.800 | 0.3   |      |     | 86.5  |
| 4.0   |        | 268  | 11.32  | 8.800 | 0.4   |      |     | 86.5  |
| 8.0   |        | 266  | 11.17  | 8.800 | 0.4   |      |     | 87.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 131.2 |    | 0.105  | 0.003 |       |      | 000E00 | 000E00 |
| 4.0   | 131.4 |    | 0.105  | 0.002 |       |      | 300E00 |        |
| 8.0   | 131.3 |    | 0.125  | 0.002 |       |      | 200E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 120E02 | 400E01 |
| 4.0   |        |        |
| 8.0   |        |        |

C-REF-NO 005      LAT 43-21-30N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 040      LON 077-45-48W      MONTH 06      SOUNDING 0013  
 COUNTRY 18      DAY 27      BT SLIDE NO  
 INSTITUTE 22      TIME 2100

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|-------|-------|------|-----|------|
| 1.0   |        |      | 269    | 12.54 | 8.700 | 0.6  |     |      |
| 6.0   |        |      | 267    | 11.24 | 8.800 | 0.4  |     | 85.5 |
| 12.0  |        |      | 268    | 10.76 | 8.800 | 0.5  |     | 86.0 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   |       |    |        |       |       | 0.000 | 300E00 | 100E00 |
| 6.0   | 131.1 |    |        | 0.110 | 0.002 |       | 600E00 |        |
| 12.0  | 131.9 |    |        | 0.110 | 0.002 |       | 600E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 950E01 | 400E01 |
| 6.0  |        |        |
| 12.0 |        |        |

C-REF-NO 005      LAT 43-22-30N      YEAR 1966      NO. DEPTHS 05  
 CONS. NO 041      LON 077-44-51W      MONTH 06      SOUNDING 0056  
 COUNTRY 18      DAY 27      BT SLIDE NO 038  
 INSTITUTE 22      TIME 2119

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   | 5.0    | 20.68 | 267    | 12.07 | 8.800 | 0.4  |     | 86.5 |
| 10.0  |        | 18.54 |        |       |       |      |     |      |
| 20.0  |        | 8.97  |        |       |       |      |     |      |
| 30.0  |        | 6.73  | 275    | 12.30 | 8.300 | 0.3  |     | 90.0 |
| 49.0  |        | 4.02  | 278    | 12.70 | 8.100 | 0.7  |     | 90.0 |

| DEPTH | HARD  | CL | NO3NO2 | NO2   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.5 |    | 0.085  | 0.001 |       | 0.000 | 100E00 | 000E00 |
| 10.0  |       |    |        |       |       |       |        |        |
| 20.0  |       |    |        |       |       |       |        |        |
| 30.0  | 134.4 |    | 0.440  | 0.002 |       |       | 000E00 |        |
| 49.0  | 135.5 |    | 0.510  | 0.002 |       |       | 000E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 200E01 | 150E01 |
| 10.0  |        |        |
| 20.0  |        |        |
| 30.0  |        |        |
| 49.0  |        |        |

C-REF-NO 005 LAT 43-22-42N YEAR 1966 NO. DEPTHS .02  
 CONS. NO 042 LON 077-58-24W MONTH 06 SOUNDING 0007  
 COUNTRY 18 DAY 27 BT SLIDE NO  
 INSTITUTE 22 TIME 2250

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   |        |      | 273    | 11.33 | 8.500 | 0.4  |     | 86.0  |
| 6.0   |        |      | 269    | 11.38 |       | 0.4  |     | 86.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 131.2 |    |        | 0.080 | 0.001 |      |        | 100E00 |
| 6.0   | 131.0 |    |        | 0.075 | 0.001 |      |        | 000E00 |

DEPTH SPC 20 SPC 35

|     |        |
|-----|--------|
| 1.0 | 350E01 |
| 6.0 |        |

C-REF-NO 005 LAT 43-23-12N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 043 LON 077-58-30W MONTH 06 SOUNDING 0016  
 COUNTRY 18 DAY 27 BT SLIDE NO.  
 INSTITUTE 22 TIME 2255

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|-------|-------|------|-----|------|
| 1.0   |        | 270  |        | 11.62 | 8.700 | 0.3  |     | 85.5 |
| 8.0   |        | 270  |        | 10.78 |       | 0.3  |     | 87.0 |
| 15.0  |        | 276  |        | 10.57 |       | 0.2  |     | 87.5 |

| DEPTH | HARD  | CL | NO3NO2 | NO2   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 130.8 |    | 0.110  | 0.002 |       |      | 100E00 | 000E00 |
| 8.0   | 132.5 |    | 0.185  | 0.003 |       |      | 000E00 |        |
| 15.0  | 133.0 |    | 0.275  | 0.003 |       |      | 000E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 450E01 | 120E02 |
| 8.0   |        |        |
| 15.0  |        |        |

C-REF-NO 005  
 CONS. NO 044  
 COUNTRY 18  
 INSTITUTE 22

LAT 43-25-09N  
 LON 077-58-33W

YEAR 1966  
 MONTH 06  
 DAY 27  
 TIME 2300

NO. DEPTHS 06  
 SOUNDING 0084  
 BT SLIDE NO 039

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   | 5.0    | 20.77 | 269    | 11.46 | 8.800 | 0.3  |     | 87.5 |
| 10.0  |        | 10.36 |        |       |       |      |     |      |
| 20.0  |        | 7.07  |        |       |       |      |     |      |
| 35.0  |        | 4.47  | 277    | 13.02 | 8.300 | 0.6  |     | 89.5 |
| 50.0  |        | 4.17  |        |       |       |      |     |      |
| 70.0  |        | 4.04  | 278    | 12.96 | 8.200 | 0.1  |     |      |

| DEPTH | HARD  | CL | NO3NO2 | NO2   | R PD4 | PHEN | MF COL | MF ENT |        |
|-------|-------|----|--------|-------|-------|------|--------|--------|--------|
| 1.0   | 132.1 |    |        | 0.080 | 0.001 |      | 0.000  | 000E00 | 000E00 |
| 10.0  |       |    |        |       |       |      |        |        |        |
| 20.0  |       |    |        |       |       |      |        |        |        |
| 35.0  | 134.5 |    |        | 0.490 | 0.002 |      |        | 000E00 |        |
| 50.0  |       |    |        |       |       |      |        |        |        |
| 70.0  |       |    |        |       |       |      |        | 000E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 200E01 | 800E00 |
| 10.0 |        |        |
| 20.0 |        |        |
| 35.0 |        |        |
| 50.0 |        |        |
| 70.0 |        |        |

C-REF-NO 005            LAT 43-24-15N            YEAR 1966            NO. DEPTHS 05  
 CONS. NO 045            LON 077-58-21W            MONTH 06            SOUNDING 0057  
 COUNTRY 18            DAY 27            BT SLIDE NO 040  
 INSTITUTE 22            TIME 2338

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   | 4.0    | 20.79 | 269    | 11.88 | 8.800 | 0.2  |     | 86.5  |
| 10.0  |        | 15.97 |        |       |       |      |     |       |
| 25.0  |        | 6.34  | 276    | 12.56 | 8.200 | 0.1  |     | 89.5  |
| 29.0  |        | 5.09  |        |       |       |      |     |       |
| 49.0  |        | 4.20  | 278    | 12.61 | 8.100 | 0.3  |     | 89.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 132.3 |    |        | 0.085 | 0.002 |      | 0.000  | 000E00 |
| 10.0  |       |    |        |       |       |      |        |        |
| 25.0  | 135.0 |    |        | 0.480 | 0.002 |      | 000E00 |        |
| 29.0  |       |    |        |       |       |      |        |        |
| 49.0  | 135.2 |    |        | 0.570 | 0.002 |      | 000E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 150E01 | 700E00 |
| 10.0  |        |        |
| 25.0  |        |        |
| 29.0  |        |        |
| 49.0  |        |        |

C-REF-NO 005            LAT 43-25-09N            YEAR 1966            NO. DEPTHS 05  
 CONS. NO 046            LON 078-11-18W            MONTH 06            SOUNDING 0064  
 COUNTRY 18            DAY 28            BT SLIDE NO 041  
 INSTITUTE 22            TIME 0103

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 20.96 | 268    | 11.49 | 8.800 | 0.1  |     | 88.0 |
| 10.0  |        | 13.54 |        |       |       |      |     |      |
| 20.0  |        | 8.44  | 273    | 12.24 | 8.300 | 0.1  |     | 89.5 |
| 30.0  |        | 6.01  |        |       |       |      |     |      |
| 50.0  |        | 4.14  | 277    | 12.69 | 8.100 | 0.2  |     | 89.0 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 132.5 |    |        | 0.090 | 0.001 |      | 300E00 | 100E00 |
| 10.0  |       |    |        |       |       |      |        |        |
| 20.0  | 135.7 |    |        | 0.430 | 0.002 |      | 000E00 |        |
| 30.0  |       |    |        |       |       |      |        |        |
| 50.0  | 135.7 |    |        | 0.515 | 0.002 |      | 0.000  | 000E00 |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 400E01 | 150E01 |
| 10.0 |        |        |
| 20.0 |        |        |
| 30.0 |        |        |
| 50.0 |        |        |

C-REF-NO 005            LAT 43-24-06N            YEAR 1966            NO. DEPTHS 04  
 CONS. NO 047            LDN 078-11-09W            MONTH 06            SOUNDING 0043  
 COUNTRY 18                                               DAY 28            BT SLIDE NO 042  
 INSTITUTE 22                                               TIME 0137

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 21.68 | 268    | 11.96 | 8.800 | 0.2  |     | 85.5  |
| 10.0  |        | 15.15 |        |       |       |      |     |       |
| 20.0  |        | 8.63  | 274    | 12.00 | 8.300 | 0.2  |     | 89.0  |
| 30.0  |        | 4.39  | 279    | 12.29 | 8.100 | 0.3  |     | 88.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.0 |    | 0.095  | 0.001 |       | 0.000 | 500E00 | 200E00 |
| 10.0  |       |    |        |       |       |       |        |        |
| 20.0  | 135.6 |    | 0.435  | 0.003 |       |       | 000E00 |        |
| 30.0  | 136.8 |    | 0.515  | 0.002 |       |       | 000E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 400E01 | 100E01 |
| 10.0  |        |        |
| 20.0  |        |        |
| 30.0  |        |        |

C-REF-NO 005 LAT 43-23-09N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 048 LON 078-11-21W MONTH 06 SOUNDING 0018  
 COUNTRY 18 DAY 28 BT SLIDE NO 043  
 INSTITUTE 22 TIME 0211

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 22.49 | 268    | 11.22 | 8.700 | 0.4  |     | 85.5 |
| 7.0   |        | 22.30 | 265    | 11.33 | 8.700 | 0.2  |     | 85.5 |
| 14.0  |        | 11.18 | 277    | 10.92 | 8.300 | 0.4  |     | 89.0 |

| DEPTH | HARD  | CL | NO3NO2 | NO2   | R PO4 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 130.7 |    |        | 0.120 | 0.002 | 0.000 | 000E00 | 000E00 |
| 7.0   | 130.5 |    |        | 0.115 | 0.001 |       | 100E00 |        |
| 14.0  | 133.0 |    |        | 0.335 | 0.004 |       | 000E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 140E02 | 460E02 |
| 7.0   |        |        |
| 14.0  |        |        |

G-REF-NO 005            LAT 43-23-18N            YEAR 1966            NO. DEPTHS 02  
 CONS. NO 049            LON 078-17-54W            MONTH 06            SOUNDING 0013  
 COUNTRY 18            DAY 28            BT SLIDE NO 044  
 INSTITUTE 22            TIME 0303

| DEPTH | SECCHI | TEMP  | COV 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 22.49 | 266    | 11.35 | 8.800 | 0.3  |     | 86.0 |
| 6.0   |        | 22.44 | 265    | 11.40 | 8.700 | 0.2  |     | 86.5 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 130.5 |    |        | 0.120 | 0.003 |      | 0.000  | 200E00 |
| 6.0   | 131.2 |    |        | 0.125 | 0.002 |      | 100E00 | 000E00 |

DEPTH SPC 20 SPC 35

|     |               |
|-----|---------------|
| 1.0 |               |
| 6.0 | 110E02 300E02 |

C-REF-NO 005      LAT 43-24-24N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 050      LON 078-17-51W      MONTH 06      SOUNDING 0039  
 COUNTRY 18      DAY 28      BT SLIDE NO 045  
 INSTITUTE 22      TIME 0330

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 21.68 | 267    | 11.64 | 8.800 | 0.3  |     | 86.0  |
| 10.0  |        | 12.91 | 276    | 9.99  | 8.300 | 0.3  |     | 87.5  |
| 30.0  |        | 4.91  | 277    | 12.43 | 8.100 | 0.2  |     | 89.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 132.0 |    |        | 0.105 | 0.001 |      | 100E00 | 800E00 |
| 10.0  | 134.0 |    |        | 0.270 | 0.004 |      | 000E00 |        |
| 30.0  | 136.2 |    |        | 0.510 | 0.002 |      | 000E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 100E01 | 150E01 |
| 10.0 |        |        |
| 30.0 |        |        |

C-REF-NO 005            LAT 43-25-21N            YEAR 1966            NO. DEPTHS 05  
 CONS. NO 051            LON 078-17-57W            MONTH 06            SOUNDING 0068  
 COUNTRY 18            DAY 28            BT SLIDE NO 046  
 INSTITUTE 22            TIME 0400

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 21.02 | 254    | 10.92 | 8.800 | 0.2  |     | 87.0 |
| 10.0  |        | 13.05 |        |       |       |      |     |      |
| 20.0  |        | 8.72  | 276    | 12.19 | 8.300 | 0.2  |     | 89.5 |
| 30.0  |        | 6.41  |        |       |       |      |     |      |
| 50.0  |        | 4.26  | 279    | 12.16 | 8.000 | 0.4  |     | 90.5 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 132.5 |    | 0.105  | 0.001 |       | 0.000 | 100E00 | 000E00 |
| 10.0  |       |    |        |       |       |       |        |        |
| 20.0  | 134.5 |    | 0.405  | 0.002 |       | 0.000 | 100E00 |        |
| 30.0  |       |    |        |       |       |       |        |        |
| 50.0  | 137.2 |    | 0.520  | 0.002 |       | 0.000 | 000E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 300E01 | 150E01 |
| 10.0  |        |        |
| 20.0  |        |        |
| 30.0  |        |        |
| 50.0  |        |        |

C-REF-NO 005            LAT 43-25-30N            YEAR 1966            NO. DEPTHS 06  
 CONS. NO 052            LON 078-29-12W            MONTH 06            SOUNDING 0090  
 COUNTRY 18            DAY 28            BT SLIDE NO 047  
 INSTITUTE 22            TIME 0544

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 21.08 | 264    | 11.24 | 8.700 | 0.3  |     | 88.5  |
| 10.0  |        | 13.00 |        |       |       |      |     |       |
| 20.0  |        | 8.37  |        |       |       |      |     |       |
| 40.0  |        | 4.44  | 276    | 13.01 | 8.100 | 0.1  |     | 91.0  |
| 60.0  |        | 4.14  |        |       |       |      |     |       |
| 80.0  |        | 3.84  | 278    | 12.70 | 8.100 | 0.4  |     | 91.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |        |
|-------|-------|----|--------|-------|-------|------|--------|--------|--------|
| 1.0   | 132.0 |    |        | 0.110 | 0.001 |      | 0.000  | 000E00 | 000E00 |
| 10.0  |       |    |        |       |       |      |        |        |        |
| 20.0  |       |    |        |       |       |      |        |        |        |
| 40.0  | 134.7 |    |        | 0.510 | 0.002 |      | 0.000  | 000E00 |        |
| 60.0  |       |    |        |       |       |      |        |        |        |
| 80.0  | 134.7 |    |        | 0.520 | 0.001 |      | 0.000  | 000E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 200E01 | 100E01 |
| 10.0 |        |        |
| 20.0 |        |        |
| 40.0 |        |        |
| 60.0 |        |        |
| 80.0 |        |        |

C-REF-NO 005            LAT 43-24-30N            YEAR 1966            NO. DEPTHS 05  
 CONS. NO 053            LDN 078-29-18W            MONTH 06            SOUNDING 0058  
 COUNTRY 18                                               DAY 28            BT SLIDE NO 048  
 INSTITUTE 22                                               TIME 0618

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 21.82 | 265    | 12.38 | 8.800 | 0.2  |     | 87.0  |
| 10.0  |        | 17.25 |        |       |       |      |     |       |
| 25.0  |        | 6.87  | 277    | 12.26 | 8.200 | 0.4  |     | 90.0  |
| 40.0  |        | 4.71  |        |       |       |      |     |       |
| 50.0  |        | 4.13  | 278    | 11.25 | 8.000 | 0.2  |     | 90.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 132.0 |    | 0.110  | 0.001 |       | 0.000 | 000E00 | 000E00 |
| 10.0  |       |    |        |       |       |       |        |        |
| 25.0  | 135.0 |    | 0.445  | 0.003 |       |       | 000E00 |        |
| 40.0  |       |    |        |       |       |       |        |        |
| 50.0  | 134.7 |    | 0.045  | 0.002 |       |       | 000E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 200E01 | 900E00 |
| 10.0  |        |        |
| 25.0  |        |        |
| 40.0  |        |        |
| 50.0  |        |        |

C-REF-NO 005 LAT 43-23-30N YEAR 1966 NO. DEPTHS 03  
CONS. NO 054 LON 078-29-15W MONTH 06 SOUNDING 0029  
COUNTRY 18 DAY 28 BT SLIDE NO 049  
INSTITUTE 22 TIME 0646

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 22.53 | 265    | 11.49 | 8.200 | 0.3  |     | 84.0  |
| 10.0  |        | 18.26 | 267    | 10.54 | 8.600 | 0.2  |     | 89.0  |
| 20.0  |        | 9.17  | 260    | 11.11 | 8.600 | 0.3  |     | 90.5  |

| DEPTH | HARD  | CL | NO <sub>3</sub> NO <sub>2</sub> | NO <sub>2</sub> | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|---------------------------------|-----------------|-------|-------|--------|--------|
| 1.0   | 130.8 |    | 0.100                           | 0.001           |       | 0.001 | 500E00 | 400E00 |
| 10.0  | 132.5 |    | 0.115                           | 0.003           |       |       | 400E00 |        |
| 20.0  | 134.2 |    | 0.395                           | 0.003           |       |       | 000E00 |        |

DEPTH SPC 20 SPC 35

1.0 800E00 800E00  
10.0  
20.0

C-REF-NO 005            LAT 43-23-03N            YEAR 1966            NO. DEPTHS 02  
 CONS. NO 055            LON 078-29-18W            MONTH 06            SOUNDING 0011  
 COUNTRY 18            DAY 28            BT SLIDE NO 050  
 INSTITUTE 22            TIME 0710

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 22.68 | 266    | 11.25 | 8.800 | 0.3  |     | 87.0  |
| 5.0   |        | 22.68 | 265    | 11.32 | 8.800 | 0.3  |     | 85.5  |

| DEPTH | HARD  | CL | NO3NO2 | NO2   | R PD4 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 130.2 |    | 0.090  | 0.001 |       | 0.000 | 200E00 | 000E00 |
| 5.0   | 130.0 |    | 0.100  | 0.002 |       |       | 400E00 |        |

DEPTH SPC 20 SPC 35

|     |        |        |
|-----|--------|--------|
| 1.0 | 200E01 | 350E01 |
| 5.0 |        |        |

C-REF-NO 005            LAT 43-22-57N            YEAR 1966            NO. DEPTHS 03  
 CONS. NO 056            LON 078-34-51W            MONTH 06            SOUNDING 0029  
 COUNTRY 18            DAY 28            BT SLIDE NO 051  
 INSTITUTE 22            TIME 0758

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 21.62 | 265    | 11.40 | 8.800 | 0.2  |     | 86.0  |
| 10.0  |        |       | 274    | 10.93 |       | 0.3  |     | 89.0  |
| 20.0  |        | 6.76  | 276    | 11.54 | 8.200 | 0.2  |     | 91.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 130.5 |    |        | 0.105 | 0.002 |      | 700E00 | 000E00 |
| 10.0  | 133.5 |    |        | 0.115 | 0.002 |      | 400E00 |        |
| 20.0  | 131.0 |    |        | 0.435 | 0.003 |      | 100E00 |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 200E01 | 200E01 |
| 10.0  |        |        |
| 20.0  |        |        |

C-REF-NO 005            LAT 43-23-54N            YEAR 1966            NO. DEPTHS 05  
 CONS. NO 057            LON 078-34-45W            MONTH 06            SOUNDING 0064  
 COUNTRY 18            DAY 28            BT SLIDE NO 052  
 INSTITUTE 22            TIME 0842

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 22.01 | 265    | 11.72 | 8.800 | 0.4  |     | 86.0  |
| 10.0  |        | 15.45 |        |       |       |      |     |       |
| 25.0  |        | 8.61  | 275    | 12.03 | 8.200 | 0.2  |     | 92.0  |
| 30.0  |        | 5.12  |        |       |       |      |     |       |
| 45.0  |        | 4.12  | 279    | 12.83 | 8.100 | 0.4  |     | 91.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |        |
|-------|-------|----|--------|-------|-------|------|--------|--------|--------|
| 1.0   | 130.0 |    |        | 0.090 | 0.001 |      | 0.000  | 200E00 | 000E00 |
| 10.0  |       |    |        |       |       |      |        |        |        |
| 25.0  | 134.8 |    |        | 0.425 | 0.002 |      |        | 000E00 |        |
| 30.0  |       |    |        |       |       |      |        |        |        |
| 45.0  | 139.8 |    |        | 0.515 | 0.002 |      |        | 000E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 300E01 | 150E01 |
| 10.0  |        |        |
| 25.0  |        |        |
| 30.0  |        |        |
| 45.0  |        |        |

C-REF-NO 005            LAT 43-24-51N            YEAR 1966            NO. DEPTHS 06  
 CONS. NO 058            LON 078-34-51W            MONTH 06            SOUNDING 0095  
 COUNTRY 18            DAY 28            BT SLIDE NO 053  
 INSTITUTE 22            TIME 0930

| DEPTH | SECCHI | TEMP  | CON. 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|---------|-------|-------|------|-----|------|
| 1.0   |        | 21.43 | 266     | 11.43 | 8.800 | 0.2  |     | 87.5 |
| 10.0  |        | 12.48 |         |       |       |      |     |      |
| 20.0  |        | 7.69  |         |       |       |      |     |      |
| 40.0  |        | 4.59  | 279     | 12.85 | 8.100 | 0.2  |     | 91.0 |
| 50.0  |        | 4.30  |         |       |       |      |     |      |
| 75.0  |        | 3.90  | 277     | 12.74 | 8.100 | 0.5  |     | 91.0 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.0 |    | 0.100  | 0.001 |       | 0.000 | 000E00 | 000E00 |
| 10.0  |       |    |        |       |       |       |        |        |
| 20.0  |       |    |        |       |       |       |        |        |
| 40.0  | 135.0 |    | 0.505  | 0.002 |       | 0.000 | 000E00 |        |
| 50.0  |       |    |        |       |       |       |        |        |
| 75.0  | 134.6 |    | 0.515  | 0.002 |       | 0.000 | 000E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 150E01 | 150E01 |
| 10.0 |        |        |
| 20.0 |        |        |
| 40.0 |        |        |
| 50.0 |        |        |
| 75.0 |        |        |

C-REF-NO 005      LAT 43-23-24N      YEAR 1966      NO. DEPTHS 06  
 CONS. NO 059      LON 078-43-06W      MONTH 06      SOUNDING 0077  
 COUNTRY 18      DAY 28      BT SLIDE NO 054  
 INSTITUTE 22      TIME 1038

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   | 4.0    | 21.39 | 267    | 11.40 | 8.800 | 0.3  |     | 86.5 |
| 10.0  |        | 13.96 |        |       |       |      |     |      |
| 20.0  |        | 7.48  |        |       |       |      |     |      |
| 35.0  |        | 5.11  | 278    | 12.69 | 8.200 | 0.2  |     | 91.5 |
| 50.0  |        | 4.19  |        |       |       |      |     |      |
| 69.0  |        | 3.99  | 280    | 12.50 | 8.100 | 0.7  |     | 91.5 |

| DEPTH | HARD  | CL | NO3NO2 | NO2   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 134.0 |    | 0.115  | 0.001 |       | 0.000 | 400E00 | 400E00 |
| 10.0  |       |    |        |       |       |       |        |        |
| 20.0  |       |    |        |       |       |       |        |        |
| 35.0  | 134.7 |    | 0.495  | 0.003 |       | 0.000 | 000E00 |        |
| 50.0  |       |    |        |       |       |       |        |        |
| 69.0  | 132.0 |    | 0.515  | 0.002 |       | 0.000 | 100E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 150E01 | 400E01 |
| 10.0 |        |        |
| 20.0 |        |        |
| 35.0 |        |        |
| 50.0 |        |        |
| 69.0 |        |        |

C-REF-NO 005 LAT 43-22-27N YEAR 1966 NO. DEPTHS 05  
 CONS. NO 060 LON 078-43-03W MONTH 06 SOUNDING 0048  
 COUNTRY 18 DAY 28 BT SLIDE NO 055  
 INSTITUTE 22 TIME 1116

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   | 3.5    | 22.39 | 268    | 11.32 | 8.700 | 0.3  |     | 88.5  |
| 10.0  |        | 15.51 |        |       |       |      |     |       |
| 20.0  |        | 7.37  | 278    | 12.11 | 8.100 | 0.1  |     | 90.5  |
| 30.0  |        | 5.55  |        |       |       |      |     |       |
| 40.0  |        | 4.79  | 278    | 12.16 | 8.100 | 0.2  |     | 92.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 132.0 |    | 0.100  | 0.002 |       | 0.000 | 500E00 | 000E00 |
| 10.0  |       |    |        |       |       |       |        |        |
| 20.0  | 134.0 |    | 0.465  | 0.002 |       |       | 000E00 |        |
| 30.0  |       |    |        |       |       |       |        |        |
| 40.0  | 136.0 |    | 0.500  | 0.002 |       |       | 000E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 300E01 | 750E01 |
| 10.0 |        |        |
| 20.0 |        |        |
| 30.0 |        |        |
| 40.0 |        |        |

C-REF-NO 005      LAT 43-21-30N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 061      LON 078-43-00W      MONTH 06      SOUNDING 0019  
 COUNTRY 18      DAY 28      BT SLIDE NO 056  
 INSTITUTE 22      TIME 1150

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   | 3.0    | 23.02 | 270    | 11.06 | 8.800 | 0.5  |     | 87.5  |
| 8.0   |        | 17.04 | 275    | 8.80  | 8.200 | 0.4  |     | 90.0  |
| 15.0  |        | 10.33 | 276    | 10.22 | 8.100 | 0.2  |     | 87.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 132.5 |    |        | 0.115 | 0.002 |      | 200E00 | 000E00 |
| 8.0   | 132.2 |    |        | 0.220 | 0.005 |      | 300E00 |        |
| 15.0  | 132.2 |    |        | 0.115 | 0.004 |      | 000E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 250E01 | 950E01 |
| 8.0   |        |        |
| 15.0  |        |        |

C-REF-NO 005 LAT 43-20-57N YEAR 1966 NO. DEPTHS .02  
 CONS. NO 062 LON 078-43-09W MONTH 06 SOUNDING 0011  
 COUNTRY 18 DAY 28 BT SLIDE NO 057  
 INSTITUTE 22 TIME 1225

| DEPTH | SECCHI | TEMP | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|------|-------|------|-----|------|
| 1.0   |        | 2.71 | 11.13  |      |       | 0.5  |     | 89.0 |
| 8.0   |        | 2.73 | 9.72   |      |       | 0.5  |     | 89.5 |

| DEPTH | HARD  | CL | NO3NO2 | NO2   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 132.0 |    | 0.090  | 0.001 |       | 0.001 | 400E00 | 000E00 |
| 8.0   | 131.7 |    | 0.120  | 0.002 |       |       | 100E00 |        |

DEPTH SPC 20 SPC 35

|     |        |        |
|-----|--------|--------|
| 1.0 | 350E01 | 250E01 |
| 8.0 |        |        |

G-REF-N0005 LAT 43-19-42N YEAR 1966 NO. DEPTHS 02  
 CONS. N0063 LON 078-50-12W MONTH 06 SOUNDING 0009  
 COUNTRY 18 DAY 28 BT SLIDE NO 058  
 INSTITUTE 22 TIME 1315

| DEPTH | SSECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|---------|------|--------|-------|-------|------|-----|------|
| 1.0   |         | 276  |        | 11.24 |       | 0.4  |     | 87.5 |
| 5.0   |         | 259  |        | 10.25 |       | 0.7  |     | 88.0 |

| DEPTH | HARD   | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|--------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 133.88 |    |        | 0.120 | 0.002 |      | 0.000  | 400E00 |
| 5.0   | 131.5  |    |        | 0.105 | 0.002 |      |        | 700E00 |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 120E02 | 160E02 |
| 5.0   |        |        |

C-REF-NO 005 LAT 43-20-09N YEAR 1966 NO. DEPTHS .03  
 CONS. NO 064 LON 078-50-00W MONTH 06 SOUNDING 0018  
 COUNTRY 18 DAY 28 BT SLIDE NO 059  
 INSTITUTE 22 TIME 1333

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 22.68 | 268    | 10.84 | 8.800 | 0.3  |     | 89.0  |
| 9.0   |        | 17.47 | 278    | 8.93  | 8.300 | 0.3  |     | 89.5  |
| 13.0  |        | 12.97 | 274    | 9.76  | 8.800 | 0.5  |     | 89.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.4 |    | 0.205  | 0.003 |       | 0.001 | 130E01 | 000E00 |
| 9.0   | 131.6 |    | 0.245  | 0.004 |       |       | 300E00 |        |
| 13.0  | 134.8 |    | 0.275  | 0.003 |       |       | 200E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 500E01 | 350E01 |
| 9.0   |        |        |
| 13.0  |        |        |

C-REF-NO 005 LAT 43-21-12N YEAR 1966 NO. DEPTHS 04  
 CONS. NO 065 LON 078-50-09W MONTH 06 SOUNDING 0053  
 COUNTRY 18 DAY 28 BT SLIDE NO 060  
 INSTITUTE 22 TIME 1403

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 22.22 | 268    | 10.93 | 8.800 | 0.2  |     | 87.5  |
| 10.0  |        | 14.36 |        |       |       |      |     |       |
| 20.0  |        | 7.06  | 278    | 11.92 | 8.200 | 0.4  |     | 91.5  |
| 40.0  |        | 4.38  | 278    | 12.11 | 8.100 | 0.9  |     | 91.5  |

| DEPTH | HARD  | CL | NO3NO2 | NO2   | R PO4 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 130.5 |    | 0.090  | 0.000 |       |      | 100E00 | 000E00 |
| 10.0  |       |    |        |       |       |      |        |        |
| 20.0  | 134.8 |    | 0.455  | 0.002 |       |      | 400E00 |        |
| 40.0  | 135.5 |    | 0.510  | 0.002 |       |      | 000E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 100E01 | 150E01 |
| 10.0 |        |        |
| 20.0 |        |        |
| 40.0 |        |        |

C-REF-NO 005 LAT 43-22-09N YEAR 1966 NO. DEPTHS 06  
 CONS. NO 066 LON 078-49-57W MONTH 06 SOUNDING 0077  
 COUNTRY 18 DAY 28 BT SLIDE NO 061  
 INSTITUTE 22 TIME 1441

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 22.23 | 267    | 11.03 | 8.800 | 0.1  |     | 88.0  |
| 10.0  |        | 13.34 |        |       |       |      |     |       |
| 20.0  |        | 6.80  |        |       |       |      |     |       |
| 30.0  |        | 5.12  | 279    | 12.75 | 8.200 | 0.2  |     | 92.5  |
| 50.0  |        | 4.17  |        |       |       |      |     |       |
| 60.0  |        | 3.95  | 277    | 12.83 | 8.100 | 0.3  |     | 91.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 130.5 |    | 0.095  | 0.000 |       | 0.000 | 000E00 | 500E00 |
| 10.0  |       |    |        |       |       |       |        |        |
| 20.0  |       |    |        |       |       |       |        |        |
| 30.0  | 135.5 |    | 0.495  | 0.002 |       | 0.000 | 000E00 |        |
| 50.0  |       |    |        |       |       |       |        |        |
| 60.0  | 135.0 |    | 0.510  | 0.001 |       | 0.000 | 000E00 |        |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  | 150E01 | 100E01 |
| 10.0 |        |        |
| 20.0 |        |        |
| 30.0 |        |        |
| 50.0 |        |        |
| 60.0 |        |        |

C-REF-NO 005 LAT 43-18-42N YEAR 1966 NO. DEPTHS 02  
 CONS. NO 067 LDN 079-03-24W MONTH 06 SOUNDING 0009  
 COUNTRY 18 DAY 28 BT SLIDE NO  
 INSTITUTE 22 TIME 1625

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   | 23.12  | 275  | 11.00  | 8.800 | 0.5   |      |     | 88.0  |
| 4.0   | 22.32  | 276  |        | 8.700 | 0.9   |      |     | 87.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.9 |    | 0.090  | 0.002 |       | 0.001 | 400E00 | 730E01 |
| 4.0   | 132.0 |    | 0.075  | 0.002 |       | 0.000 | 700E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 120E02 | 160E02 |
| 4.0   |        |        |

C-REF-NO 005      LAT 43-17-48N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 068      LON 079-03-00W      MONTH 06      SOUNDING 0009  
 COUNTRY 18      DAY 28      BT SLIDE NO  
 INSTITUTE 22      TIME 1650

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 276. |        | 12.02 | 8.800 | 0.6  |     | 88.5  |
| 4.0   |        | 275  |        | 11.56 |       | 0.5  |     | 88.0  |
| 8.0   |        | 275  |        | 10.60 | 8.100 | 0.5  |     | 88.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 133.5 |    |        | 0.090 | 0.001 |      |        | 000E00 |
| 4.0   | 133.5 |    |        | 0.115 | 0.002 |      |        |        |
| 8.0   | 132.3 |    |        | 0.120 | 0.002 |      |        |        |

DEPTH SPC 20 SPC 35

|     |        |        |
|-----|--------|--------|
| 1.0 | 300E03 | 340E02 |
| 4.0 |        |        |
| 8.0 |        |        |

C-REF-NO 005 LAT 43-17-06N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 069 LON 079-02-48W MONTH 06 SOUNDING 0007  
 COUNTRY 18 DAY 28 BT SLIDE NO  
 INSTITUTE 22 TIME 1710

| DEPTH | SECCHI | TEMP | CDV 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|-------|-------|------|-----|------|
| 1.0   |        | 275  | 11.59  | 8.700 | 0.5   |      |     | 87.0 |
| 3.0   |        | 272  | 11.25  | 8.800 | 0.6   |      |     | 86.0 |
| 6.0   |        | 273  | 10.28  | 8.600 | 0.3   |      |     | 88.0 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 130.8 |    | 0.090  | 0.001 |       |      |        | 000E00 |
| 3.0   | 132.4 |    | 0.120  | 0.002 |       |      |        |        |
| 6.0   | 132.5 |    | 0.180  | 0.003 |       |      |        |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 500E01 | 200E02 |
| 3.0   |        |        |
| 6.0   |        |        |

C-REF-NO 005            LAT 43-16-42N            YEAR 1966            NO. DEPTHS 02  
 CONS. NO 070            LON 079-02-42W            MONTH 06            SOUNDING 0003  
 COUNTRY 18            DAY 28            BT SLIDE NO  
 INSTITUTE 22            TIME 1725

| DEPTH | SECCHI | TEMP | COND 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|---------|-------|-------|------|-----|-------|
| 1.0   |        | 277  | 11.33   | 8.600 | 0.6   |      |     | 89.0  |
| 2.0   |        | 273  | 10.79   | 8.700 | 0.5   |      |     | 88.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.6 |    | 0.080  | 0.001 |       | 0.000 |        | 000E00 |
| 2.0   | 130.9 |    | 0.125  | 0.003 |       |       |        |        |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 750E01 | 180E02 |
| 2.0   |        |        |

C-REF-NO 005 LAT 43-16-42N YEAR 1966 NO. DEPTHS 02  
 CONS. NO 071 LON 079-03-42W MONTH 06 SOUNDING 0004  
 COUNTRY 18 DAY 28 BT SLIDE NO.  
 INSTITUTE 22 TIME 1755

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|-------|-------|------|-----|------|
| 1.0   |        |      | 276    | 10.89 |       | 0.7  |     | 89.5 |
| 3.0   |        |      | 275    | 12.46 |       | 0.7  |     | 88.0 |

| DEPTH | HARD  | CL | NO3NO2 | NO2   | R P04 | PHEN | MF COL. | MF ENT |
|-------|-------|----|--------|-------|-------|------|---------|--------|
| 1.0   | 130.9 |    |        | 0.095 | 0.001 |      |         |        |
| 3.0   | 133.3 |    |        | 0.215 | 0.005 |      |         |        |

DEPTH SPC 20 SPC 35

|     |  |
|-----|--|
| 1.0 |  |
| 3.0 |  |

C-REF-NO 005  
 CONS. NO 072  
 COUNTRY 18  
 INSTITUTE 22

LAT 43-18-42N  
 LON 079-04-39W  
 YEAR 1966  
 MONTH 06  
 DAY 28  
 TIME 1757  
 NO. DEPTHS 02  
 SOUNDING 0011  
 BT SLIDE NO 062

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 23.60 | 258    | 10.46 | 8.700 | 0.6  |     | 88.0  |
| 4.0   |        | 22.97 | 279    | 10.26 | 8.500 | 0.6  |     | 88.0  |

| DEPTH | HARD  | CL | NO3NO2 | NO2   | R PO4 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|-------|--------|--------|
| 1.0   | 131.2 |    | 0.100  | 0.002 |       | 0.001 |        | 000E00 |
| 4.0   | 132.0 |    | 0.250  | 0.005 |       | 0.000 |        |        |

DEPTH SPC 20 SPC 35

|     |        |        |
|-----|--------|--------|
| 1.0 | 300E03 | 800E02 |
| 4.0 |        |        |

C-REF-NO 005 LAT 43-17-00N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 073 LON 079-03-54W MONTH 06 SOUNDING 0009  
 COUNTRY 18 DAY 28 BT SLIDE NO  
 INSTITUTE 22 TIME 1800

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 278  | 10.49  | 8.500 | 0.6   |      |     | 88.5  |
| 3.0   |        | 276  | 10.38  | 8.600 | 0.5   |      |     | 89.0  |
| 8.0   |        | 274  | 9.82   | 8.700 | 0.5   |      |     | 88.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 131.9 |    |        | 0.100 | 0.002 |      | 0.000  |        |
| 3.0   | 131.0 |    |        | 0.195 | 0.004 |      |        |        |
| 8.0   | 132.5 |    |        | 0.225 | 0.005 |      |        |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 280E02 | 380E02 |
| 3.0   |        |        |
| 8.0   |        |        |

C-REF-NO 005 LAT 43-17-48N YEAR 1966 NO. DEPTHS 02  
 CONS. NO 074 LON 079-04-12W MONTH 06 SOUNDING 0006  
 COUNTRY 18 DAY 28 BT SLIDE NO  
 INSTITUTE 22 TIME 1840

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   |        |      | 264    | 12.66 | 8.800 | 0.6  |     | 89.0  |
| 5.0   |        |      | 260    | 9.99  | 8.700 | 0.5  |     | 89.0  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 132.0 |    |        | 0.080 | 0.002 |      |        | 000E00 |
| 5.0   | 131.8 |    |        | 0.120 | 0.003 |      |        |        |

DEPTH SPC 20 SPC 35

|     |        |        |
|-----|--------|--------|
| 1.0 | 410E02 | 700E02 |
| 5.0 |        |        |

C-REF-NO 005            LAT 43-17-12N            YEAR 1966            NO. DEPTHS 03  
 CONS. NO 075            LON 079-06-36W            MONTH 06            SOUNDING 0006  
 COUNTRY 18            DAY 28            BT SLIDE NO  
 INSTITUTE 22            TIME 1910

| DEPTH | SECCHI | TEMP | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|------|-------|------|-----|------|
| 1.0   |        |      | 286    | 8.08 | 8.100 | 0.7  |     | 89.5 |
| 2.0   |        |      | 281    | 8.03 | 8.400 | 0.5  |     | 89.5 |
| 5.0   |        |      | 281    | 8.03 | 8.400 | 0.6  |     | 89.0 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 132.1 |    |        | 0.230 | 0.007 |      |        | 300E00 |
| 2.0   | 132.3 |    |        | 0.110 | 0.007 |      |        |        |
| 5.0   | 132.2 |    |        | 0.235 | 0.007 |      |        |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 350E03 | 100E03 |
| 2.0   |        |        |
| 5.0   |        |        |

C-REF-NO 005 LAT 43-18-06N YEAR 1966 NO. DEPTHS 02  
 CONS. NO 076 LON 079-07-24W MONTH 06 SOUNDING 0011  
 COUNTRY 18 DAY 28 BT SLIDE NO 063  
 INSTITUTE 22 TIME 1917

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 22.53 | 279    | 9.02 | 8.500 | 1.0  |     | 90.0 |
| 5.0   |        | 22.36 | 280    | 9.10 | 8.500 | 0.4  |     | 88.0 |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 131.9 |    |        | 0.215 | 0.006 |      | 0.000  |        |
| 5.0   | 132.1 |    |        | 0.225 | 0.006 |      | 0.000  |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 400E03 | 100E03 |
| 5.0   |        |        |

C-REF-NO 005      LAT 43-16-18N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 077      LON 079-05-48W      MONTH 06      SOUNDING 0004  
 COUNTRY 18      DAY 28      BT SLIDE NO  
 INSTITUTE 22      TIME 1930

| DEPTH | SECCHI | TEMP | CON 18 | D 02 | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|------|-------|------|-----|-------|
| 1.0   |        |      | 289    | 8.91 | 8.000 | 0.6  |     | 89.5  |
| 2.0   |        |      | 281    | 8.85 | 8.300 | 0.6  |     | 89.5  |
| 3.0   |        |      | 280    | 8.88 | 8.500 | 0.6  |     | 89.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 132.5 |    |        | 0.240 | 0.007 |      | 0.001  |        |
| 2.0   | 132.4 |    |        | 0.240 | 0.007 |      |        |        |
| 3.0   | 132.6 |    |        | 0.240 | 0.007 |      |        |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 230E03 | 100E03 |
| 2.0   |        |        |
| 3.0   |        |        |

C-REF-NO 005            LAT 43-15-54N            YEAR 1966            NO. DEPTHS . 03  
 CONS. NO 078            LON 079-05-18W            MONTH 06            SOUNDING 0006  
 COUNTRY 18            DAY 28            BT SLIDE NO  
 INSTITUTE 22            TIME 2000

| DEPTH | SECCHI | TEMP | CON 18 | D O2 | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|------|-------|------|-----|-------|
| 1.0   |        |      | 284    | 8.94 | 8.200 | 0.6  |     | 89.5  |
| 2.0   |        |      | 280    | 8.93 | 8.500 | 0.6  |     | 89.5  |
| 5.0   |        |      | 281    | 9.01 | 8.400 | 0.6  |     | 89.5  |

| DEPTH | HARD  | CL | N03N02 | N02   | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-------|-------|------|--------|--------|
| 1.0   | 132.1 |    |        | 0.245 | 0.006 |      |        |        |
| 2.0   | 132.0 |    |        | 0.240 | 0.006 |      |        |        |
| 5.0   | 132.5 |    |        | 0.250 | 0.007 |      |        |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   | 300E03 | 100E03 |
| 2.0   |        |        |
| 5.0   |        |        |

C-REF-NO 005  
CONS. NO 079  
COUNTRY 18  
INSTITUTE 22

LAT 43-17-54N  
LON 079-09-00W

YEAR 1966  
MONTH 06  
DAY 28  
TIME 2056

NO. DEPTHS 03  
SOUNDING 0016  
BT SLIDE NO 064

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   | 3.0    | 23.30 |        |       |       |      |     |       |
| 10.0  |        | 9.37  |        |       |       |      |     |       |
| 15.0  |        | 4.77  | 289    | 11.80 | 8.200 | 0.3  |     |       |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 15.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

1.0  
10.0  
15.0

C-REF-NO 005 LAT 43-19-18N YEAR 1966 NO. DEPTHS 06  
 CONS. NO 080 LON 079-10-54W MONTH 06 SOUNDING 0084  
 COUNTRY 18 DAY 28 BT SLIDE NO 065  
 INSTITUTE 22 TIME 2144

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   | 3.5    | 23.48 |        |       |       |      |     |       |
| 10.0  |        | 7.72  |        |       |       |      |     |       |
| 20.0  |        | 5.26  |        |       |       |      |     |       |
| 30.0  |        | 4.52  |        |       |       |      |     |       |
| 50.0  |        | 4.14  |        |       |       |      |     |       |
| 75.0  |        | 4.03  | 276    | 12.37 | 8.200 | 0.2  |     |       |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |
| 75.0  |      |    |        |     |       |      | 200E00 | 000E00 |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   |        |        |
| 10.0  |        |        |
| 20.0  |        |        |
| 30.0  |        |        |
| 50.0  |        |        |
| 75.0  | 280E02 | 140E01 |

C-REF-NO 005            LAT 43-21-03N            YEAR 1966            NO. DEPTHS 07  
 CONS. NO 081            LON 079-13-06W            MONTH 06            SOUNDING 0103  
 COUNTRY 18            DAY 28            BT SLIDE NO 066  
 INSTITUTE 22            TIME 2234

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   | 2.5    | 22.87 |        |       |       |      |     |      |
| 10.0  |        | 8.35  |        |       |       |      |     |      |
| 20.0  |        | 6.49  |        |       |       |      |     |      |
| 30.0  |        | 4.88  |        |       |       |      |     |      |
| 50.0  |        | 4.12  |        |       |       |      |     |      |
| 75.0  |        | 3.96  |        |       |       |      |     |      |
| 95.0  |        | 3.92  | 279    | 12.62 | 7.900 | 0.2  |     |      |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |
| 75.0  |      |    |        |     |       |      |        |        |
| 95.0  |      |    |        |     |       |      | 300E00 | 000E00 |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  |        |        |
| 10.0 |        |        |
| 20.0 |        |        |
| 30.0 |        |        |
| 50.0 |        |        |
| 75.0 |        |        |
| 95.0 | 400E01 | 150E01 |

C-REF-NO 005 LAT 43-21-39N YEAR 1966 NO. DEPTHS 07  
 CONS. NO 082 LON 079-09-21W MONTH 06 SOUNDING 0102  
 COUNTRY 18 DAY 28 BT SLIDE NO 067  
 INSTITUTE 22 TIME 2319

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   | 3.0    | 23.18 |        |       |       |      |     |       |
| 10.0  |        | 8.29  |        |       |       |      |     |       |
| 20.0  |        | 5.70  |        |       |       |      |     |       |
| 30.0  |        | 4.71  |        |       |       |      |     |       |
| 50.0  |        | 4.32  |        |       |       |      |     |       |
| 75.0  |        | 3.82  |        |       |       |      |     |       |
| 95.0  |        | 3.81  | 279    | 12.61 | 8.000 | 0.2  |     |       |

| DEPTH | HARD | CL | NO3NO2 | NO2 | R PO4 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |
| 75.0  |      |    |        |     |       |      |        |        |
| 95.0  |      |    |        |     |       |      | 200E00 | 000E00 |

DEPTH SPC 20 SPC 35

|      |        |        |
|------|--------|--------|
| 1.0  |        |        |
| 10.0 |        |        |
| 20.0 |        |        |
| 30.0 |        |        |
| 50.0 |        |        |
| 75.0 |        |        |
| 95.0 | 900E01 | 200E01 |

C-REF-NO 005            LAT 43-22-12N            YEAR 1966            NO. DEPTHS 06  
 CONS. NO 083            LON 079-05-09W            MONTH 06            SOUNDING 0102  
 COUNTRY 18            DAY 29            BT SLIDE NO 068  
 INSTITUTE 22            TIME 0005

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 23.57 |        |       |       |      |     |       |
| 10.0  |        | 22.26 |        |       |       |      |     |       |
| 30.0  |        | 5.32  |        |       |       |      |     |       |
| 50.0  |        | 4.31  |        |       |       |      |     |       |
| 75.0  |        | 3.97  |        |       |       |      |     |       |
| 95.0  |        | 3.86  | 278    | 12.05 | 8.100 | 0.2  |     |       |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |
| 75.0  |      |    |        |     |       |      |        |        |
| 95.0  |      |    |        |     |       |      | 000E00 | 000E00 |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   |        |        |
| 10.0  |        |        |
| 30.0  |        |        |
| 50.0  |        |        |
| 75.0  |        |        |
| 95.0  | 240E02 | 400E01 |

C-REF-NO 005            LAT. 43-22-48N            YEAR 1966            NO. DEPTHS 06  
 CONS. NO 084            LON. 079-01-03W            MONTH 06            SOUNDING 0101  
 COUNTRY 18            DAY 29            BT SLIDE NO 069  
 INSTITUTE 22            TIME 0055

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 23.19 |        |      |       |      |     |      |
| 10.0  |        | 16.21 |        |      |       |      |     |      |
| 20.0  |        | 6.38  |        |      |       |      |     |      |
| 30.0  |        | 5.11  |        |      |       |      |     |      |
| 50.0  |        | 4.44  |        |      |       |      |     |      |
| 75.0  |        | 4.16  |        |      |       |      |     |      |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |
| 75.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |
|------|
| 1.0  |
| 10.0 |
| 20.0 |
| 30.0 |
| 50.0 |
| 75.0 |

C-REF-NO 005 LAT 43-21-30N YEAR 1966 NO. DEPTHS 06  
 CONS. NO 085 LON 078-57-24W MONTH 06 SOUNDING 0084  
 COUNTRY 18 DAY 29 BT SLIDE NO 070  
 INSTITUTE 22 TIME 0133

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 22.89 |        |       |       |      |     |      |
| 10.0  |        | 15.59 |        |       |       |      |     |      |
| 20.0  |        | 7.30  |        |       |       |      |     |      |
| 30.0  |        | 5.38  |        |       |       |      |     |      |
| 50.0  |        | 4.36  |        |       |       |      |     |      |
| 75.0  |        | 4.07  | 282    | 12.53 | 8.000 | 0.4  |     |      |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |
| 75.0  |      |    |        |     |       |      | 100E00 | 000E00 |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   |        |        |
| 10.0  |        |        |
| 20.0  |        |        |
| 30.0  |        |        |
| 50.0  |        |        |
| 75.0  | 120E02 | 200E01 |

C-REF-NO 005      LAT 43-23-12N      YEAR 1966      NO. DEPTHS 06  
 CONS. NO 086      LON 078-57-09W      MONTH 06      SOUNDING 0104  
 COUNTRY 18      DAY 29      BT SLIDE NO 071  
 INSTITUTE 22      TIME 0205

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|-------|-------|------|-----|------|
| 1.0   |        | 22.00 |        |       |       |      |     |      |
| 10.0  |        | 10.04 |        |       |       |      |     |      |
| 20.0  |        | 6.68  |        |       |       |      |     |      |
| 30.0  |        | 5.49  |        |       |       |      |     |      |
| 50.0  |        | 4.10  |        |       |       |      |     |      |
| 75.0  |        | 3.91  | 261    | 12.77 | 8.100 | 0.3  |     |      |

| DEPTH | HARD | CL | NO3NO2 | NO2 | R PO4 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |
| 75.0  |      |    |        |     |       |      | 100E00 | 100E00 |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   |        |        |
| 10.0  |        |        |
| 20.0  |        |        |
| 30.0  |        |        |
| 50.0  |        |        |
| 75.0  | 110E02 | 250E01 |

C-REF-NO 005      LAT 43-23-57N      YEAR 1966      NO. DEPTHS 07  
 CONS. NO 087      LON 078-52-57W      MONTH 06      SOUNDING 0108  
 COUNTRY 18      DAY 29      BT SLIDE NO 072  
 INSTITUTE 22      TIME 0245

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|------|-------|------|-----|-------|
| 1.0   |        | 20.83 |        |      |       |      |     |       |
| 10.0  |        | 9.95  |        |      |       |      |     |       |
| 20.0  |        | 6.63  |        |      |       |      |     |       |
| 30.0  |        | 5.18  |        |      |       |      |     |       |
| 50.0  |        | 4.00  |        |      |       |      |     |       |
| 75.0  |        | 3.91  |        |      |       |      |     |       |
| 100.0 |        | 3.82  |        |      |       |      |     |       |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |
| 75.0  |      |    |        |     |       |      |        |        |
| 100.0 |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|       |
|-------|
| 1.0   |
| 10.0  |
| 20.0  |
| 30.0  |
| 50.0  |
| 75.0  |
| 100.0 |

C-REF-NO 005 LAT 43-22-51N YEAR 1966 NO. DEPTHS 06  
 CONS. NO 088 LON 078-53-03W MONTH 06 SOUNDING 0097  
 COUNTRY 18 DAY 29 BT SLIDE NO 073  
 INSTITUTE 22 TIME 0320

| DEPTH | SECCHI | TEMP  | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 22.39 |        |       |       |      |     |       |
| 10.0  |        | 11.05 |        |       |       |      |     |       |
| 20.0  |        | 6.49  |        |       |       |      |     |       |
| 30.0  |        | 5.19  |        |       |       |      |     |       |
| 50.0  |        | 4.44  |        |       |       |      |     |       |
| 75.0  |        | 4.07  | 255    | 12.56 | 8.200 | 0.3  |     |       |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |
| 75.0  |      |    |        |     |       |      | 100E00 | 000E00 |

DEPTH SPC 20 SPC 35

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   |        |        |
| 10.0  |        |        |
| 20.0  |        |        |
| 30.0  |        |        |
| 50.0  |        |        |
| 75.0  |        | 200E00 |

C-REF-NO 005      LAT 43-17-12N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 089      LON 076-58-30W      MONTH 06      SOUNDING 0009  
 COUNTRY 18      DAY 29      BT SLIDE NO  
 INSTITUTE 22      TIME 1320

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   |        |      | 271    | 11.96 | 8.700 |      |     | 88.5  |
| 5.0   |        |      | 270    | 11.64 | 8.800 |      |     | 88.5  |
| 8.0   |        |      | 271    | 11.24 | 8.700 |      |     | 89.5  |

| DEPTH | HARD  | CL | N03N02 | N02 | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-----|-------|-------|--------|--------|
| 1.0   | 131.5 |    |        |     |       | 0.000 | 700E00 | 000E00 |
| 5.0   | 131.8 |    |        |     |       |       | 700E00 |        |
| 8.0   | 134.1 |    |        |     |       |       | 500E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   |        | 200E01 |
| 5.0   |        |        |
| 8.0   |        |        |

C-REF-NO 005      LAT 43-21-42N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 090      LON 076-43-42W      MONTH 06      SOUNDING 0007  
 COUNTRY 18      DAY 29      BT SLIDE NO  
 INSTITUTE 22      TIME 1530

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | TALK |
|-------|--------|------|--------|-------|-------|------|-----|------|
| 1.0   |        | 271  |        | 11.48 | 8.500 |      |     | 88.5 |
| 2.0   |        | 270  |        | 11.99 | 8.700 |      |     | 89.0 |
| 6.0   |        | 270  |        | 12.11 | 8.700 |      |     | 88.0 |

| DEPTH | HARD  | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-----|-------|------|--------|--------|
| 1.0   | 131.2 |    |        |     |       |      | 900E00 | 000E00 |
| 2.0   | 131.7 |    |        |     |       |      | 110E01 |        |
| 6.0   | 131.0 |    |        |     |       |      | 800E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   |        | 150E01 |
| 2.0   |        |        |
| 6.0   |        |        |

C-REF-NO 005      LAT 43-27-48N      YEAR 1966      NO. DEPTHS 03  
 CONS. NO 091      LON 076-31-18W      MONTH 06      SOUNDING 0007  
 COUNTRY 18      DAY 29      BT SLIDE NO  
 INSTITUTE 22      TIME 1600

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   |        | 276  |        | 12.29 | 8.600 | 0.3  |     | 89.0  |
| 2.0   |        | 270  |        | 11.48 | 8.800 | 0.3  |     | 88.0  |
| 6.0   |        | 269  |        | 12.11 | 8.800 | 0.2  |     | 89.5  |

| DEPTH | HARD  | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-----|-------|------|--------|--------|
| 1.0   | 132.5 |    |        |     |       |      | 400E00 | 000E00 |
| 2.0   | 131.2 |    |        |     |       |      | 700E00 |        |
| 6.0   | 132.0 |    |        |     |       |      | 200E00 |        |

DEPTH SPC 20 SPC 35

|     |        |
|-----|--------|
| 1.0 | 500E00 |
| 2.0 |        |
| 6.0 |        |

C-REF-NO 005 LAT 43-27-18N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 092 LON 076-31-12W MONTH 06 SOUNDING 0007  
 COUNTRY 18 DAY 29 BT SLIDE NO  
 INSTITUTE 22 TIME 1635

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 1.0   |        |      | 420    | 10.97 | 8.000 | 0.5  |     | 90.0  |
| 2.0   |        |      | 343    | 10.92 | 8.500 | 0.3  |     | 91.0  |
| 6.0   |        |      | 278    | 11.96 | 8.700 | 0.3  |     | 89.0  |

| DEPTH | HARD  | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-----|-------|------|--------|--------|
| 1.0   |       |    |        |     |       |      |        | 400E00 |
| 2.0   |       |    |        |     |       |      |        |        |
| 6.0   | 134.9 |    |        |     |       |      |        |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   |        | 170E02 |
| 2.0   |        |        |
| 6.0   |        |        |

C-REF-NO 005      LAT 43-33-48N      YEAR 1966      NO. DEPTHS. 05  
 CONS. NO 093      LON 076-25-24W      MONTH 06      SOUNDING 0066  
 COUNTRY 18      DAY 29      BT SLIDE NO 091  
 INSTITUTE 22      TIME 1814

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 21.16 |        |      |       |      |     |      |
| 10.0  |        | 15.22 |        |      |       |      |     |      |
| 20.0  |        | 7.30  |        |      |       |      |     |      |
| 30.0  |        | 6.17  |        |      |       |      |     |      |
| 50.0  |        | 5.02  |        |      |       |      |     |      |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |  |
|------|--|
| 1.0  |  |
| 10.0 |  |
| 20.0 |  |
| 30.0 |  |
| 50.0 |  |

C-REF-NO 005 LAT 43-31-48N YEAR 1966 NO. DEPTHS 02  
 CONS. NO 094 LON 076-16-24W MONTH 06 SOUNDING 0005  
 COUNTRY 18 DAY 29 BT SLIDE NO  
 INSTITUTE 22 TIME 1830

| DEPTH | SECCHI | TEMP | CON 18 | D 02  | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|-------|-------|------|-----|-------|
| 2.0   |        |      | 290    | 12.35 | 8.700 | 0.5  |     | 89.0  |
| 4.0   |        |      | 270    | 12.59 |       | 0.3  |     | 89.5  |

| DEPTH | HARD  | CL | NO3NO2 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|-------|----|--------|-----|-------|------|--------|--------|
| 2.0   | 135.6 |    |        |     |       |      | 200E00 | 000E00 |
| 4.0   | 136.1 |    |        |     |       |      | 600E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 2.0   |        | 140E02 |
| 4.0   |        |        |

C-REF-NO 005 LAT 43-30-36N YEAR 1966 NO. DEPTHS 03  
 CONS. NO 095 LON 076-27-06W MONTH 06 SOUNDING 0010  
 COUNTRY 18 DAY 29 BT SLIDE NO  
 INSTITUTE 22 TIME 1900

| DEPTH | SECCHI | TEMP | CON 18 | D 02 | PH 25 | TURB | BOD | T ALK |
|-------|--------|------|--------|------|-------|------|-----|-------|
| 1.0   |        | 274  |        |      | 8.600 | 0.5  |     | 89.0  |
| 4.0   |        | 271  | 12.03  |      |       | 0.4  |     | 89.0  |
| 8.0   |        | 271  | 12.19  |      |       | 0.4  |     | 88.5  |

| DEPTH | HARD  | CL | NO3NO2 | NO2 | R P04 | PHEN  | MF COL | MF ENT |
|-------|-------|----|--------|-----|-------|-------|--------|--------|
| 1.0   | 131.5 |    |        |     |       | 0.000 | 100E00 | 000E00 |
| 4.0   | 131.9 |    |        |     |       |       | 130E01 |        |
| 8.0   | 132.4 |    |        |     |       |       | 700E00 |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   |        | 650E01 |
| 4.0   |        |        |
| 8.0   |        |        |

C-REF-NO 005      LAT 43-33-48N      YEAR 1966      NO. DEPTHS 05  
CONS. NO 096      LON 076-25-24W      MONTH 06      SOUNDING 0066  
COUNTRY 18      DAY 29      BT SLIDE NO 093  
INSTITUTE 22      TIME 1920

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|------|-------|------|-----|-------|
| 1.0   |        | 21.35 |        |      |       |      |     |       |
| 10.0  |        | 15.27 |        |      |       |      |     |       |
| 20.0  |        | 7.65  |        |      |       |      |     |       |
| 30.0  |        | 6.10  |        |      |       |      |     |       |
| 50.0  |        | 5.05  |        |      |       |      |     |       |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   |        |        |
| 10.0  |        |        |
| 20.0  |        |        |
| 30.0  |        |        |
| 50.0  |        |        |

C-REF-NO 005      LAT 43-33-48N      YEAR 1966      NO. DEPTHS 05  
 CONS. NO 097      LON 076-25-24W      MONTH 06      SOUNDING 0066  
 COUNTRY 18      DAY 29      BT SLIDE NO 094  
 INSTITUTE 22      TIME 2012

| DEPTH | SECCHI | TEMP CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------------|------|-------|------|-----|------|
| 1.0   |        | 21.11       |      |       |      |     |      |
| 10.0  | 5.5    | 8.64        |      |       |      |     |      |
| 20.0  |        | 7.63        |      |       |      |     |      |
| 30.0  |        | 6.11        |      |       |      |     |      |
| 50.0  |        | 5.08        |      |       |      |     |      |

| DEPTH | HARD | CL NO3NO2 | NO2 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|-----------|-----|-------|------|--------|--------|
| 1.0   |      |           |     |       |      |        |        |
| 10.0  |      |           |     |       |      |        |        |
| 20.0  |      |           |     |       |      |        |        |
| 30.0  |      |           |     |       |      |        |        |
| 50.0  |      |           |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |  |
|------|--|
| 1.0  |  |
| 10.0 |  |
| 20.0 |  |
| 30.0 |  |
| 50.0 |  |

C-REF-NO 005  
CONS. NO 098  
COUNTRY 18  
INSTITUTE 22

LAT 43-33-54N  
LON 076-25-12W

YEAR 1966  
MONTH 06  
DAY 29  
TIME 2109

NO. DEPTHS 05  
SOUNDING 0068  
BT SLIDE NO 096

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|------|-------|------|-----|-------|
| 1.0   | 5.5    | 21.59 |        |      |       |      |     |       |
| 10.0  |        | 13.44 |        |      |       |      |     |       |
| 20.0  |        | 7.46  |        |      |       |      |     |       |
| 30.0  |        | 5.84  |        |      |       |      |     |       |
| 50.0  |        | 4.81  |        |      |       |      |     |       |

| DEPTH | HARD | CL | NO3NO2 | NO2 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |  |
|------|--|
| 1.0  |  |
| 10.0 |  |
| 20.0 |  |
| 30.0 |  |
| 50.0 |  |

C-REF-NO 005 LAT 43-33-48N YEAR 1966 NO. DEPTHS 05  
CONS. NO 099 LON 076-25-12W MONTH 06 SOUNDING 0068  
COUNTRY 18 DAY 29 BT SLIDE NO 098  
INSTITUTE 22 TIME 2213

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 21.42 |        |      |       |      |     |      |
| 10.0  |        | 14.71 |        |      |       |      |     |      |
| 20.0  |        | 7.65  |        |      |       |      |     |      |
| 30.0  |        | 6.05  |        |      |       |      |     |      |
| 50.0  |        | 4.80  |        |      |       |      |     |      |

| DEPTH | HARD | CL | NO3NO2 | NO2 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |
|------|
| 1.0  |
| 10.0 |
| 20.0 |
| 30.0 |
| 50.0 |

100

C-REF-NO 005      LAT 43-33-54N      YEAR 1966      NO. DEPTHS 05  
CONS. NO 100      LON 076-25-12W      MONTH 06      SOUNDING 0068  
COUNTRY 18      DAY 29      BT SLIDE NO 100  
INSTITUTE 22      TIME 2315

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|------|-------|------|-----|-------|
| 1.0   |        | 21.24 |        |      |       |      |     |       |
| 10.0  |        | 14.85 |        |      |       |      |     |       |
| 20.0  |        | 7.76  |        |      |       |      |     |       |
| 30.0  |        | 6.59  |        |      |       |      |     |       |
| 50.0  |        | 4.78  |        |      |       |      |     |       |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |
|------|
| 1.0  |
| 10.0 |
| 20.0 |
| 30.0 |
| 50.0 |

101

C-REF-NO 005 LAT 43-33-54N YEAR 1966 NO. DEPTHS 05  
CONS. NO 101 LON 076-25-12W MONTH 06 SOUNDING 0068  
COUNTRY 18 DAY 30 BT SLIDE NO 102  
INSTITUTE 22 TIME 0015

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 21.19 |        |      |       |      |     |      |
| 10.0  |        | 14.83 |        |      |       |      |     |      |
| 20.0  |        | 8.03  |        |      |       |      |     |      |
| 30.0  |        | 6.48  |        |      |       |      |     |      |
| 50.0  |        | 4.74  |        |      |       |      |     |      |

| DEPTH | HARD | CL | NO3NO2 | NO2 | R PD4 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |  |
|------|--|
| 1.0  |  |
| 10.0 |  |
| 20.0 |  |
| 30.0 |  |
| 50.0 |  |

102

C-REF-NO 005 LAT 43-33-54N YEAR 1966 NO. DEPTHS 05  
CONS. NO 102 LON 076-25-12W MONTH 06 SOUNDING 0068  
COUNTRY 18 DAY 30 BT SLIDE NO 104  
INSTITUTE 22 TIME 0110

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 21.09 |        |      |       |      |     |      |
| 10.0  |        | 13.58 |        |      |       |      |     |      |
| 20.0  |        | 7.55  |        |      |       |      |     |      |
| 30.0  |        | 6.21  |        |      |       |      |     |      |
| 50.0  |        | 4.69  |        |      |       |      |     |      |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |
| 50.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |
|------|
| 1.0  |
| 10.0 |
| 20.0 |
| 30.0 |
| 50.0 |

103

C-REF-NO 005 LAT 43-36-42N YEAR 1966 NO. DEPTHS 03  
CONS. NO 103 LON 076-17-00W MONTH 06 SOUNDING 0037  
COUNTRY 18 DAY 30 BT SLIDE NO 105  
INSTITUTE 22 TIME 0310

DEPTH SECCHI TEMP CON 18 D 02 PH 25 TURB BOD TALK

|      |       |
|------|-------|
| 1.0  | 20.76 |
| 10.0 | 16.40 |
| 20.0 | 12.16 |

DEPTH HARD CL NO3NO2 NO2 R P04 PHEN MF COL MF ENT

|      |  |
|------|--|
| 1.0  |  |
| 10.0 |  |
| 20.0 |  |

DEPTH SPC 20 SPC 35

|      |
|------|
| 1.0  |
| 10.0 |
| 20.0 |

C-REF-NO 005 LAT 43-36-42N YEAR 1966 NO. DEPTHS 03  
CONS. NO 104 LON 076-17-00W MONTH 06 SOUNDING 0037  
COUNTRY 18 DAY 30 BT SLIDE NO 106  
INSTITUTE 22 TIME 0423

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|------|-------|------|-----|-------|
| 1.0   |        | 20.57 |        |      |       |      |     |       |
| 10.0  |        | 18.01 |        |      |       |      |     |       |
| 20.0  |        | 11.48 |        |      |       |      |     |       |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |  |
|------|--|
| 1.0  |  |
| 10.0 |  |
| 20.0 |  |

105

C-REF-NO 005 LAT 43-36-42N YEAR 1966 NO. DEPTHS 03  
CONS. NO 105 LON 076-17-00W MONTH 06 SOUNDING 0037  
COUNTRY 18 DAY 30 BT SLIDE NO 107  
INSTITUTE 22 TIME 0513

DEPTH SECCHI TEMP CON 18 D 02 PH 25 TURB BOD TALK

|      |       |
|------|-------|
| 1.0  | 20.47 |
| 10.0 | 17.97 |
| 20.0 | 11.50 |

DEPTH HARD CL NO3NO2 NO2 R PD4 PHEN MF COL MF ENT

|      |  |
|------|--|
| 1.0  |  |
| 10.0 |  |
| 20.0 |  |

DEPTH SPC 20 SPC 35

|      |
|------|
| 1.0  |
| 10.0 |
| 20.0 |

C-REF-NO 005 LAT 43-36-42N YEAR 1966 NO. DEPTHS 03  
CONS. NO 106 LON 076-17-00W MONTH 06 SOUNDING 0037  
COUNTRY 18 DAY 30 BT SLIDE NO 108  
INSTITUTE 22 TIME 0614

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|------|-------|------|-----|-------|
| 1.0   |        | 20.27 |        |      |       |      |     |       |
| 10.0  |        | 16.94 |        |      |       |      |     |       |
| 20.0  |        | 11.24 |        |      |       |      |     |       |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |  |
|------|--|
| 1.0  |  |
| 10.0 |  |
| 20.0 |  |

C-REF-NO 005 LAT 43-36-42N YEAR 1966 NO. DEPTHS 03  
CONS. NO 107 LON 076-17-00W MONTH 06 SOUNDING 0037  
COUNTRY 18 DAY 30 BT SLIDE NO 109  
INSTITUTE 22 TIME 0712

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 20.09 |        |      |       |      |     |      |
| 10.0  |        | 17.79 |        |      |       |      |     |      |
| 20.0  |        | 11.72 |        |      |       |      |     |      |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |  |
|------|--|
| 1.0  |  |
| 10.0 |  |
| 20.0 |  |

C-REF-NO 005 LAT 43-36-42N YEAR 1966 NO. DEPTHS 04  
CONS. NO 108 LON 076-17-00W MONTH 06 SOUNDING 0037  
COUNTRY 18 DAY 30 BT SLIDE NO 110  
INSTITUTE 22 TIME 0819

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 20.18 |        |      |       |      |     |      |
| 10.0  |        | 17.44 |        |      |       |      |     |      |
| 20.0  |        | 11.72 |        |      |       |      |     |      |
| 30.0  |        | 7.74  |        |      |       |      |     |      |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |
|------|
| 1.0  |
| 10.0 |
| 20.0 |
| 30.0 |

C-REF-NO 005 LAT 43-36-42N YEAR 1966 NO. DEPTHS 04  
CONS. NO 109 LON 076-17-00W MONTH 06 SOUNDING 0037  
COUNTRY 18 DAY 30 BT SLIDE NO 111  
INSTITUTE 22 TIME 0914

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 20.08 |        |      |       |      |     |      |
| 10.0  |        | 17.24 |        |      |       |      |     |      |
| 20.0  |        | 10.64 |        |      |       |      |     |      |
| 30.0  |        | 7.02  |        |      |       |      |     |      |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |
|------|
| 1.0  |
| 10.0 |
| 20.0 |
| 30.0 |

110

C-REF-NO 005            LAT 43-36-42N            YEAR 1966            NO. DEPTHS 04  
CONS. NO 110            LON 076-17-00W            MONTH 06            SOUNDING 0037  
COUNTRY 18            DAY 30            BT SLIDE NO 112  
INSTITUTE 22            TIME 1013

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | T ALK |
|-------|--------|-------|--------|------|-------|------|-----|-------|
| 1.0   |        | 20.13 |        |      |       |      |     |       |
| 10.0  |        | 16.96 |        |      |       |      |     |       |
| 20.0  |        | 11.00 |        |      |       |      |     |       |
| 30.0  |        | 7.04  |        |      |       |      |     |       |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |

| DEPTH | SPC 20 | SPC 35 |
|-------|--------|--------|
| 1.0   |        |        |
| 10.0  |        |        |
| 20.0  |        |        |
| 30.0  |        |        |

111

C-REF-NO 005 LAT 43-36-42N YEAR 1966 NO. DEPTHS 04  
CONS. NO 111 LON 076-17-00W MONTH 06 SOUNDING 0037  
COUNTRY 18 DAY 30 BT SLIDE NO 113  
INSTITUTE 22 TIME 1114

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 20.24 |        |      |       |      |     |      |
| 10.0  |        | 16.88 |        |      |       |      |     |      |
| 20.0  |        | 11.15 |        |      |       |      |     |      |
| 30.0  |        | 7.55  |        |      |       |      |     |      |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |
| 30.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |
|------|
| 1.0  |
| 10.0 |
| 20.0 |
| 30.0 |

112

C-REF-NO 005 LAT 43-36-42N YEAR 1966 NO. DEPTHS 03  
CONS. NO 112 LON 076-17-00W MONTH 06 SOUNDING 0036  
COUNTRY 18 DAY 30 BT SLIDE NO 114  
INSTITUTE 22 TIME 1215

| DEPTH | SECCHI | TEMP  | CON 18 | D 02 | PH 25 | TURB | BOD | TALK |
|-------|--------|-------|--------|------|-------|------|-----|------|
| 1.0   |        | 20.56 |        |      |       |      |     |      |
| 10.0  |        | 15.95 |        |      |       |      |     |      |
| 20.0  |        | 10.49 |        |      |       |      |     |      |

| DEPTH | HARD | CL | N03N02 | N02 | R P04 | PHEN | MF COL | MF ENT |
|-------|------|----|--------|-----|-------|------|--------|--------|
| 1.0   |      |    |        |     |       |      |        |        |
| 10.0  |      |    |        |     |       |      |        |        |
| 20.0  |      |    |        |     |       |      |        |        |

DEPTH SPC 20 SPC 35

|      |  |
|------|--|
| 1.0  |  |
| 10.0 |  |
| 20.0 |  |

113

C-REF-NO 005 LAT 43-36-42N YEAR 1966 NO. DEPTHS 03  
CONS. NO 113 LON 076-17-06W MONTH 06 SOUNDING 0036  
COUNTRY 18 DAY 30 BT SLIDE NO 115  
INSTITUTE 22 TIME 1310

DEPTH SECCHI TEMP CON 18 D 02 PH 25 TURB BOD TALK

|      |       |
|------|-------|
| 1.0  | 20.83 |
| 10.0 | 17.04 |
| 20.0 | 10.50 |

DEPTH HARD CL ND3N02 NO2 R P04 PHEN MF COL MF ENT

|      |  |
|------|--|
| 1.0  |  |
| 10.0 |  |
| 20.0 |  |

DEPTH SPC 20 SPC 35

|      |
|------|
| 1.0  |
| 10.0 |
| 20.0 |