TR-050 C

UNIVERSITY OF RHODE ISLAND
GRADUATE SCHOOL OF OCEANOGRAPHY
KINGSTON, RHODE ISLAND

CRUISE REPORT

CRUISE: R/V TRIDENT - 50 "CHEMTRAC"

CRUISE LEADER: James T. Corless

DURATION: 13 - 18 June 1968

AREA: Bermuda - Narragansett

INTRODUCTION

Surface, intermediate, and bottom water samples were taken on a transect from Bermuda to Narragansett. Water will be analyzed for trace metals, halogens, silica and radium. Gravity cores were taken for analysis for trace metals and silica.

SCIENTIFIC PARTY

Dr. J. Corless, GSO, Scientific Leader
Dr. V. Rose, Ocean Engineering, URI
Dr. S. Kupferman, GSO
D. Roy, GSO
D. Bressan, GSO
B. Keck, GSO
K. Fanning, GSO
P. Betzer, GSO
T. O'Connor, GSO
A. Buddington, GSO
T. Kennard, GSO
W. Moore, State University of New York, Stoneybrook

SCHEDULE

DATE 1968	LOCATION	EVENT
13 June		Depart Bermuda
14 June	32° 39'N 65° 19.5'W	Station #1 Shallow and Deep Hydrocasts
14 June	~~33° 59'N 65° 57'W~~ 39° 12' N 66° 05'W	Station #2 Surface - intermediate-bottom Hydrocasts - cores
15 June	35° ~~59~~ 30'N 66° 14'W	Station #3 Shallow Hydrocast
15 June	37° 59'N 66° 00'W	Station #4 Surface-intermediate-bottom Hydrocasts - cores
16 June	37° 58'N 67° 27'W	Station #5 Shallow casts cores
17 June	39° 39'N 70° 00'W	Station #6 Shallow and Deep Hydrocasts

SCHEDULE (continued)

18 June	40° 18'N 71° 02'W	Station #7 Shallow and Deep Hydrocast - cores
18 June	40° 54'N 71° 14'W	Station #8 Shallow casts
18 June		Arrive Narragansett

11 Cores from 4 stations

WORK DATA

D. Hallett, D. Roy, D. Bressan, S. Kupferman, B. Keck

Water samples were obtained from Station #2, 3m, 2,500 m, 5,000 m; station #4, 3m, 2,470m, 4,000m, station #7, 3m, bottom. Water samples were obtained to carry out the following trace metal analyses for Cu, Mn, Ni, Zn.

Total and ionic values from non-filtered waters, total and ionic values from .5 μ filtered water, chloroform and ethyl acetate extracts to be analysed for organically bound Cu. These samples were obtained to compare the trace metal values with values from near shore areas.

K. Fanning, T. O'Connor

Eleven gravity cores were taken at 4 stations. At least one core from each station was immediately cut into segments which were squeezed to obtain interstitial water samples. These samples were frozen for later analysis for silica concentration, trace metal concentrations, and chlorinity. The stations where cores were obtained were #2, 4, 5 and 7. Unsampled cores were wrapped with aluminum foil and stored in a refrigerator for later slitting and squeezing.

P. Betzer

Thirty-liter Niskin samples were taken in surface and deep water in an effort to assess variations in particulate iron levels with depth. Water collected in the 30-liter Niskin bottles was filtered through 90 mm diameter, 0.45 μ, Millipore filters. Iron analyses will be carried out in the laboratory by atomic absorption spectroscopy. In addition to isolating particulate matter larger than 0.45 μ diameter,

salinity and temperature measurements were collected at each shallow (0-300 meters) station and salinity and oxygen data at each deep (600-5,000 meters) station. Samples were taken as follows:

STATION #	SAMPLE DEPTHS (METERS)
1	0-25-50-75-100-300
2	0-25-50-75-100-300
3	0-25-49-50-75-100
4	1000-3000-4000-4800
5	0-25-50-75-100-300
6	0-25-50-75-100-300
7	0-1-25-50-74-75
8	0-24-25-49-50-51

W. Moore

Water samples were taken for later analysis for radium. Studies are being conducted on the flow of large water masses using radium as a monitoring agent.

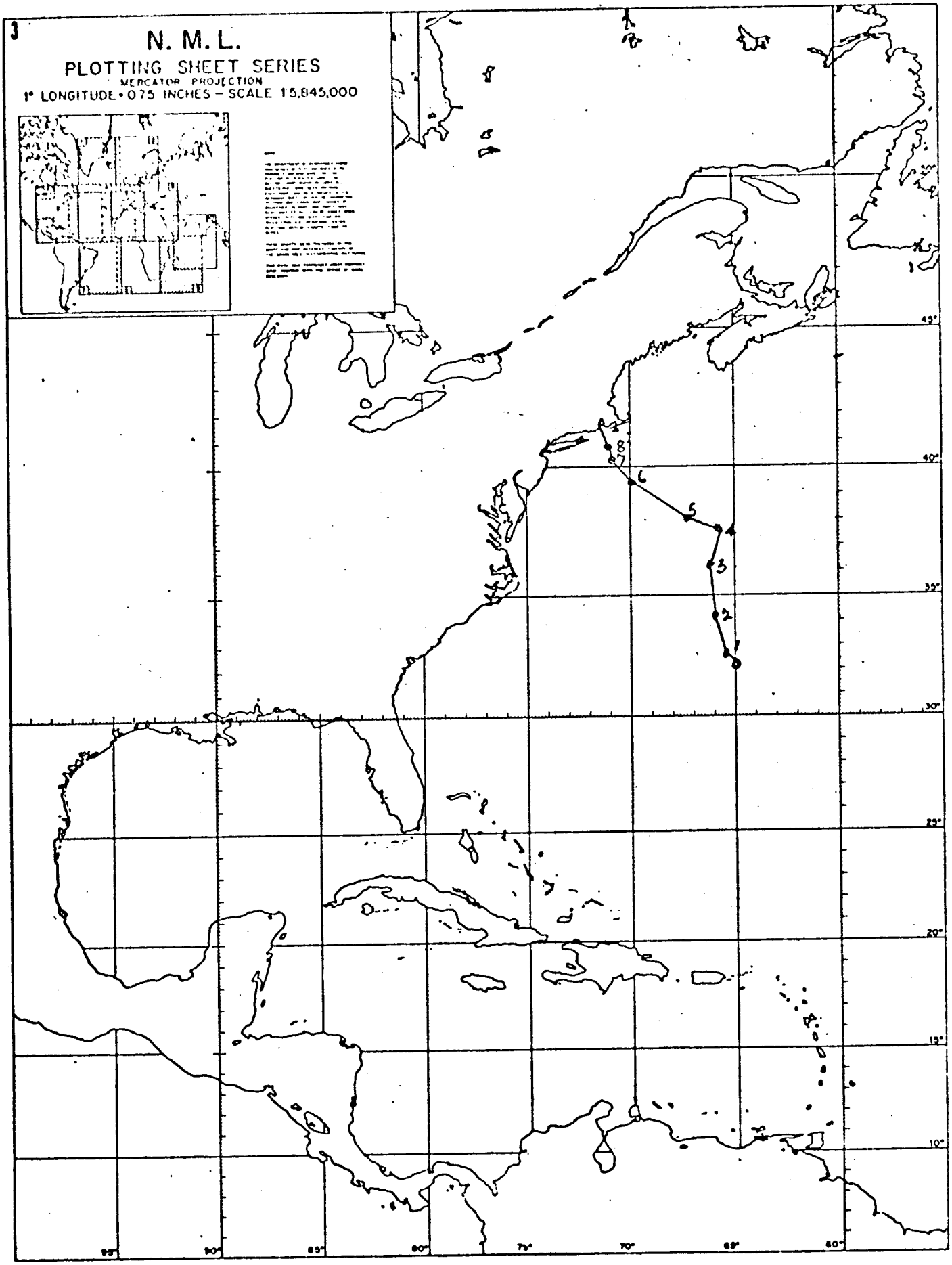

Figure 1 - "CHEMTRAC" Stations