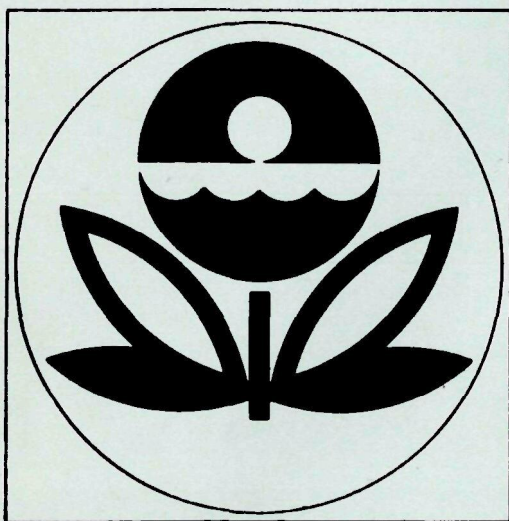


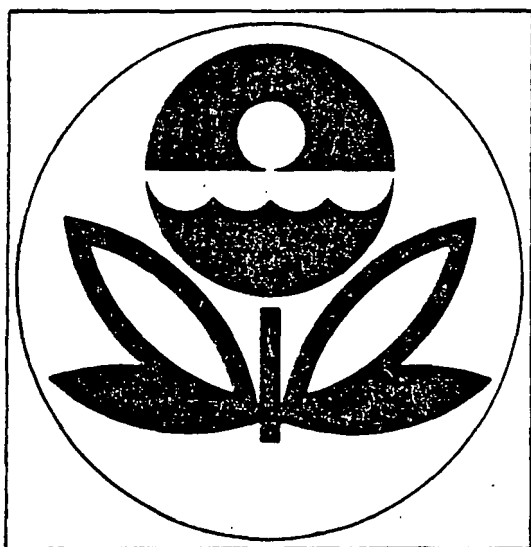
# U.S. ENVIRONMENTAL PROTECTION AGENCY



NEW YORK BIGHT WATER QUALITY  
SUMMER OF 1980

SURVEILLANCE AND ANALYSIS DIVISION  
REGION 2  
NEW YORK, NEW YORK 10007

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## ABSTRACT

The purpose of this report is to disseminate technical information gathered by the U.S. Environmental Protection Agency, Region II, during the 1980 New York Bight Water Quality Monitoring Program. The monitoring program was conducted using an EPA helicopter for water quality sample collection. During the summer period of May 1, to September 30, 1980, 149 stations were sampled each week. The Bight sampling program was conducted 6 days a week and consisted of four separate sampling networks, which had been modified slightly based on the data collected during the 1978 program.

The beach station network gathered bacteriological water quality information at 26 Long Island coast stations and 40 New Jersey coast stations. The New York Bight station network gathered chemical and bacteriological information at 20 stations in the inner New York Bight. The perpendicular network consisted of 12 transects extending from the New Jersey and Long Island coasts. Three transects extended south from the Long Island coast, with 4 stations in each transect and 9 transects extended east from the New Jersey coast with 5 stations in each transect. The transects covered the inner Bight from Jones Beach on Long Island to Strathmere, along the New Jersey coast. Samples were collected for dissolved oxygen. The New York Bight Contingency Network consisted of 24 stations which were sampled twice weekly for dissolved oxygen and once a week for total and fecal coliform. Samples for phytoplankton identification and nutrient analysis were collected at 9 stations along the New Jersey coast.

The results indicated that water quality in the New York Bight was generally good to excellent throughout the summer of 1980. Some stressful dissolved oxygen conditions were found in the perpendicular stations in South Jersey during August and early September. However, this area showed recovery in early October. There were a few instances of dissolved oxygen depression in the Bight Apex during the summer months, but these were isolated and short lived.

Bacteriological data indicated that total and fecal coliform densities at the beaches along both the New Jersey and Long Island coasts were well below acceptable limits for water contact recreation. Along Staten Island and Coney Island, fecal coliform levels were within "safe" limits for contact recreation. However, 9% of the samples collected exceeded the standard. This indicates that the Staten Island and Coney Island beaches are more likely to be contaminated on any given day than the New Jersey or Long Island beaches due to proximity of these beaches to the Hudson River, which receives large volumes of raw and poorly treated sewage each day.

Due to the diversion of primary treated chlorinated sewage into Newark Bay, low to zero dissolved oxygen and high total sulfide levels were found in Newark Bay throughout July and early August. On August 15, diversion was discontinued and normal treatment facility operating conditions were restored. Though dissolved oxygen levels rose steadily after the diversion was discontinued, the impact of solids deposition in Newark Bay has yet to be assessed.

# TABLE OF CONTENTS

|                                                       | <u>Page</u> |
|-------------------------------------------------------|-------------|
| I. INTRODUCTION . . . . .                             | 1           |
| II. SAMPLE COLLECTION PROGRAM . . . . .               | 3           |
| III. DESCRIPTION OF SAMPLING STATIONS . . . . .       | 11          |
| Beach Stations . . . . .                              | 11          |
| New York Bight Stations . . . . .                     | 11          |
| Perpendicular Stations . . . . .                      | 16          |
| New York Bight Contingency Plan Stations . . . . .    | 16          |
| Phytoplankton Stations . . . . .                      | 19          |
| Staten Island and Coney Island Stations . . . . .     | 19          |
| IV. DISSOLVED OXYGEN RESULTS AND DISCUSSION . . . . . | 21          |
| Normal Trends in the Ocean . . . . .                  | 21          |
| Dissolved Oxygen Criteria . . . . .                   | 24          |
| Surface Dissolved Oxygen, 1980 . . . . .              | 24          |
| Bottom Dissolved Oxygen . . . . .                     | 25          |
| Trend for Long Island Coast, 1980 . . . . .           | 26          |
| Trends in the New York Bight, 1977-1980 . . . . .     | 28          |
| Trends for the New Jersey Coast, 1977-1980 . . . . .  | 31          |
| Trends in Northern Perpendiculars . . . . .           | 31          |
| Trends in Southern Perpendiculars . . . . .           | 38          |
| Summary . . . . .                                     |             |
| V. BACTERIOLOGICAL RESULTS . . . . .                  | 42          |
| VI. NEW YORK BIGHT APEX SEDIMENT                      |             |
| Heavy Metals . . . . .                                | 54          |
| Toxics . . . . .                                      | 55          |
| VII. ENVIRONMENTAL EPISODES . . . . .                 | 62          |
| Newark Bay . . . . .                                  | 62          |

## BIBLIOGRAPHY

## APPENDIX

APPENDIX A - Summary of Phytoplankton Dynamics and Bloom Incidence  
in New Jersey Coastal Waters, 1980

APPENDIX B - Virus and Salmonella Sampling, Summer 1980

APPENDIX C - Dissolved Oxygen Values Recorded in the New York Bight,  
May 1 - September 30, 1980

APPENDIX D - Bacteriological Water Quality Data, New Jersey, Staten  
Island, Coney Island and Long Island Beach Stations,  
Summer 1980

APPENDIX E - Water Quality in the New York Bight Apex, Summer 1980

APPENDIX F - Heavy Metals in New York Bight Apex Sediment, 1974-1980

APPENDIX G - Newark Bay Dissolved Oxygen and Sulfide Data, Summer 1980

# LIST OF FIGURES

| <u>No.</u> | <u>Title</u>                                                                                                                                                   | <u>Page</u> |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1          | Long Island Coast Station Locations                                                                                                                            | 12          |
| 2          | New Jersey Coast Station Locations - Sandy Hook to Island Beach Park                                                                                           | 13          |
| 3          | New Jersey Coast Station Locations - Barnegat to Cape May Point                                                                                                | 14          |
| 4          | New York Bight Station Locations                                                                                                                               | 15          |
| 5          | Long Island Perpendicular Stations and New Jersey Perpendicular Stations from Sandy Hook to Seaside Heights                                                    | 17          |
| 6          | New Jersey Perpendicular Stations from Barnegat to Strathmere                                                                                                  | 18          |
| 7          | Staten Island and Coney Island Stations                                                                                                                        | 20          |
| 8          | Generalized Annual Marine Dissolved Oxygen Cycle Off the Northeast U.S. (From NOAA)                                                                            | 23          |
| 9          | Long Island Coast Dissolved Oxygen, 1980. Semimonthly Average of All L.I. Perpendicular Stations                                                               | 27          |
| 10         | New York Bight Dissolved Oxygen, 1980. Semimonthly Average of All NY Bight Stations                                                                            | 29          |
| 11         | New York Bight Dissolved Oxygen, 1977-1980 Comparison. Monthly Average of All NY Bight Stations                                                                | 30          |
| 12         | New Jersey Coast Dissolved Oxygen, 1980. Semimonthly Averages of All Northern (JC14-JC53) Perpendicular and of All Southern (JC61-JC85) Perpendicular Stations | 32          |
| 13         | Northern New Jersey Coast Dissolved Oxygen, 1977-1980 Comparison. Semimonthly Averages of All JC14-JC53 Perpendicular Stations                                 | 33          |
| 14         | Northern New Jersey Coast Dissolved Oxygen, Four-Year Average. Average of the Individual 1977, 1978, 1979, and 1980 Semimonthly Averages                       | 35          |
| 15         | North-South Distribution of Dissolved Oxygen, Northern New Jersey, 1980. Semimonthly Averages Along Perpendiculars JC14-JC53 Compared with Overall Average     | 36          |

# LIST OF FIGURES

| <u>No.</u> | <u>Title</u>                                                                                                                                                     | <u>Page</u> |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 16         | Shore-to-Seaward Distribution of Dissolved Oxygen, Northern New Jersey, 1980. Semimonthly Averages of All Perpendiculars JC14-JC53 at Fixed Distances from Shore | 37          |
| 17         | North-South Distribution of Dissolved Oxygen, Southern New Jersey, 1980. Semimonthly Averages along Perpendiculars JC61-JC85 Compared to Overall Average         | 39          |
| 18         | Southern Jersey Coast Dissolved Oxygen, Four-Year Average. Average of the Individual 1977, 1978, 1979 and 1980 Semimonthly Averages.                             | 40          |
| 19         | Shore-to-Seaward Distribution of Dissolved Oxygen, 1980. Semimonthly Averages of All Southern Perpendiculars JC61-JC85 at Fixed Distances from Shore             | 41          |
| 20         | Geometric Means of Fecal Coliform Data Collected May 1, 1980 to September 30, 1980 Along the Coast of New Jersey                                                 | 45          |
| 21         | Geometric Means of Fecal Coliform Data Collected May 1, 1980 to September 30, 1980 Along the Coast of Long Island                                                | 48          |
| 22         | Geometric Means of Fecal Coliform Data Collected May 1, 1980 to September 30, 1980 Along the Coasts of Staten Island and Coney Island                            | 51          |
| 23         | Heavy Metals in New York Bight Sediment, Stations NYB 20-27                                                                                                      | 59          |
| 24         | Heavy Metals in New York Bight Sediment, Stations NYB 30-35                                                                                                      | 60          |
| 25         | Heavy Metals in New York Bight Sediment, Stations NYB 40-47                                                                                                      | 61          |
| 26         | Newark Bay Sampling Stations - Summer 1980                                                                                                                       | 65          |
| 27         | Averages of Dissolved Oxygen for Northern Stations (EWB 1-12) and Southern Stations (EWB 13-20), Surface Samples                                                 | 66          |
| 28         | Averages of Dissolved Oxygen for Northern Stations (EWB 1-12) and Southern Stations (EWB 13-20), Deep Samples                                                    | 67          |
| 29         | Newark Bay Low Slack Tide, July 30, 1980<br>Total Sulfide, Shallow Sample                                                                                        | 68          |
| 30         | Newark Bay Low Slack Tide, July 30, 1980<br>Total Sulfide, Deep Sample                                                                                           | 69          |

# LIST OF TABLES

| <u>No.</u> | <u>Title</u>                                                                                                               | <u>Page</u> |
|------------|----------------------------------------------------------------------------------------------------------------------------|-------------|
| 1          | Outline of 1980 Sampling Program                                                                                           | 3           |
| 2          | Parameters Evaluated for Each Station Group                                                                                | 4           |
| 3          | Long Island Coast Station Locations                                                                                        | 7           |
| 4          | New Jersey Coast Station Locations                                                                                         | 8           |
| 5          | Summary of Bottom Dissolved Oxygen<br>Values for the Period of May 1, 1980 Through September 30,<br>1980                   | 25          |
| 6          | Summary of Bacteriological Data Collected Along the<br>New Jersey Coast January 1, 1980 Through December 31, 1980          | 43          |
| 7          | Summary of Bacteriological Data Collected Along the Long<br>Island Coast January 1, 1980 Through December 31, 1980         | 47          |
| 8          | Summary of Bacteriological Data Collected Along Staten Island<br>and Coney Island Beaches June 30, 1980 to October 2, 1980 | 52          |
| 9          | Toxics in New York Bight Sediment, Summer 1980                                                                             | 57          |
| 10         | Newark Bay Sampling Locations                                                                                              | 63          |



## I. INTRODUCTION

The U.S. Environmental Protection Agency (EPA) has prepared this report as part of its continued efforts to disseminate environmental data resulting from the monitoring of the nearshore waters in the New York Bight, in the vicinity of the ocean disposal sites and along the shorelines of New York and New Jersey. This report, the seventh in a series, covers the data gathered during the period between May 1, 1980 and September 30, 1980. The New York Bight monitoring program is EPA's response to its mandated responsibilities as defined under the Marine Protection, Research and Sanctuaries Act of 1972 and the Water Pollution Control Act Amendments of 1972 and 1977.

The New York Bight ocean monitoring program was initiated in April 1974 as a result of considerable public concern over the impact of the sewage sludge dump site on the bacteriological quality of the ocean offshore of the New York and New Jersey beaches. The heightened public awareness created a need for comprehensive monitoring including "real-time" data in order to evaluate water quality conditions in a time frame to make the information useful to the public.

During the summer period of 1976, two environmental episodes led to a reorientation and expansion of this program. The first and most environmentally significant event was the occurrence of depressed levels of dissolved oxygen within the inner Bight, which gradually spread over several hundred square kilometers and reached anoxic conditions in some areas as early as the Fourth of July weekend. The second event was the unusually heavy washup of debris onto the beaches of Long Island.

It was evident from the experiences of 1976 that the existing monitoring program protocol was inadequate in scope and not responsive enough timewise. The program was expanded to provide the ability to:

- 1) collect and evaluate the water quality data  
over the entire Bight apex as well as the  
New York and New Jersey beaches, on a frequent  
real-time basis;
- 2) predict environmental crises;
- 3) gather sufficient data to guide and direct  
decision making, should corrective measures  
be instituted to protect the Bight water  
quality; and,
- 4) investigate the origin or cause of such crises.

## II. SAMPLE COLLECTION PROGRAM

During the period May 1980 through September 1980, ambient water monitoring was carried out using the EPA Huey helicopter 6 days a week; sampling continued into Sunday when ambient conditions indicated a need.

Table 1 is an outline of the 1980 sampling program. Table 2 lists the parameters analyzed for each group of stations.

Table 1

### Outline of 1980 Sampling Program

| <u>Station Group</u>                                      | <u>Frequency<br/>per Week</u> | <u>Parameter</u>                                   | <u>Sample Depth</u>                    |
|-----------------------------------------------------------|-------------------------------|----------------------------------------------------|----------------------------------------|
| Long Island Beaches &<br>New Jersey Beaches               | 1                             | Bacteriological                                    | Top <sup>2</sup>                       |
| New York Bight                                            | 1                             | Bacteriological,<br>Dissolved Oxygen,<br>Nutrients | Top <sup>2</sup> , Bottom <sup>3</sup> |
| Long Island and New<br>Jersey Perpendiculars <sup>1</sup> | 1                             | Dissolved Oxygen                                   | Top <sup>2</sup> , Bottom <sup>3</sup> |
| Bight Contingency                                         | 2                             | Dissolved Oxygen                                   | Top <sup>2</sup> , Bottom <sup>3</sup> |
| Bight Contingency                                         | 1                             | Bacteriological                                    | Top <sup>2</sup> , Bottom <sup>3</sup> |
| Phytoplankton                                             | 1                             | Phytoplankton,<br>Nutrients                        | Top <sup>2</sup>                       |

<sup>1</sup> Transects perpendicular to the coast

<sup>2</sup> One meter below the surface

<sup>3</sup> One meter above the ocean floor

Table 2

## Parameters Evaluated for Each Station Group

| <u>Parameters</u>                                | <u>L.I. &amp;<br/>N.J.<br/>Beaches*</u> | <u>L.I. &amp; N.J.<br/>Perpendiculars**</u> | <u>N.Y.<br/>Bight**</u> | <u>Bight<br/>Contingency**</u> | <u>Phytoplankton*</u> |
|--------------------------------------------------|-----------------------------------------|---------------------------------------------|-------------------------|--------------------------------|-----------------------|
| Total Coliform                                   | X                                       |                                             | X                       | X                              |                       |
| Fecal Coliform                                   | X                                       |                                             | X                       | X                              |                       |
| Salinity,<br>Chlorinity                          |                                         |                                             |                         | X                              | X                     |
| Temperature                                      |                                         | X                                           | X                       | X                              |                       |
| Dissolved<br>Oxygen (DO)                         |                                         | X                                           | X                       | X                              |                       |
| Total Organic<br>Carbon (TOC)                    |                                         |                                             | X                       |                                | X                     |
| Total Suspended<br>Solids (TSS)                  |                                         |                                             | X                       |                                |                       |
| Total<br>Phosphorous<br>(TP)                     |                                         |                                             | X                       |                                | X                     |
| Phosphate<br>Phosphorous<br>(PO <sub>4</sub> -P) |                                         |                                             | X                       |                                | X                     |
| Ammonia<br>Nitrogen<br>(NH <sub>3</sub> -N)      |                                         |                                             | X                       |                                | X                     |
| Nitrate<br>Nitrogen<br>(NO <sub>2</sub> -N)      |                                         |                                             | X                       |                                | X                     |
| Nitrate<br>Nitrogen<br>(NO <sub>3</sub> -N)      |                                         |                                             | X                       |                                | X                     |
| Silica (SiO <sub>2</sub> )                       |                                         |                                             | X                       |                                |                       |
| Plankton                                         |                                         |                                             | X                       |                                | X                     |

\*Sample Depth: 1 meter below the surface.

\*\*Sample Depth: 1 meter below the surface and 1 meter above the ocean floor.

The weekly sampling program averaged approximately 150 stations. The beach stations along New York and New Jersey were sampled once a week. These stations were sampled for total and fecal coliform bacteria. This portion of the sampling program totaled 66 stations. At the beach stations, samples were collected just off shore in the surf zone while the helicopter hovered approximately 3 meters from the surface. Sampling was accomplished by dropping a 1-liter Kemmerer sampler through a cut-out in the mid-section of the helicopter to approximately 1 meter below the water surface. The sample was transferred to a sterile plastic container and subsequently transported (within 6 hours) to the Edison Laboratory for total and fecal coliform analysis.

Twenty stations in the apex of the Bight were sampled once a week. Depending upon sea condition, the EPA helicopter would hover or land at the designated station and two, 3-liter Kemmerer samplers would be used to obtain water samples at 1 meter below the surface and 1 meter above the ocean bottom. After collection, portions of the sample water would be transferred to: 1) a BOD bottle for dissolved oxygen analysis; 2) a sterile plastic bottle for total and fecal coliform analysis; and 3) a 1-liter plastic cubitainer for total suspended solids, total organic carbon, and nutrient analysis. The dissolved oxygen sample was immediately fixed at the station by the addition of 2 ml of manganous sulfate followed by 2 ml of alkali-iodide-azide reagent. The sample was shaken to facilitate floc formation and then placed in a metal rack and returned to the laboratory for analysis. The samples were held for less than 6 hours before returning to the laboratory for analysis.

The third scheduled sampling portion of the program consisted of sampling the perpendicular stations once a week for dissolved oxygen and temperature. Again, as with the inner Bight stations, samples were collected while hovering or landing, at 1 meter below the surface and 1 meter above the bottom.

As part of the final Environmental Impact Statement on Ocean Dumping of Sewage Sludge in the New York Bight, a Bight Contingency Plan was developed in which criteria were established for the relocation of the sewage sludge dumpsite, if necessary. This called for the establishment of a 24-station network to be sampled twice a week for dissolved oxygen and once a week for total and fecal coliform. Part of the sampling requirements for the New York Bight contingency plan were satisfied by the regularly scheduled Bight and perpendicular sampling runs. Bacteriological samples for LIC09, LIC14, JCI4, and JC27 perpendiculars were taken on the DO runs for those stations. The bacteriological requirements for the NYB20, 22, 24 and the NYB40, 42, and 44 transects were met by the regular Bight sampling since bacteriological assays were performed for all Bight stations. Additional sampling of dissolved oxygen for the 24 stations was carried out once a week.

The fifth routinely scheduled sampling component involved the collection of water samples for phytoplankton identification and quantification and for nutrient analysis. The phytoplankton analyses were done by the New Jersey Department of Environmental Protection (NJDEP) and the nutrient analyses were done by EPA. The samples were collected as close to the surface as possible, using 1-liter Kemmerer samplers. Two, 1-liter plastic

Table 3

## Long Island Coast Station Locations

| <u>Station No.</u> | <u>Location</u>                                         |
|--------------------|---------------------------------------------------------|
| LIC01              | Rockaway Point, Breezy Point Surf Club                  |
| LIC02              | Rockaway, off foot of B169 Road                         |
| LIC03              | Rockaway, off foot of B129 Road                         |
| LIC04              | Rockaway, off foot of B92 Road                          |
| LIC05              | Far Rockaway, off foot of B41 Road                      |
| LIC07              | Atlantic Beach, Silver Point Beach Club                 |
| LIC08              | Long Beach, off foot of Grand Avenue                    |
| LIC09              | Long Beach, off foot of Pacific Boulevard               |
| LIC10              | Point Lookout, off Hempstead public beach               |
| LIC12              | Short Beach (Jones Beach), off "West End 2" parking lot |
| LIC13              | Jones Beach                                             |
| LIC14              | East Overlook                                           |
| LIC15              | Gilgo Beach                                             |
| LIC16              | Cedar Island Beach                                      |
| LIC17              | Robert Moses State Park                                 |
| LIC18              | Great South Beach                                       |
| LIC19              | Cherry Grove                                            |
| LIC20              | Water Island                                            |
| LIC21              | Bellport Beach                                          |
| LIC22              | Fire Island                                             |
| LIC23              | Moriches Inlet West                                     |
| LIC24              | Moriches Inlet East                                     |
| LIC25              | West Hampton Beach                                      |
| LIC26              | Tiana Beach                                             |
| LIC27              | Shinnecock Inlet West                                   |
| LIC28              | Shinnecock Inlet East                                   |

Table 4

## New Jersey Coast Station Locations

| <u>Station No.</u> | <u>Location</u>                                                             |
|--------------------|-----------------------------------------------------------------------------|
| JC01A              | Sandy Hook, 1.2 km south of tip                                             |
| JC02               | Sandy Hook, off large radome                                                |
| JC03               | Sandy Hook, off Nature Center building<br>(tower)                           |
| JC05               | Sandy Hook, just north of Park entrance                                     |
| JC08               | Sea Bright, at public beach                                                 |
| JC11               | Monmouth Beach Bath & Tennis Club                                           |
| JC14               | Long Branch, off foot of S. Bath Avenue                                     |
| JC21               | Asbury Park, off building north of<br>Convention Hall                       |
| JC24               | Bradley Beach, off foot of Cliff Avenue                                     |
| JC27               | Belmar, off the "White House" near fishing<br>club pier                     |
| JC30               | Spring Lake, south of yellow brick building<br>on beach                     |
| JC33               | Sea Girt, off foot of Chicago Avenue ,                                      |
| JC37               | Point Pleasant, south of Manasquan Inlet                                    |
| JC41               | Bay Head, off foot of Johnson Street                                        |
| JC44               | Mantoloking, off foot of Albertson Street                                   |
| JC47A              | Silver Beach, off foot of Colony Road                                       |
| JC49               | Lavallette, off foot of Washington Avenue                                   |
| JC53               | Seaside Park, off foot of 5th Avenue                                        |
| JC55               | Island Beach State Park, off white building,<br>north of Park Hq.           |
| JC57               | Island Beach State Park, between two main<br>parking lots in center of park |
| JC59               | Island Beach State Park, off white house<br>next to the lookout tower       |



Table 4 (Continued)

| <u>Station No.</u> | <u>Location</u>                                                                     |
|--------------------|-------------------------------------------------------------------------------------|
| JC61               | Barnegat, first rock jetty south of<br>Barnegat Inlet                               |
| JC63               | Harvey Cedars, opposite Harvey Cedars<br>standpipe                                  |
| JC65               | Ship Bottom, opposite Ship Bottom water<br>tower                                    |
| JC67               | Beach Haven Terrace, opposite standpipe                                             |
| JC69               | Beach Haven Heights, opposite the most<br>southern water tower on Long Beach Island |
| JC73               | Brigantine, off large hotel on beach                                                |
| JC75               | Atlantic City, off the Convention Center                                            |
| JC77               | Ventnor City, just north of fishing pier                                            |
| JC79               | Longport, off water tower                                                           |
| JC81               | Ocean City, opposite large apartment<br>building                                    |
| JC83               | Peck Beach, opposite large blue water tower                                         |
| JC85               | Strathmere, off blue standpipe                                                      |
| JC87               | Sea Isle City, opposite blue water tower<br>with bridge in the background           |
| JC89               | Avalon, off beige building on the beach                                             |
| JC91               | Stone Harbor, off large blue water tower                                            |
| JC93               | Wildwood, off northern amusement pier                                               |
| JC95               | Two mile beach, opposite radio tower                                                |
| JC97               | Cape May, off white house with red roof on<br>the beach                             |
| JC99               | Cape May Point, opposite lighthouse                                                 |

cubitainers were filled for phytoplankton analysis. One of the phytoplankton samples was preserved with Lugols solution and the other was left unpreserved but was kept at 4°C. A 1-liter plastic cubitainer was filled for nutrient analysis and the sample was kept at 4°C. The NJDEP picked the phytoplankton samples up within 24 hours of collection. The results of these analyses are contained in Appendix A.

Two additional sampling components were added to the 1980 program. First, samples were collected at stations along Coney Island and Staten Island, and three stations along the Verrazano Bridge. These samples, which were part of a special study by the University of Rhode Island, were also analyzed for total and fecal coliforms by the Edison laboratory. Secondly, the EPA vessel "Clean Waters" was used to collect samples for virus and Salmonella in the New York Bight. One station was sampled per week and analyses were performed by the Edison laboratory. A report of these findings can be found in Appendix B.

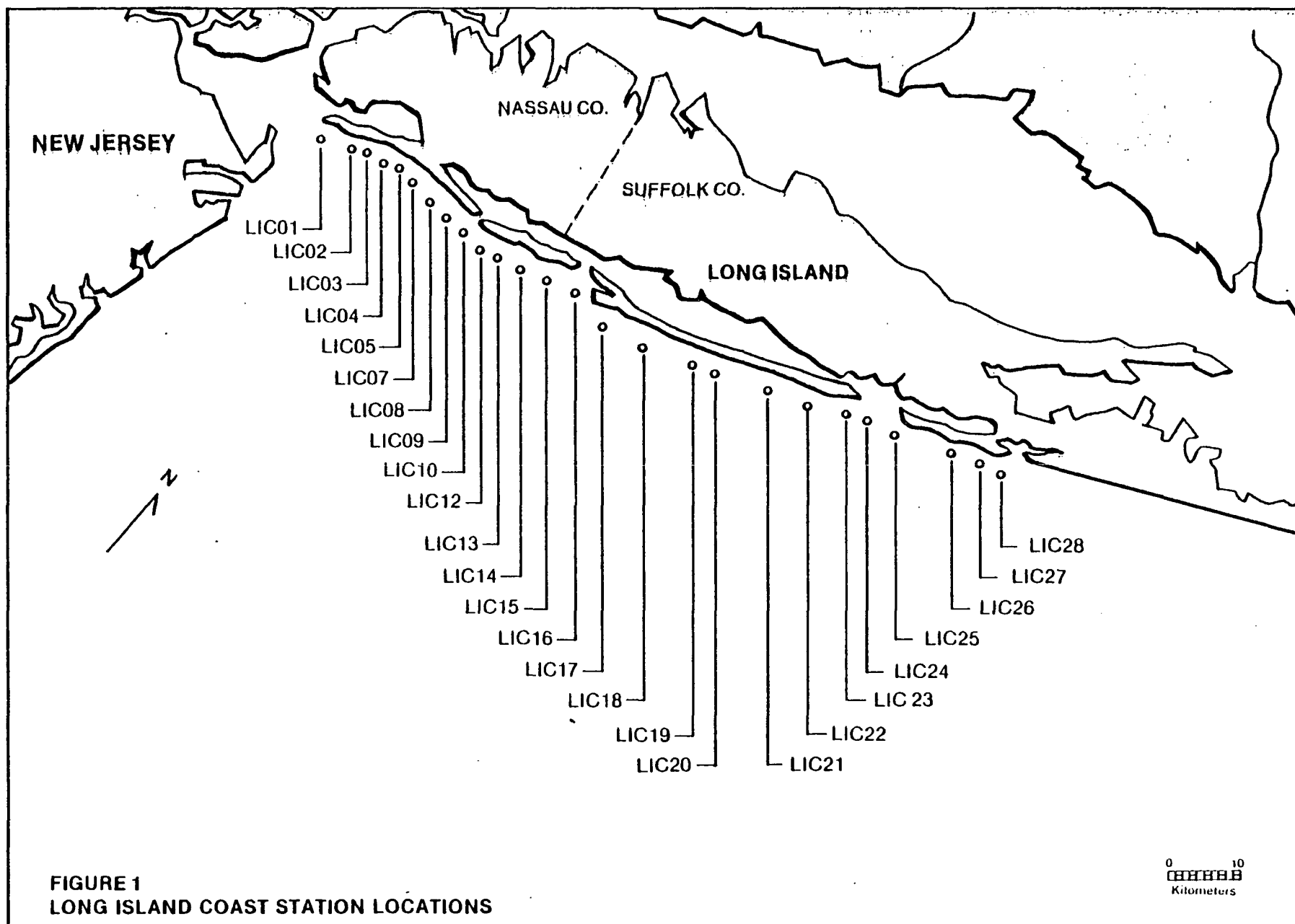
### III. DESCRIPTION OF SAMPLING STATIONS

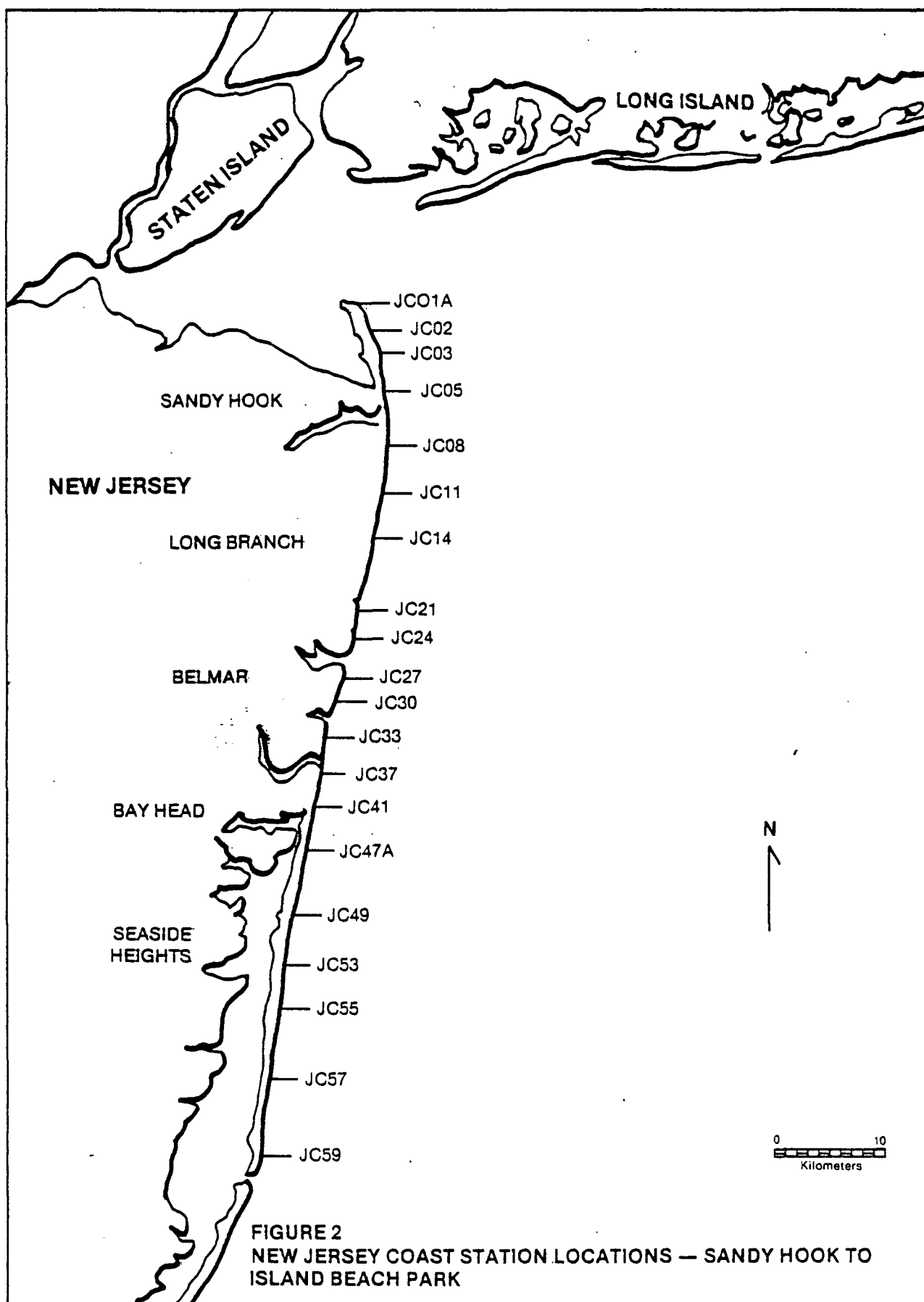
#### Beach Stations

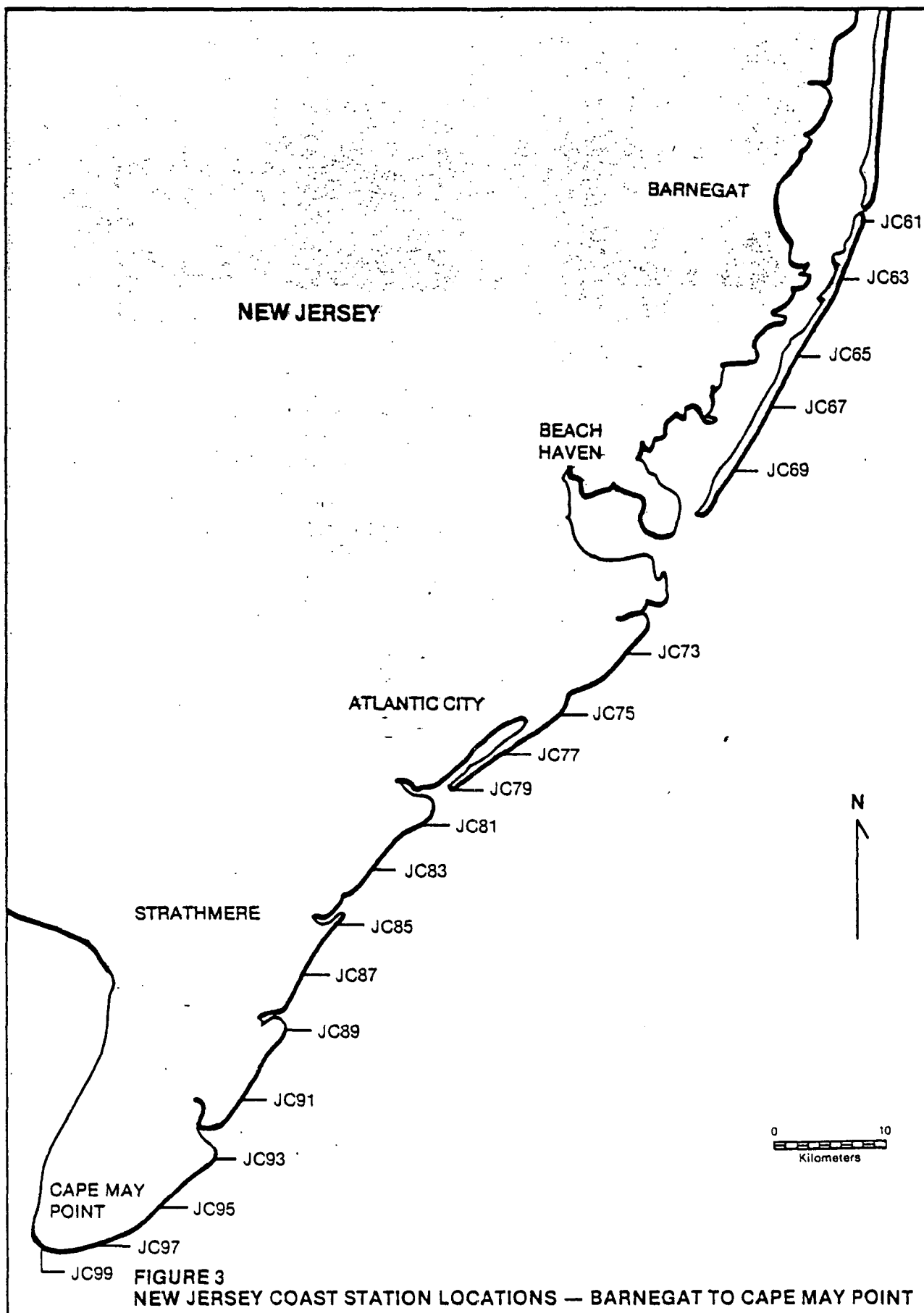
A total of 66 bathing beach areas were sampled routinely for bacteriological water quality along the Long Island and New Jersey coastlines. The Long Island sampling stations extend from the western tip of Rockaway Point to Shinnecock Inlet some 130 km eastward with a total of 26 stations (LIC01-LIC28). Sample station location, nomenclature, and description are given in Table 3 and Figure 1. Forty New Jersey coast stations, from Sandy Hook at the north to Cape May Point at the south (JC01A through JC99), are described and identified in Table 4 and in Figures 2 and 3.

#### New York Bight Stations

The New York Bight stations established as part of the original ocean monitoring program cover the inner Bight area in 3 km intervals via three transects as follows: New Jersey Transect (NYB20-NYB27) extending from Sandy Hook 20 km eastward to the sewage sludge disposal site; Raritan Bay Transect (NYB32-NYB35) projecting along the Ambrose Channel from the mouth of Raritan Bay southeast to the sewage sludge disposal site; and the Long Island Transect (NYB40-NYB47) extending from Atlantic Beach, Long Island southward to just beyond the sewage sludge disposal site. The locations of the New York Bight stations are shown in Figure 4.







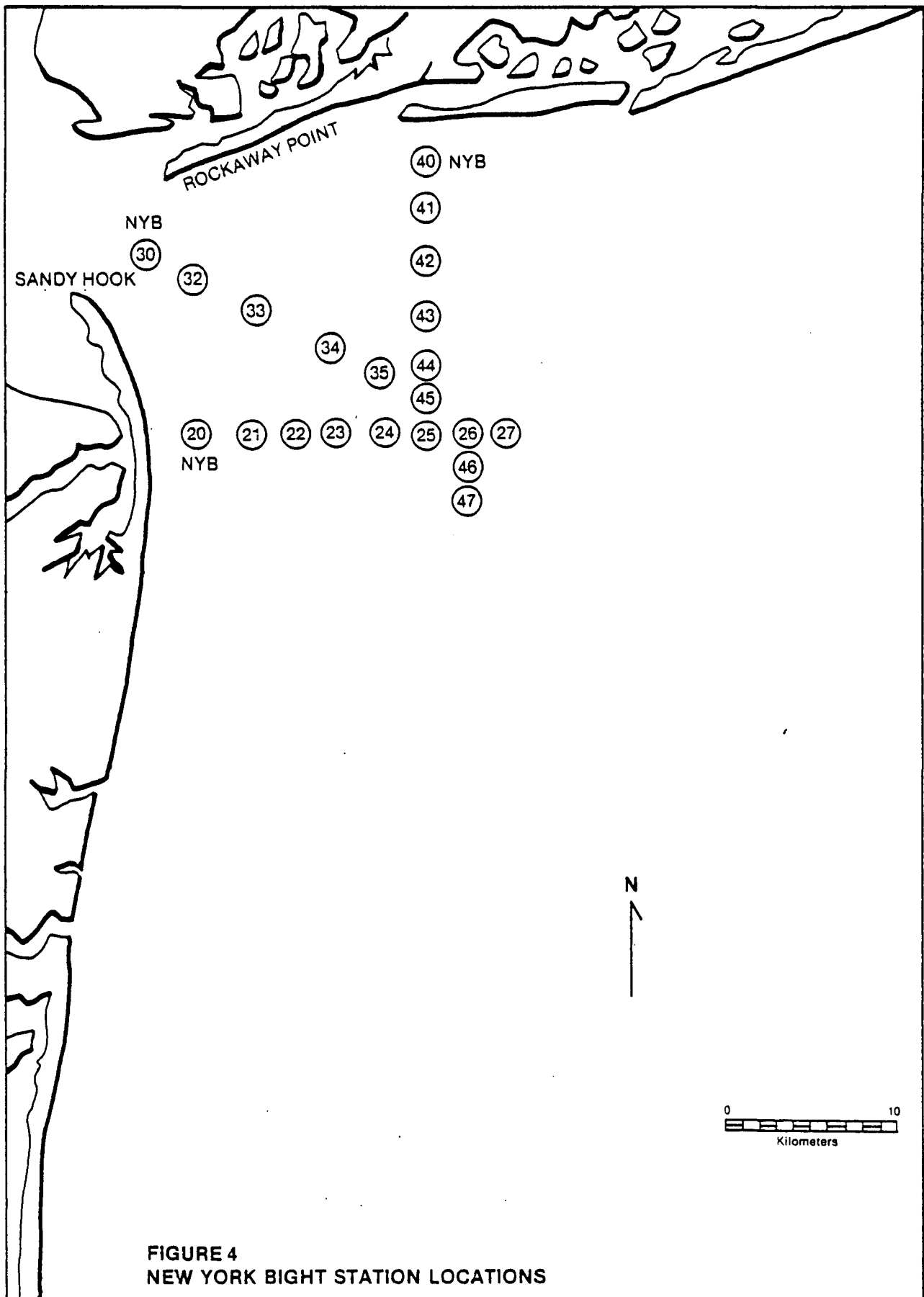


FIGURE 4  
NEW YORK BIGHT STATION LOCATIONS

### Perpendicular Stations

Sampling stations perpendicular to the Long Island coastline are 5.4 km, 12.6 km, 19.8 km, and 27 km (3, 7, 11, and 15 nautical miles) offshore. Sampling stations perpendicular to the New Jersey coastline start at 1.8 km and are spaced every 1.8 km out to 18 km (1 nautical mile with 1 nm increments to 10 nm) offshore. These stations are identified by suffixes E through N (MAS stations have corresponding suffixes 1 through 10). Normally, only every other New Jersey perpendicular station (3.6 km intervals) was sampled; the intermediate stations remained available should DO conditions warrant more intensive sampling.

The perpendicular stations were established to gather near-surface and near-bottom dissolved oxygen values in the critical areas of the New York Bight nearshore waters. Previous agreements had been made with NOAA to provide dissolved oxygen profiles from stations further out in the Bight in conjunction with their MESA project and Marine Fisheries Laboratory activities.

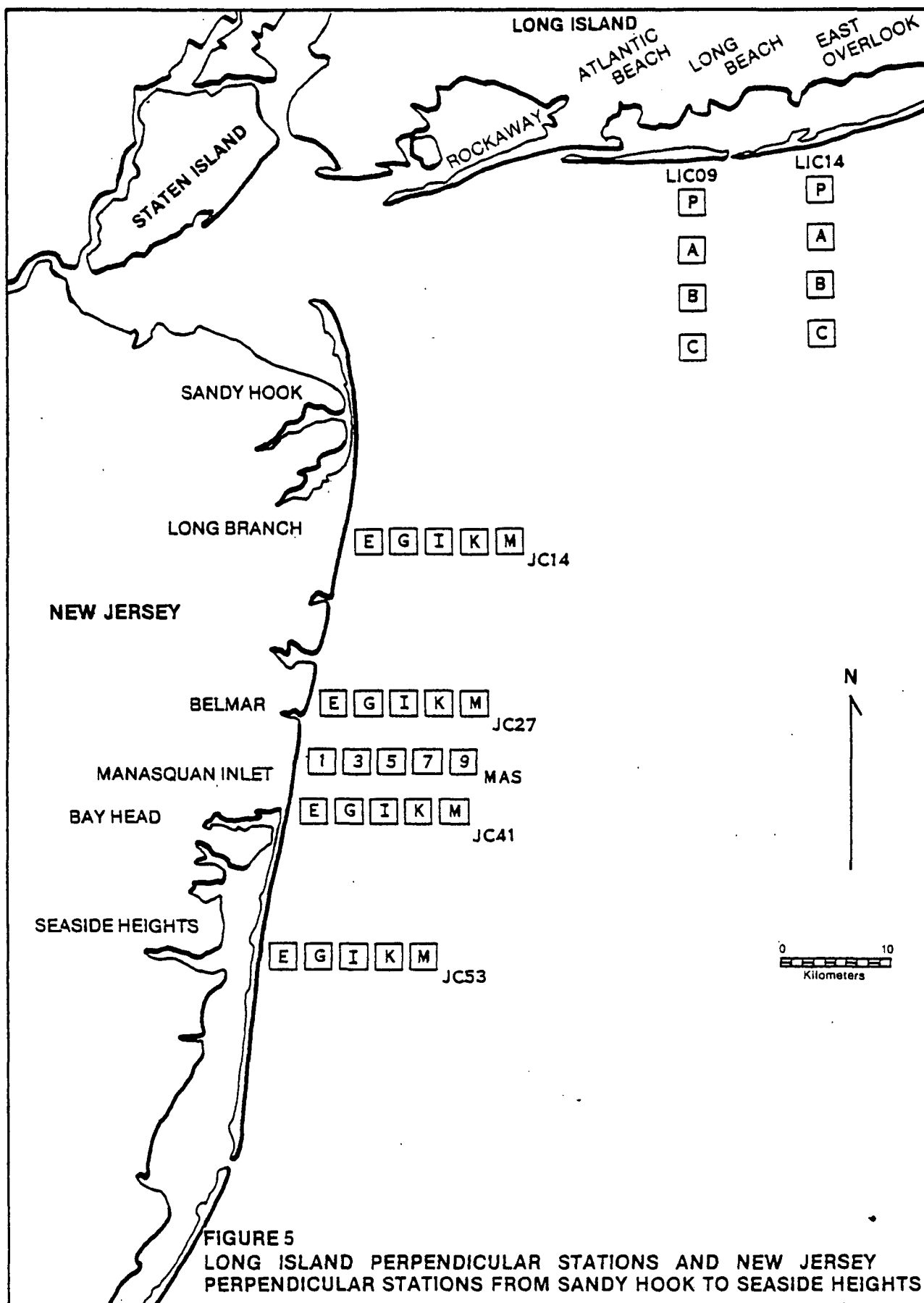
The perpendicular stations described above are plotted in Figures 5 and 6. Tables 3 and 4 describe the shore station locations from which the perpendicular stations originate.

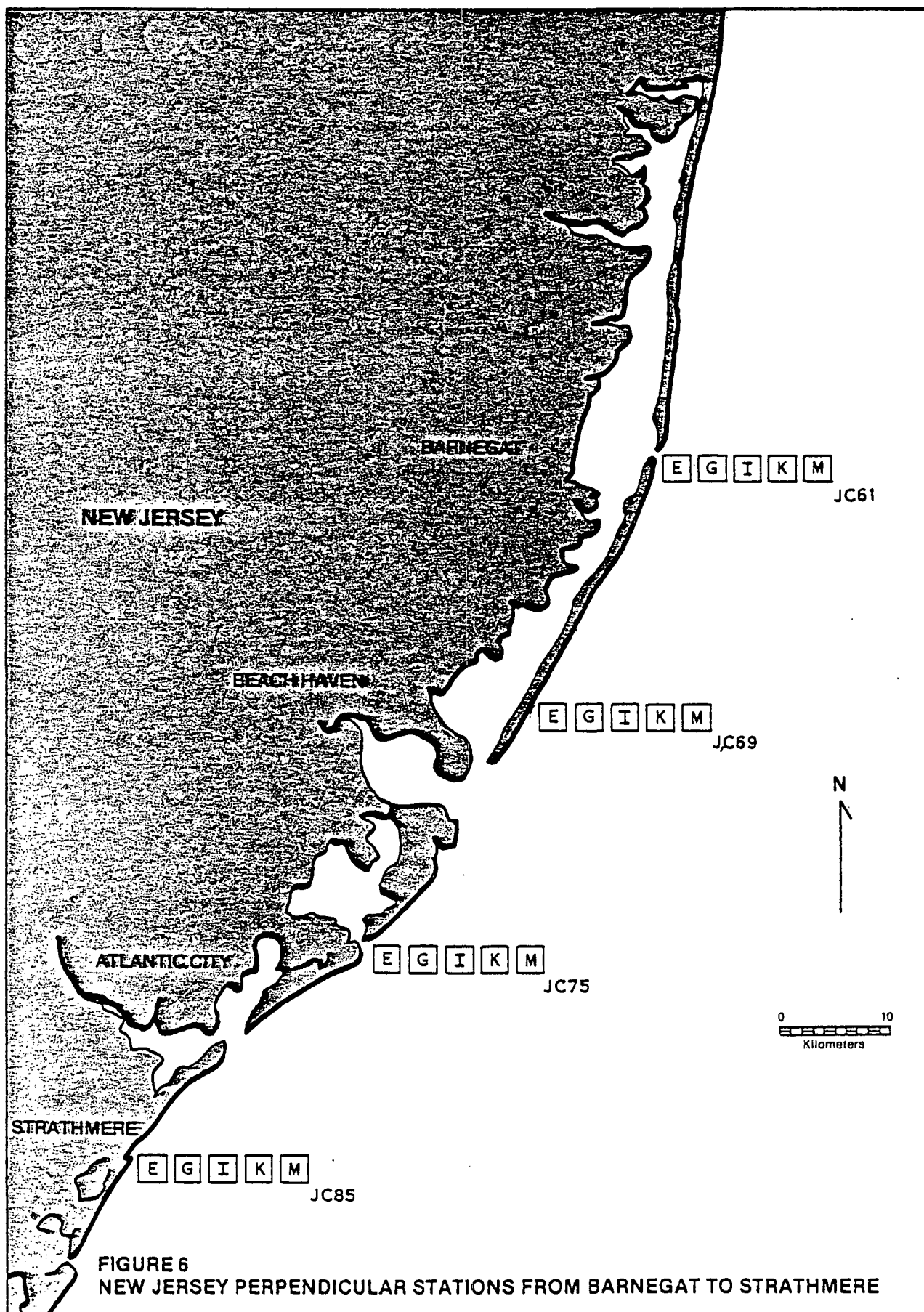
### New York Bight Contingency Plan Stations

The 24 stations sampled were:

NYB20, 22, 24, 40, 42, 44  
LICO9P, A, B, and C  
LIC14P, A, B, and C  
NJ14E, G, I, K, and M  
NJ27E, G, I, K, and M







Their locations are described in the preceeding tables and figures.

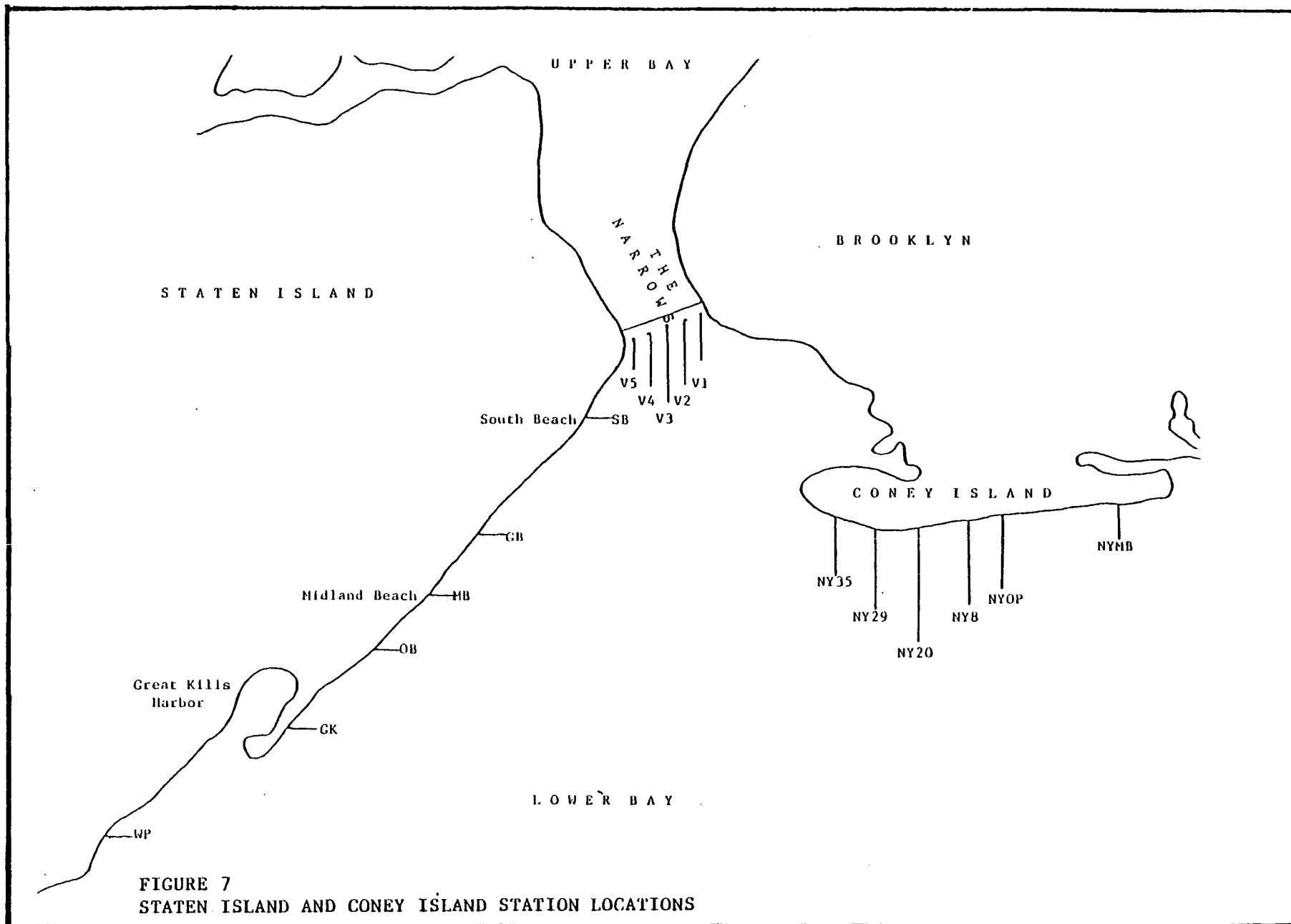
#### Phytoplankton Stations

Phytoplankton samples were collected approximately once a week along the New Jersey coast at the following stations:

|       |        |
|-------|--------|
| JC 05 | JC 57  |
| JC 11 | NYB 20 |
| JC 21 | NYB 22 |
| JC 30 | RB 13  |
| JC 37 |        |

#### Staten Island & Coney Island

The Staten Island, Coney Island and Verrezano Bridge station locations are shown in Figure 7. These stations were sampled once per week for bacteria.



#### IV. DISSOLVED OXYGEN RESULTS AND DISCUSSION

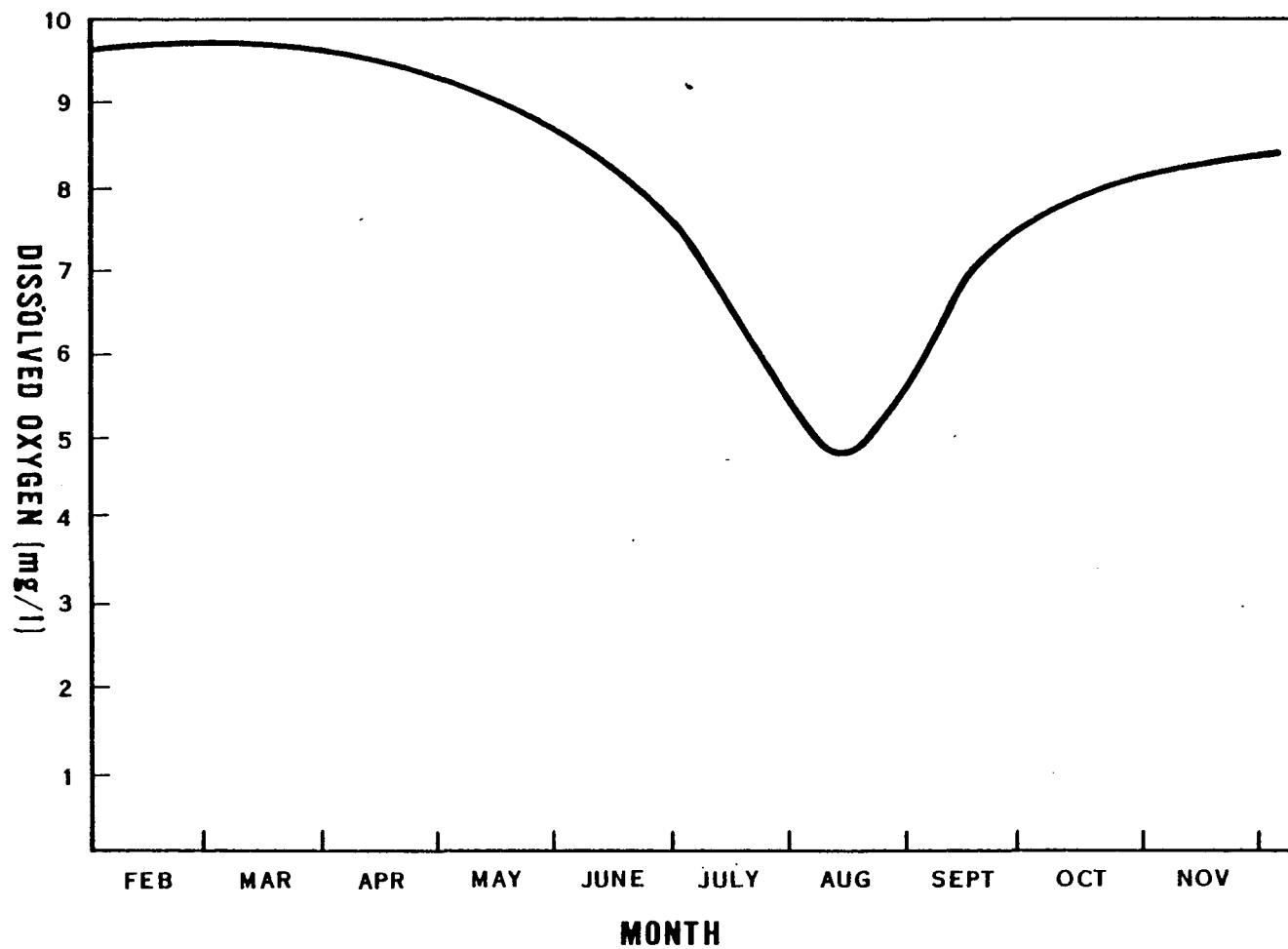
##### Normal Trends in the Ocean

Two major processes act to replenish dissolved oxygen in the water column of the New York Bight area. These are the photosynthetic conversion of carbon dioxide to molecular oxygen and the active transport of oxygen across the air-water interface. Subsequent turbulent diffusion then distributes the dissolved oxygen throughout the water column or into the upper warmer surface layer when stratified conditions prevail. Concurrent oxygen utilization (depletion) processes such as bacterial respiration and sediment oxygen demand act to influence the amount of oxygen in the water column at any one time or location.

A general description of the oxygen cycle during a calendar year is as follows:

In early January the waters of the Bight are completely mixed throughout the water column with temperatures ranging from 4°C to 10°C while dissolved oxygen values are between 8 and 10 mg/l with slightly depressed values at the sediment-water interface. The warm spring air temperatures and solar heating increase the temperature of the upper water layer and, in the absence of high energy input from local storms or tropical hurricanes, a thermally stratified water column develops. This stratification effectively blocks the free transport of the oxygen-rich upper layer into the cool oxygen-poor bottom waters.

As hot summer weather conditions set in, the warmer upper layer of water remains completely mixed and rich in oxygen (7 to 9 mg/l). This upper layer ranges from 20 to 60 meters in depth depending on time and location. The bottom cooler water is effectively isolated from the upper layer by a 10°C temperature gradient. Respiration of bottom organisms, bacterial action on algal remains and detritus, and sediment oxygen demand depress the residual dissolved oxygen values in the bottom waters. In a "normal" year, the dissolved oxygen concentration in the bottom waters of the Bight reaches a minimum in mid to late summer of approximately 4 mg/l. At this time cool evenings and reduced solar input causes the upper waters to cool, decreasing the temperature gradient between the two water masses. As the two masses become closer and closer in temperature, the energy required to break down the thermocline becomes less and less until finally, in many instances after a local storm, there is a complete mixing of the water column with concomittant reoxygenation of the bottom waters. The annual cycle begins again. Figure 8 depicts a representative history of dissolved oxygen concentration in the general ocean area off New Jersey, New York, and New England.



**FIGURE 8**  
**GENERALIZED ANNUAL MARINE DISSOLVED OXYGEN CYCLE OFF THE**  
**NORTHEAST U.S. (FROM NOAA)**

### Dissolved Oxygen Criteria

The dissolved oxygen levels necessary for survival and/or reproduction vary among biological species. Insufficient data have been accumulated to assign definitive limits or lower levels of tolerance for each species at various growth states. Rough guidelines are available for aquatic species for purposes of surveillance and monitoring. These are as follows:

- 5 mg/l DO and greater - healthy
- 4 - 5 mg/l DO - borderline to healthy
- 3 - 4 mg/l DO - stressful if prolonged
- 2 - 3 mg/l DO - lethal if prolonged
- less than 2 mg/l - lethal in a relatively short time.

These criteria are consistent with biological information recorded in the New York Bight over the past several years. Most data concerning the lower tolerance levels were recorded during the summer of 1976. In 1976, widespread and persistent dissolved oxygen levels between 0.0 and 2.0 mg/l occurred over a large area of the Bight. This resulted in extensive fish kills and bottom dwelling organism mortality.

### Surface Dissolved Oxygen - 1980

The completely mixed upper water layer had dissolved oxygen levels at or near saturation during the entire sampling period, May 1, 1980 through September 30, 1980.



### Bottom Dissolved Oxygen - 1980

Table 5 summarizes the dissolved oxygen data for the Long Island perpendiculars, the New York Bight transects and the New Jersey perpendiculars. Surface and Bottom dissolved oxygen data for these stations from May 1 to September 30, 1980 can be found in Appendix C.

The Long Island coastal waters showed healthy levels of dissolved oxygen throughout the sampling period. On September 15 there was a condition of very mild dissolved oxygen depression at Stations LIC09P and A, and LIC14P and A. The lowest value found in this group was 3.8 mg/l at LIC14P, and these samples constituted the only values found below 5 mg/l the entire sampling period off the Long Island coast.

Table 5

Summary of Bottom Dissolved Oxygen Values  
for the Period of May 1 to September 30, 1980

|                            | <u># of Samples</u> | <u># of Samples<br/>&lt;5 mg/l</u> | <u>Percent of<br/>Samples &lt;5 mg/l</u> |
|----------------------------|---------------------|------------------------------------|------------------------------------------|
| New York Bight Stations    | 286                 | 5                                  | 2                                        |
| New Jersey Coast Stations  | 446                 | 63                                 | 14                                       |
| Long Island Coast Stations | 124                 | 4                                  | 3                                        |

The New York Bight Apex was healthy during the sampling period of May 1 to September 30, 1980. Out of 286 samples taken in the Bight Apex, only 5 samples, or 2 percent, were below 5 mg/l. These were all above 4 mg/l and were only transient depressed values in August.

The New Jersey coastal waters experienced some periods of dissolved oxygen depression, but these were for the most part mild and short lived. Out of 446 samples, 14 percent were below 5 mg/l. Of these, only 8 percent were under 4 mg/l and only 2 percent were below 3 mg/l. These instances occurred during two periods, August 9-16 and September 13-20, primarily in the southern perpendicular stations, JC53 - JC85. The first instance in August was isolated in the perpendicular off Atlantic City, JC75, with one value of 3.6 mg/l found at JC85E. The second instance in September was more widespread and encompassed the perpendiculars from JC53 to JC75. This band of low dissolved oxygen persisted during the week of September 13-20, with dissolved oxygen values dropping below 3 mg/l at some stations (JC75M, 1.8 mg/l, JC69M, 2.0 mg/l, JC69I, 2.8 mg/l, JC61I, 2.3 mg/l). On October 3, samples collected at these stations showed dissolved oxygen levels had recovered and were above 5 mg/l.

#### Trend for the Long Island Coast

Figure 9 shows the average trend of dissolved oxygen for the Long Island coastal waters. Each point is the average at all 16 stations for a 2 week period. From the graph, the following observations can be made:

1. There is an early decline from early June to late July. This decline is still well above the standard, dropping only to about 6.5 mg/l.
2. A recovery occurred in early August.
3. A second decline to 5 mg/l occurred in early September.

This trend mirrors the 1979 data except the minima are slightly higher in 1980 than in 1979.

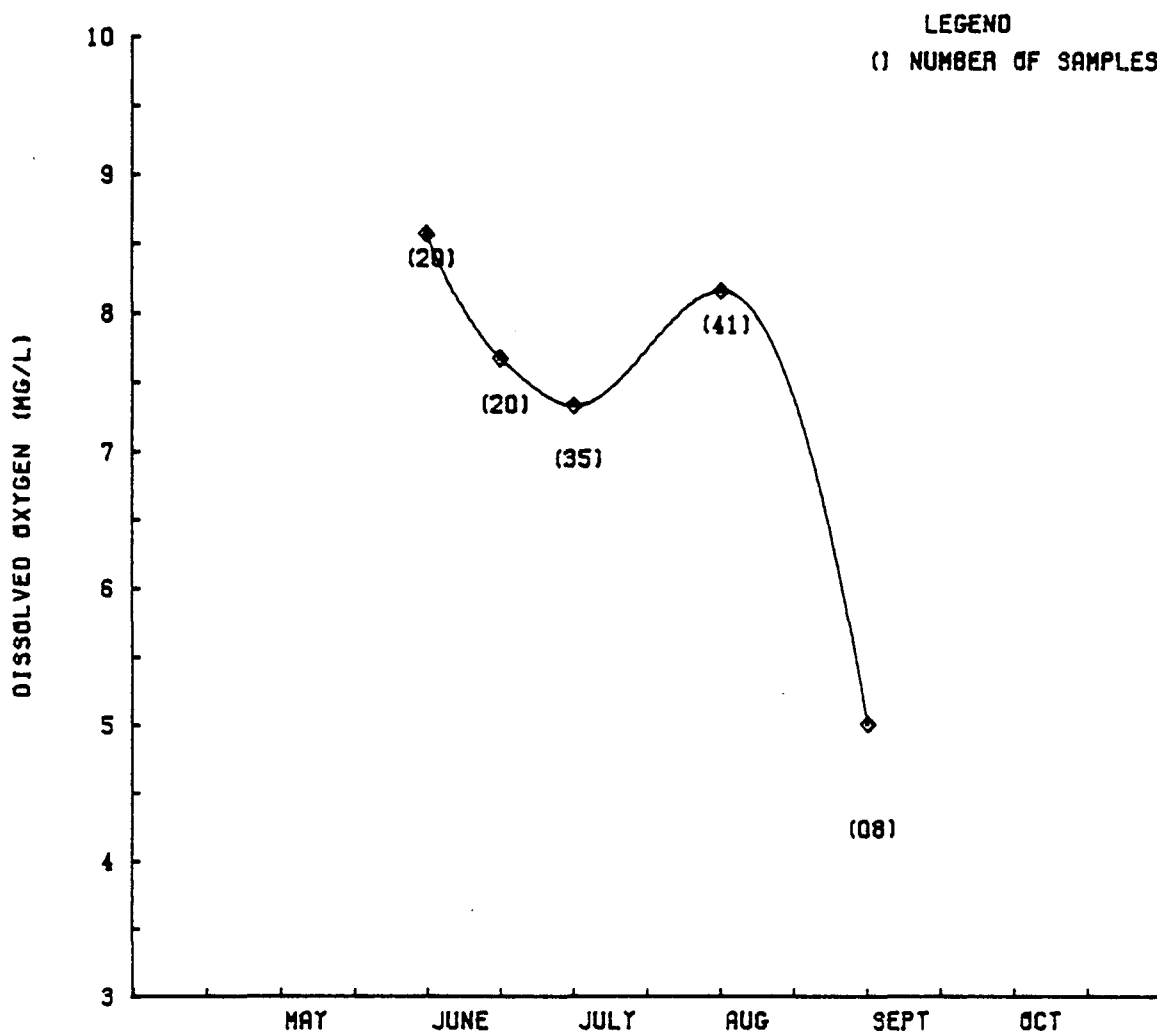


FIGURE 9  
LONG ISLAND COAST DISSOLVED OXYGEN, 1980.  
SEMI-MONTHLY AVERAGE OF ALL L.I. PERPENDICULAR STATIONS.

The 1979 data showed a total recovery after the second decline, but due to technical problems, sampling off the Long Island coast in 1980 couldn't continue after September.

#### Trends in the New York Bight Apex 1977-1980

Figure 10 shows the average dissolved oxygen for all New York Bight stations at semi-monthly intervals during the 1980 season. Starting with a very mild depression in May and then recovery in early June, dissolved oxygen values reach their first minimum in July. This is followed by a recovery and then another decline in late August to 6.0 mg/l. October values show an upward trend.

Figure 11 compares the dissolved oxygen values of the New York Bight for 1977, 1978, 1979, and 1980. Although there is a trend in all years for excellent early values and a general decline as the summer passes, followed by recovery in early fall, 1980 is different from the other three years in the following ways:

1. Rather than a gradual decline from early spring, the 1980 values are briefly elevated in early June before beginning to decline.
2. The recovery in early September is more dramatic in 1980 than in the previous years.
3. The lowest dissolved oxygen values in 1980 are higher than the lows during the previous years.

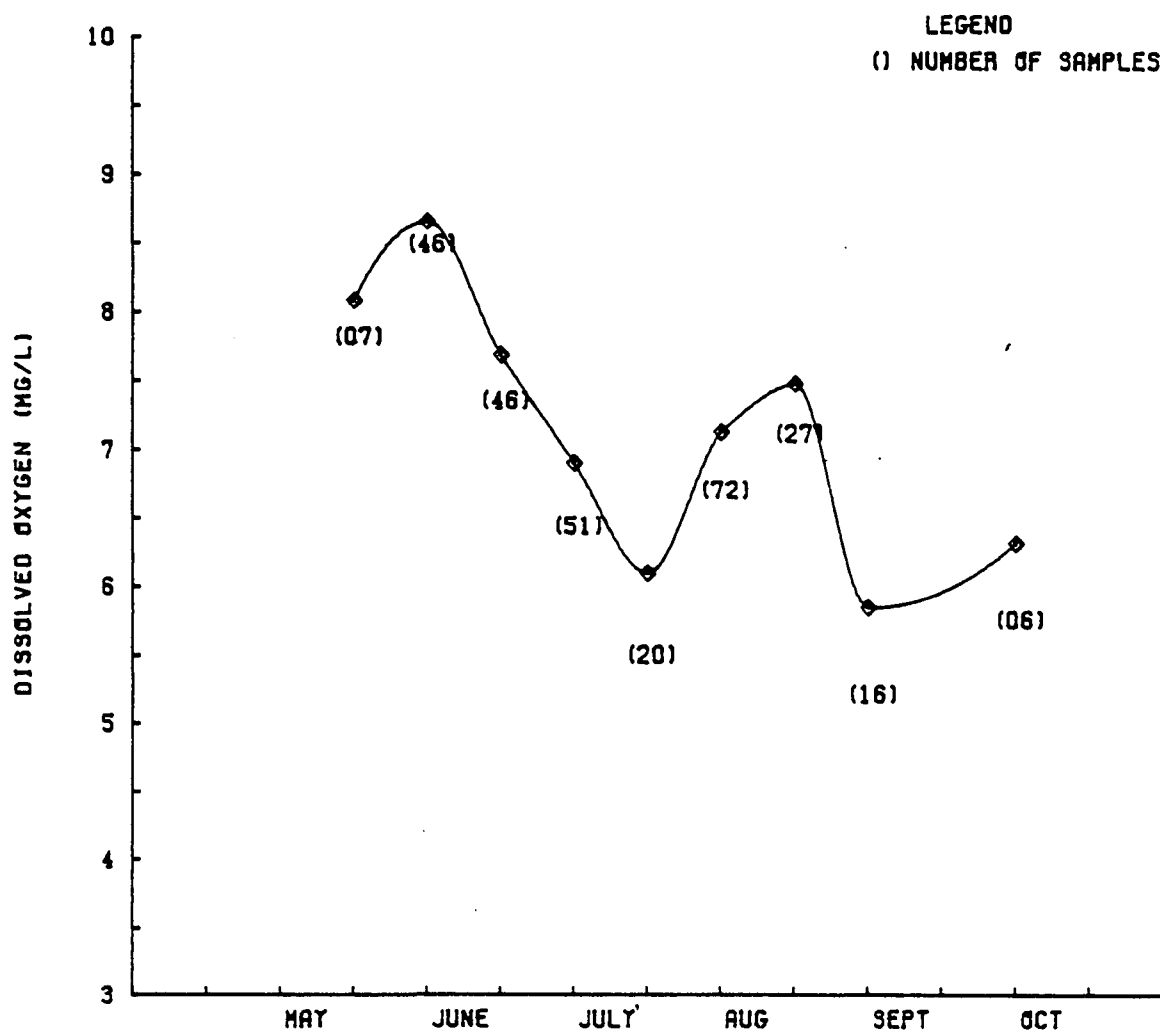


FIGURE 10  
NEW YORK BIGHT DISSOLVED OXYGEN, 1980.  
SEMI-MONTHLY AVERAGE OF ALL NY BIGHT STATIONS.

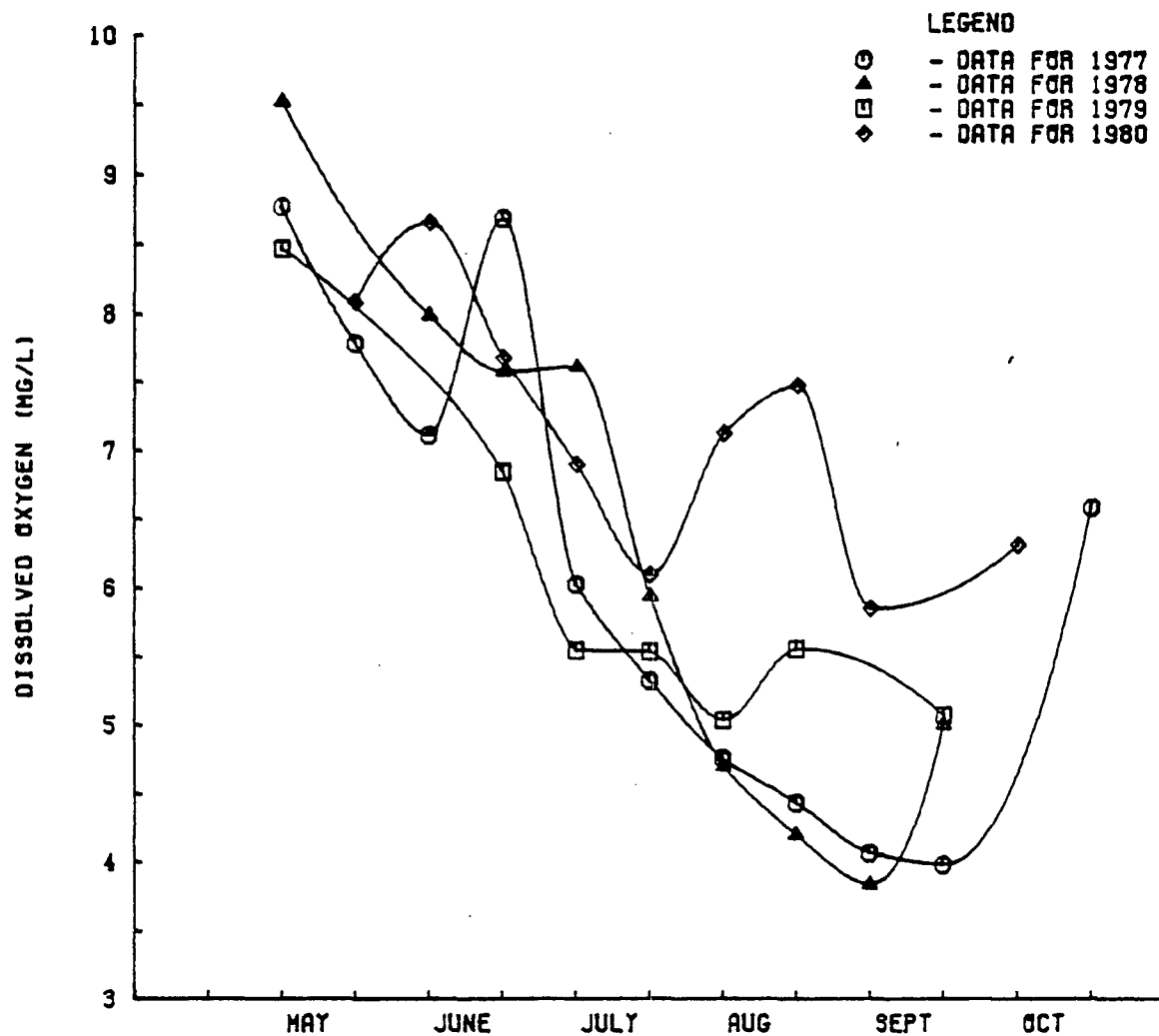


FIGURE 11  
 NEW YORK BIGHT DISSOLVED OXYGEN, 1977-1980  
 COMPARISON. SEMIMONTHLY AVERAGE OF ALL NY BIGHT STATIONS.

## Trends for the New Jersey Coast 1977-1980

### Seasonal Variation

Figure 12 compares the values of the northern perpendiculars (JC14-JC53 plus MAS) with the southern perpendiculars (JC61-JC85). The most obvious observation that can be made from this graph is the seasonal fluctuation in water quality. In late May to early July, the water quality in the south is systematically higher. However, there is a crossover point in early July and the southern values begin to drop lower than the northern perpendicular values, while following the same trend of decline followed by recovery. This was not the case in previous years, where the northern perpendicular group was consistently lower than the southern group throughout the summer.

### Trends in Northern Perpendiculars

Figure 13 is a comparison of dissolved oxygen levels for the years 1977-1980 for the perpendiculars JC14 to JC53. While following the same general trend of a double minima, that is, declines in early summer and fall, followed by recovery, 1980 does not experience as sharp a drop in dissolved oxygen as the other years. This is possibly attributable to the fact that, until the summer of 1980, the Passaic Valley Sewage Commission's (PVSC) plant in Newark had been discharging primary treated sewage into the New York Harbor, which, due to tidal action, would wash down along the northern New Jersey coast (see Environmental Episodes: Newark Bay). Due to the construction of new facilities, PVSC diverted its effluent to Newark Bay from November 1979 to August 1980. The improved dissolved oxygen values illustrated in Figure 13 may be associated with the absence of oxygen-demanding sewage from PVSC.

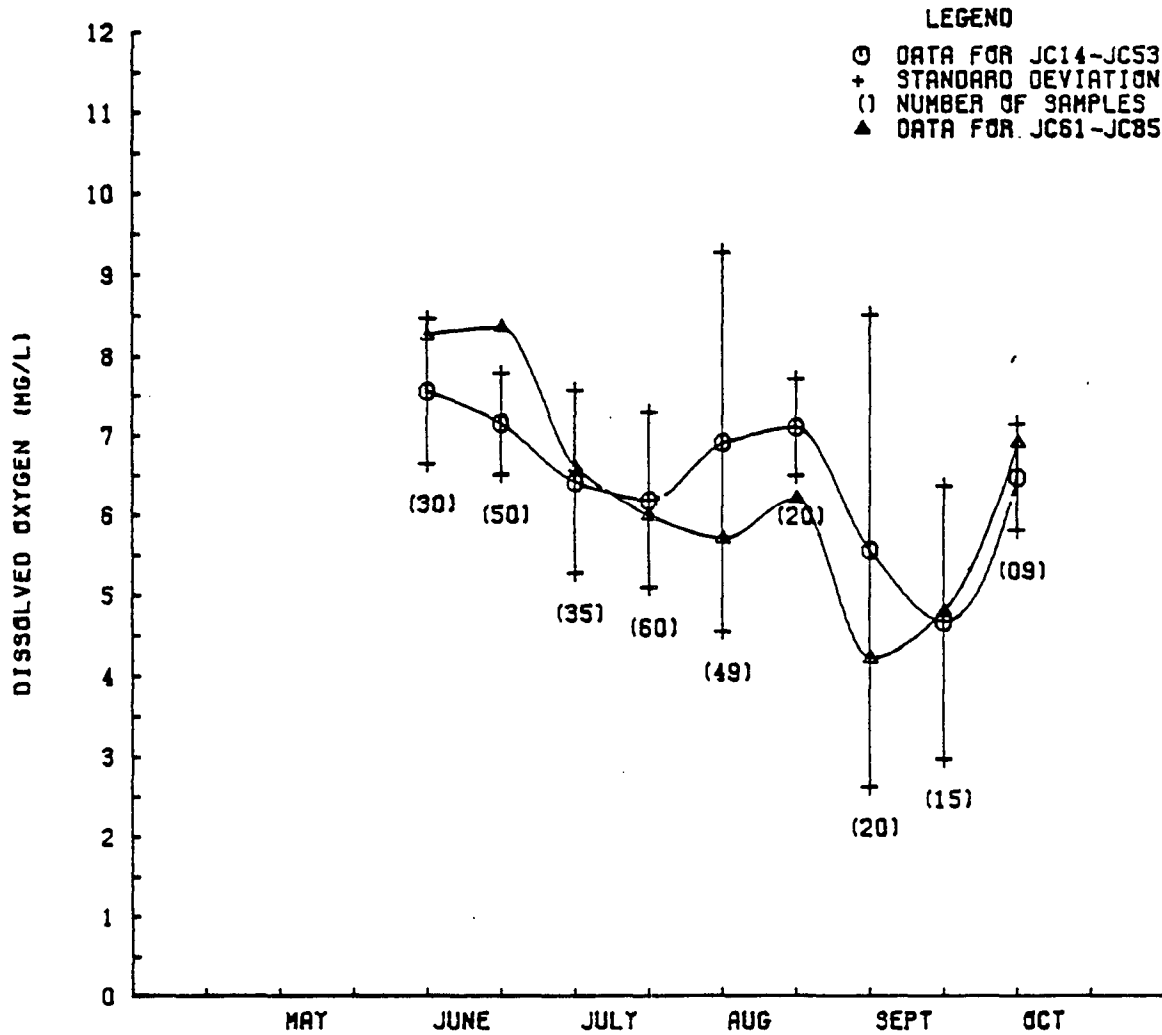


FIGURE 12

NEW JERSEY COAST DISSOLVED OXYGEN, 1980. SEMIMONTHLY AVERAGES OF ALL NORTHERN (JC14-JC53) PERPENDICULAR AND OF ALL SOUTHERN (JC81-JC85) PERPENDICULAR STATIONS.



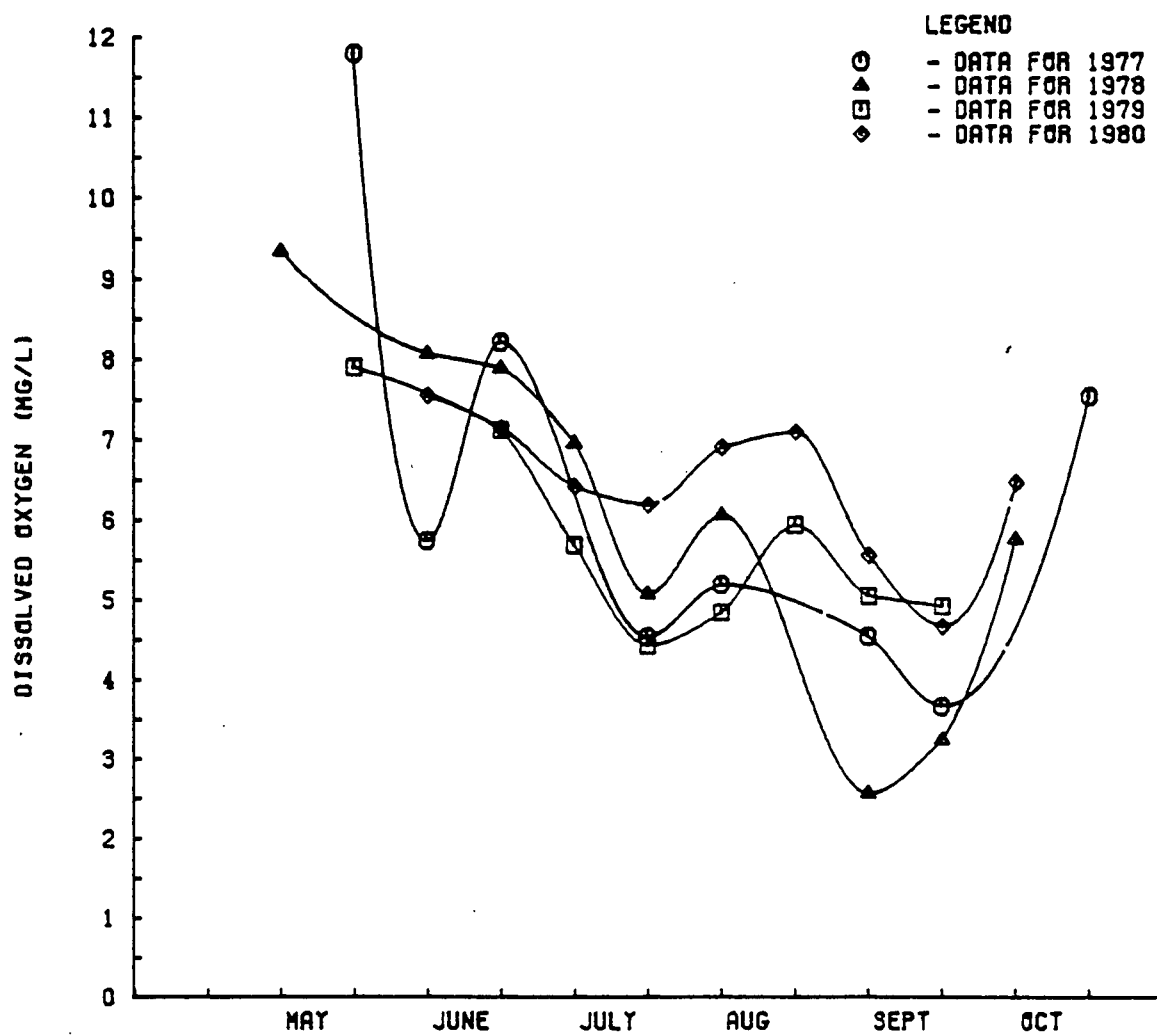


FIGURE 13  
NORTHERN NEW JERSEY COAST DISSOLVED OXYGEN, 1977-1980  
COMPARISON. SEMIMONTHLY AVERAGES OF ALL JC14-JC53  
PERPENDICULAR STATIONS.

Figure 14 averages the four years of dissolved oxygen values for the northern stations and illustrates again the trend for a double minima, in July and September. This differs from NOAA's generalized interpretation (Figure 8) and suggests that, at least for the last four years, the NOAA conditions do not apply to the nearshore waters.

In Figure 15, the semi-monthly averages of each northern perpendicular are compared to the overall average of all northern perpendiculars for the sampling period. This illustrates the above average trend for the most northern stations, JC14 and JC27. It also shows that when the fall minimum is reached, the more southern perpendiculars, JC41 and JC53, drop below the average.

The shore-to-seaward comparison in Figure 16 illustrates the following:

1. In early summer, until the first minimum is reached, dissolved oxygen levels were lowest near shore and increased with distance from shore.
2. The second minimum was reached earlier in the near-shore stations (1 and 3 miles) than in the seaward (5, 7, and 9 miles) stations.
3. The second minimum was lower in the 7 and 9 mile stations than the near-shore stations.

In the previous years, there had been a trend for the inner stations to be consistently lower than the seaward stations throughout the sampling period. In 1980 however, the 7 mile and 9 mile stations dropped below the near-shore stations, particularly during the fall minimum.

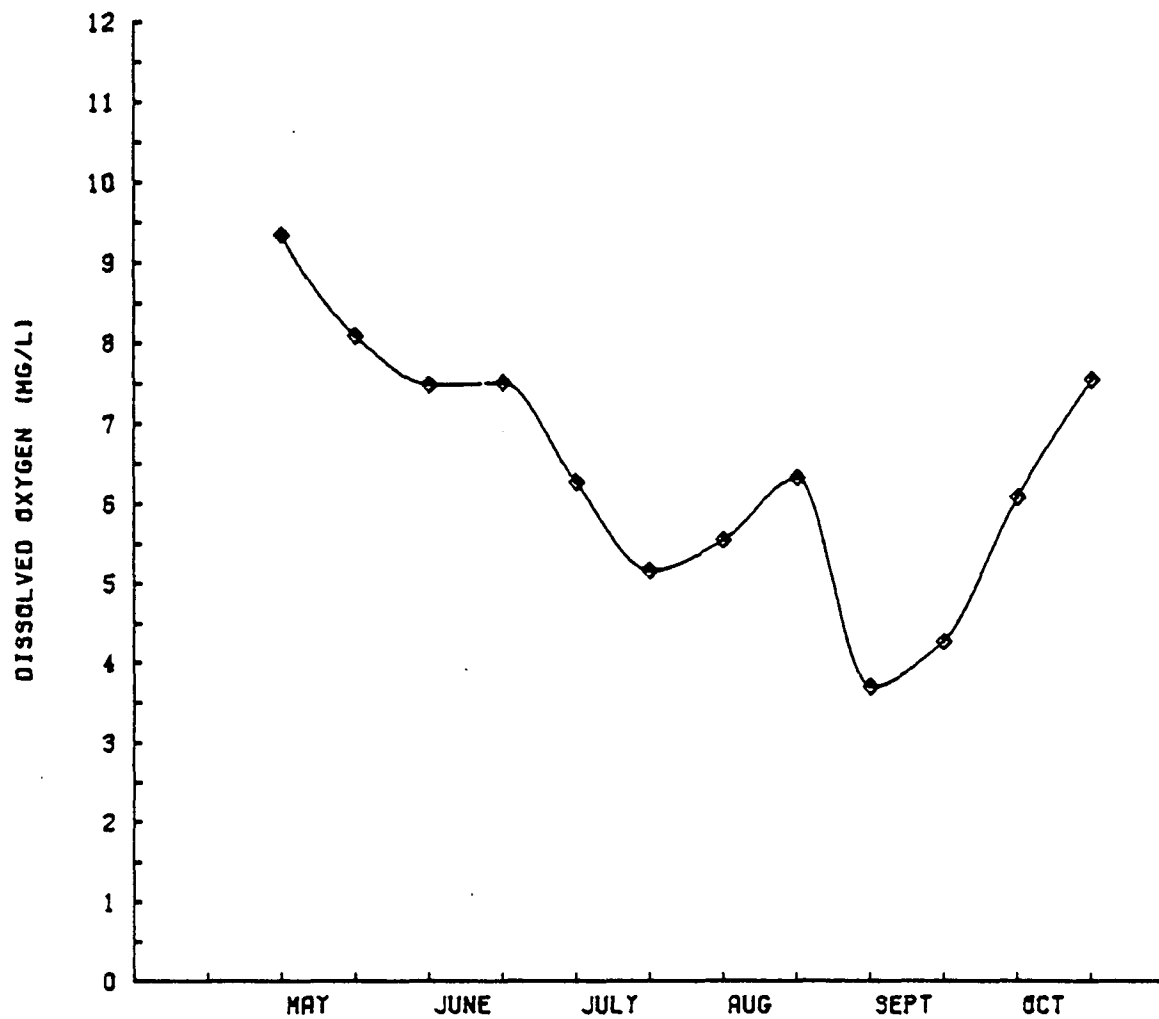


FIGURE 14  
NORTHERN NEW JERSEY COAST DISSOLVED OXYGEN, FOUR YEAR  
AVERAGE. AVERAGE OF THE INDIVIDUAL 1977, 1978, 1979, AND 1980  
SEMIMONTHLY AVERAGES.

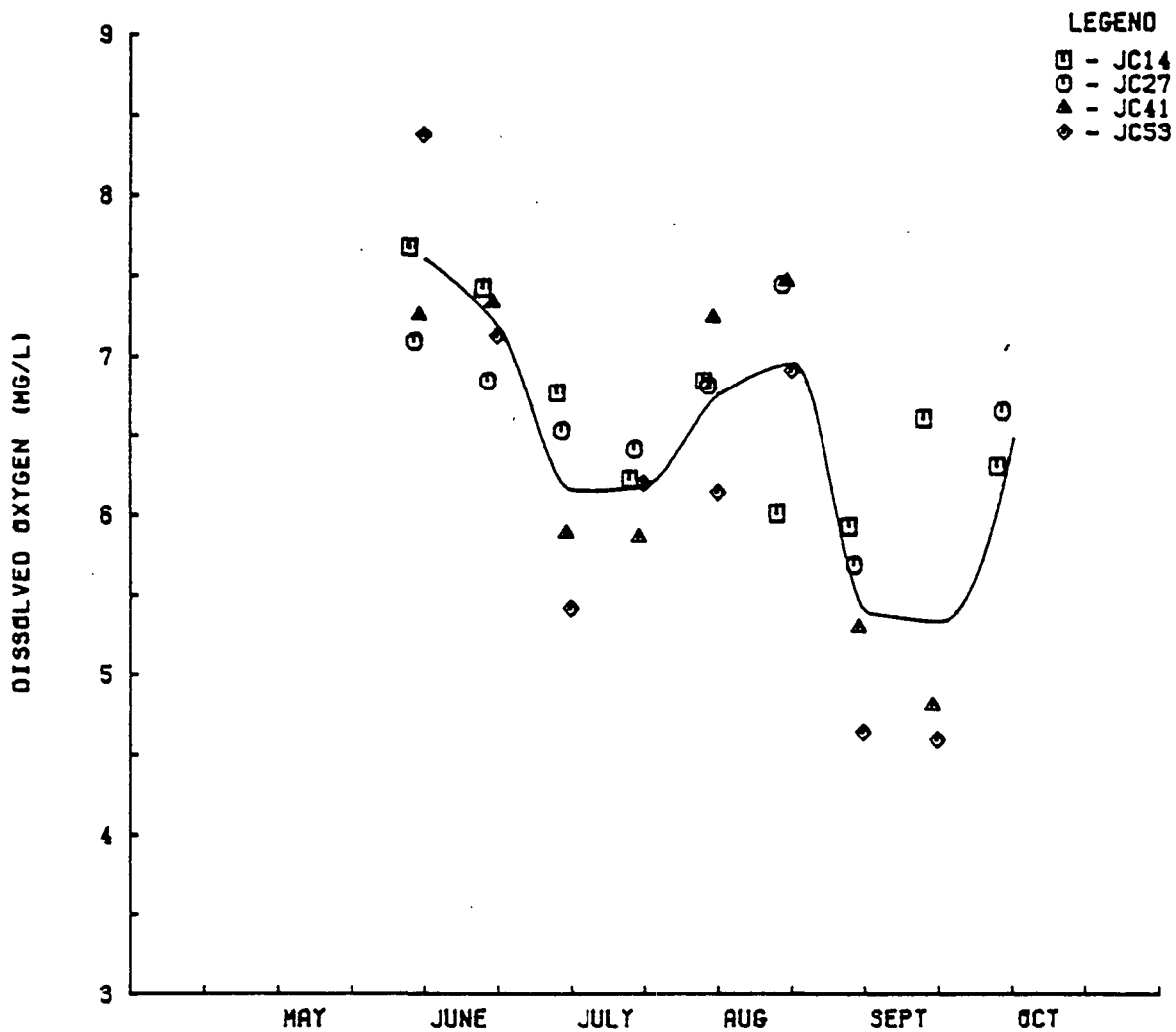


FIGURE 15  
 NORTH-SOUTH DISTRIBUTION OF DISSOLVED OXYGEN, NORTHERN  
 NEW JERSEY, 1980. SEMIMONTHLY AVERAGES ALONG PERPENDICULARS  
 JC14-JC53 COMPARED TO OVERALL AVERAGE.

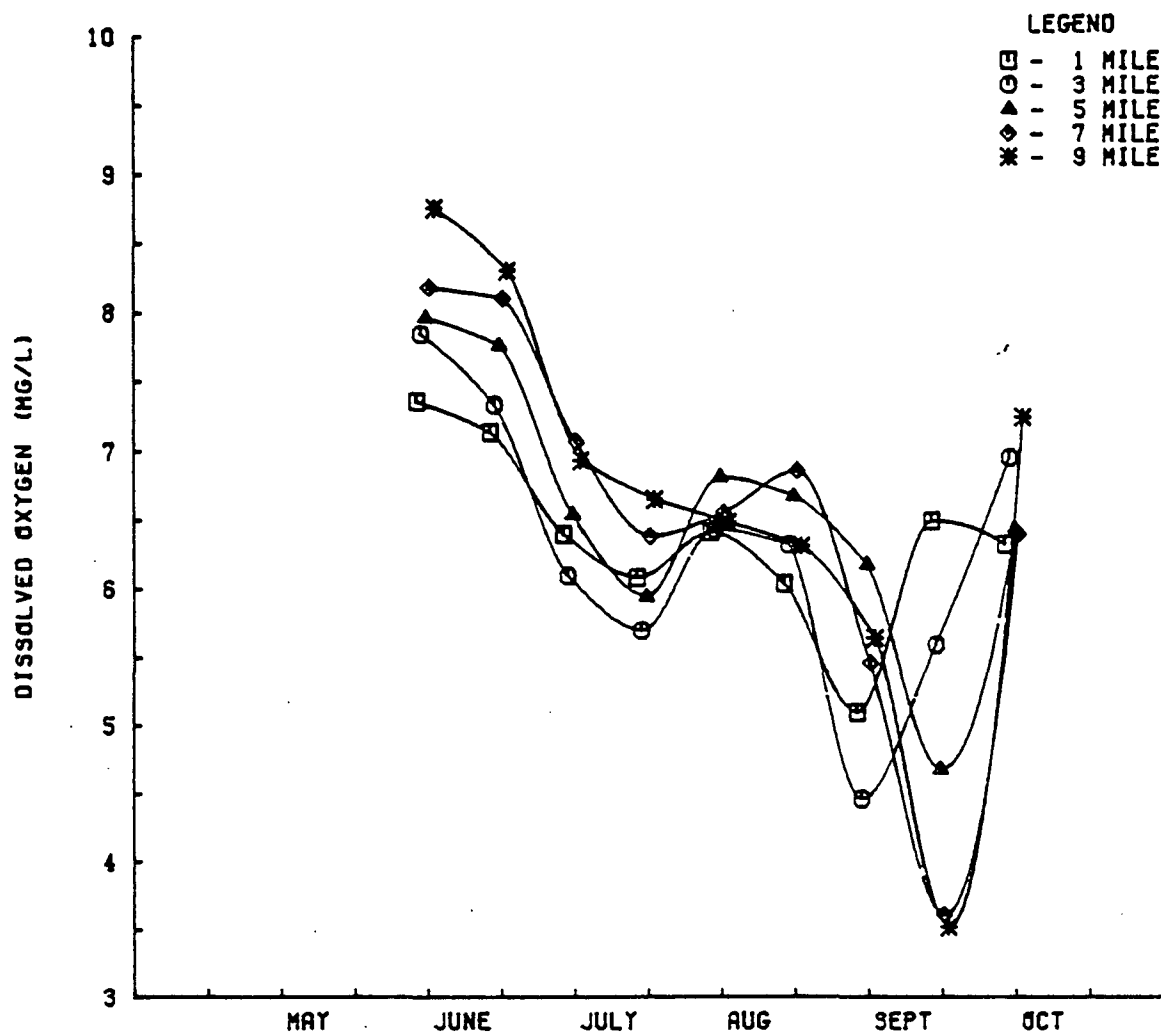


FIGURE 16  
SHORE-TO-SEAWARD DISTRIBUTION OF DISSOLVED OXYGEN,  
1980. SEMIMONTHLY AVERAGES OF ALL PERPENDICULARS  
JC14-JC53 AT FIXED DISTANCES FROM SHORE.

### Trends in Southern Perpendiculars

During the summer of 1980, a trend for a double minima of dissolved oxygen values also existed for the southern stations, the perpendiculars JC61 to JC85. However, the depression which occurred in the fall was much more pronounced than in early summer. Figure 17 shows the overall average of the southern perpendiculars and compares this with the individual semi-monthly perpendicular averages. From this we can see a substantial drop in dissolved oxygen values in the early fall for stations JC61-JC75. JC85 (Strathmere) does not experience as pronounced an oxygen depression as do the 3 other perpendiculars. Figure 18 illustrates the four-year dissolved oxygen trend in the southern waters, again showing two minima. In Figure 19, the shore-to-seaward trend graph shows the following:

1. The early autumn minimum is markedly lower than the early summer minimum and falls in the 2.5 - 3.5 mg/l range generally considered unhealthy if prolonged.
2. The autumn depression occurs first at the near shore stations (1, 3, and 5 miles) and then slightly later at the seaward stations (7 and 9 miles from shore). This indicates an oxygen depression which originates inland and moves seaward over a 2 - 3 week period.
3. Recovery after the autumn minimum is rapid and complete, with oxygen values well above the standard by late September.

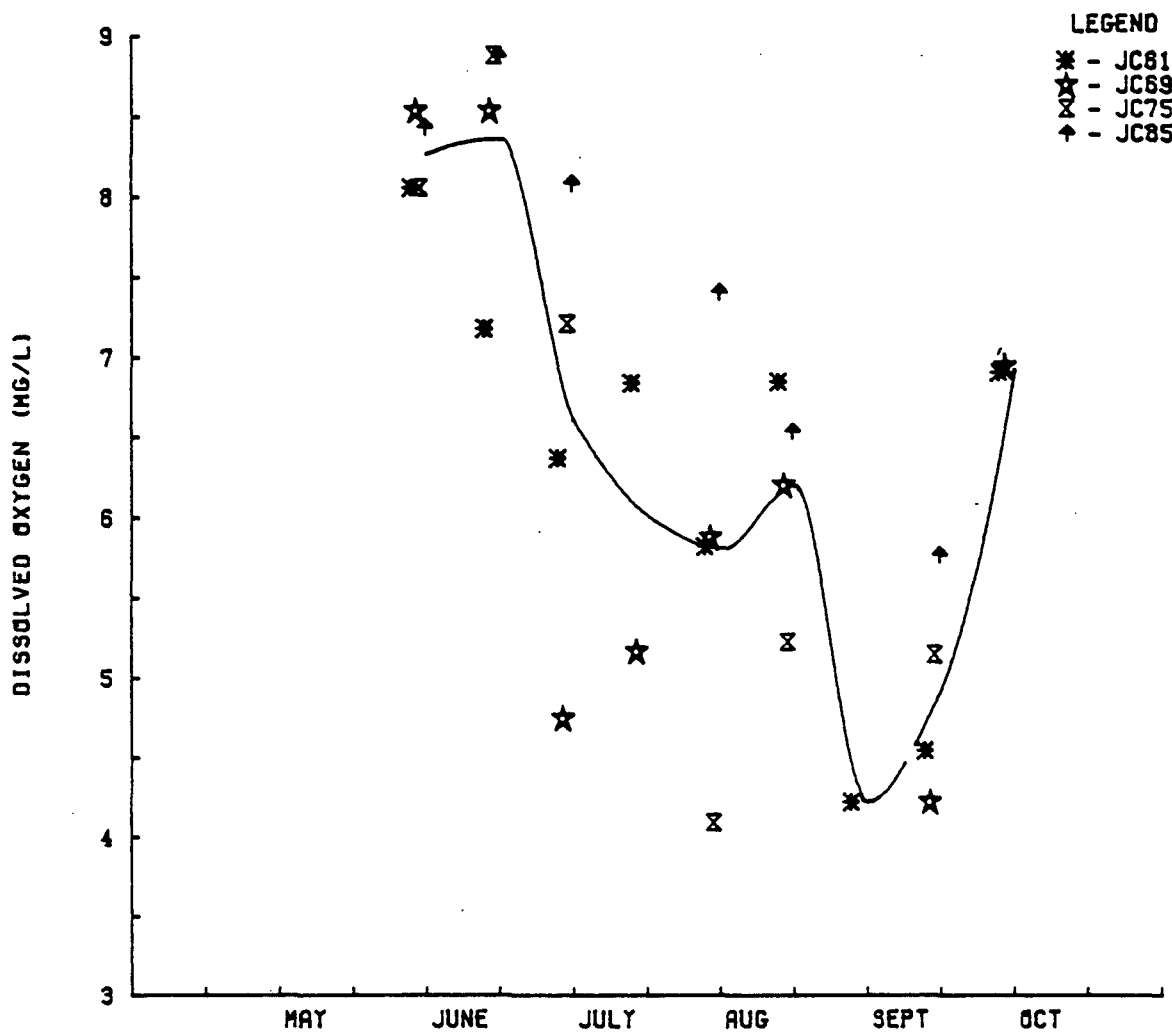


FIGURE 17  
 NORTH-SOUTH DISTRIBUTION OF DISSOLVED OXYGEN, SOUTHERN  
 NEW JERSEY, 1980. SEMIMONTHLY AVERAGES ALONG PERPENDICULARS  
 JC61-JC85 COMPARED TO OVERALL AVERAGE.

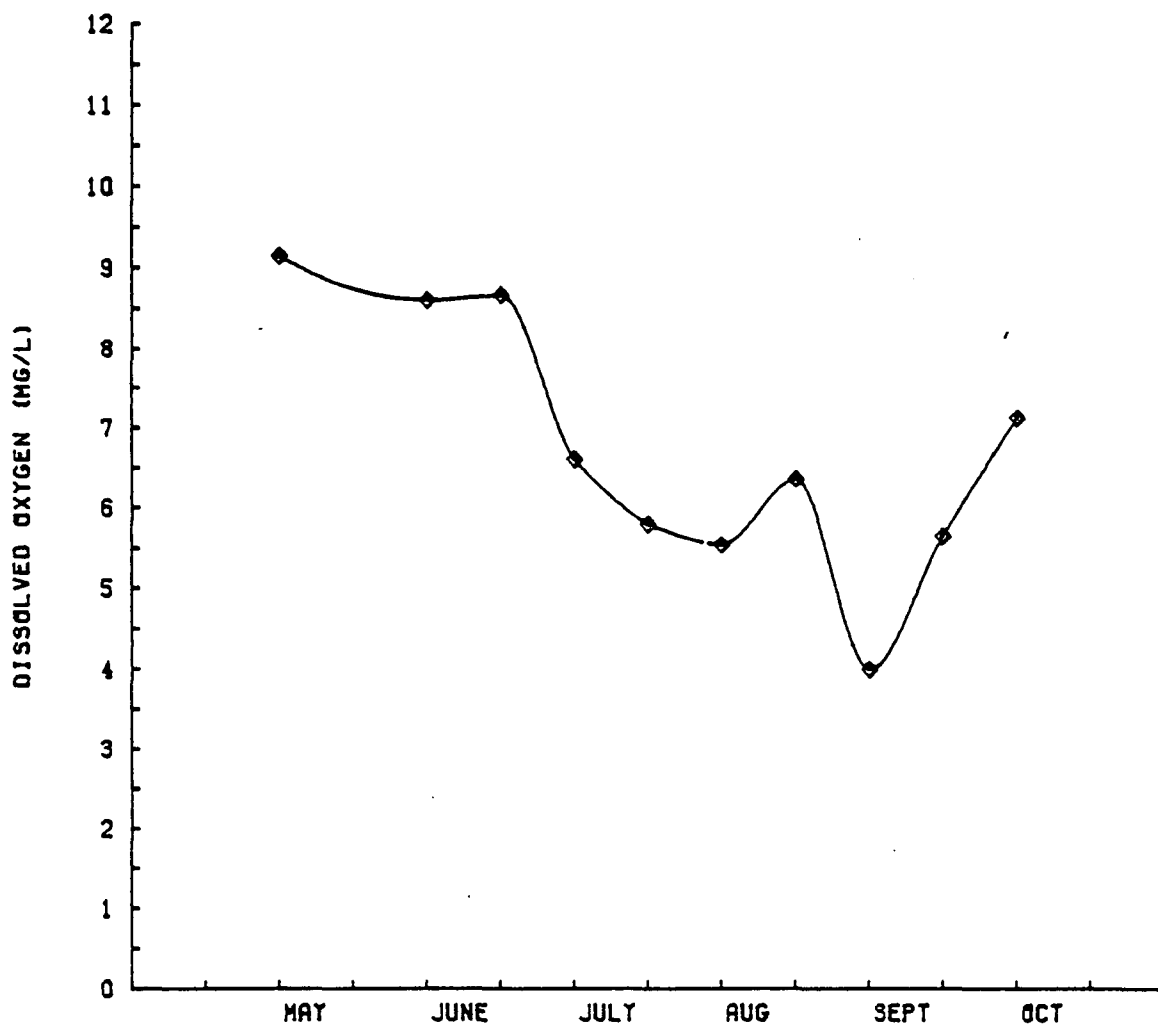


FIGURE 18  
SOUTHERN NEW JERSEY COAST DISSOLVED OXYGEN, FOUR YEAR  
AVERAGE. AVERAGE OF THE INDIVIDUAL 1977, 1978, 1979, AND 1980.  
SEMIMONTHLY AVERAGES



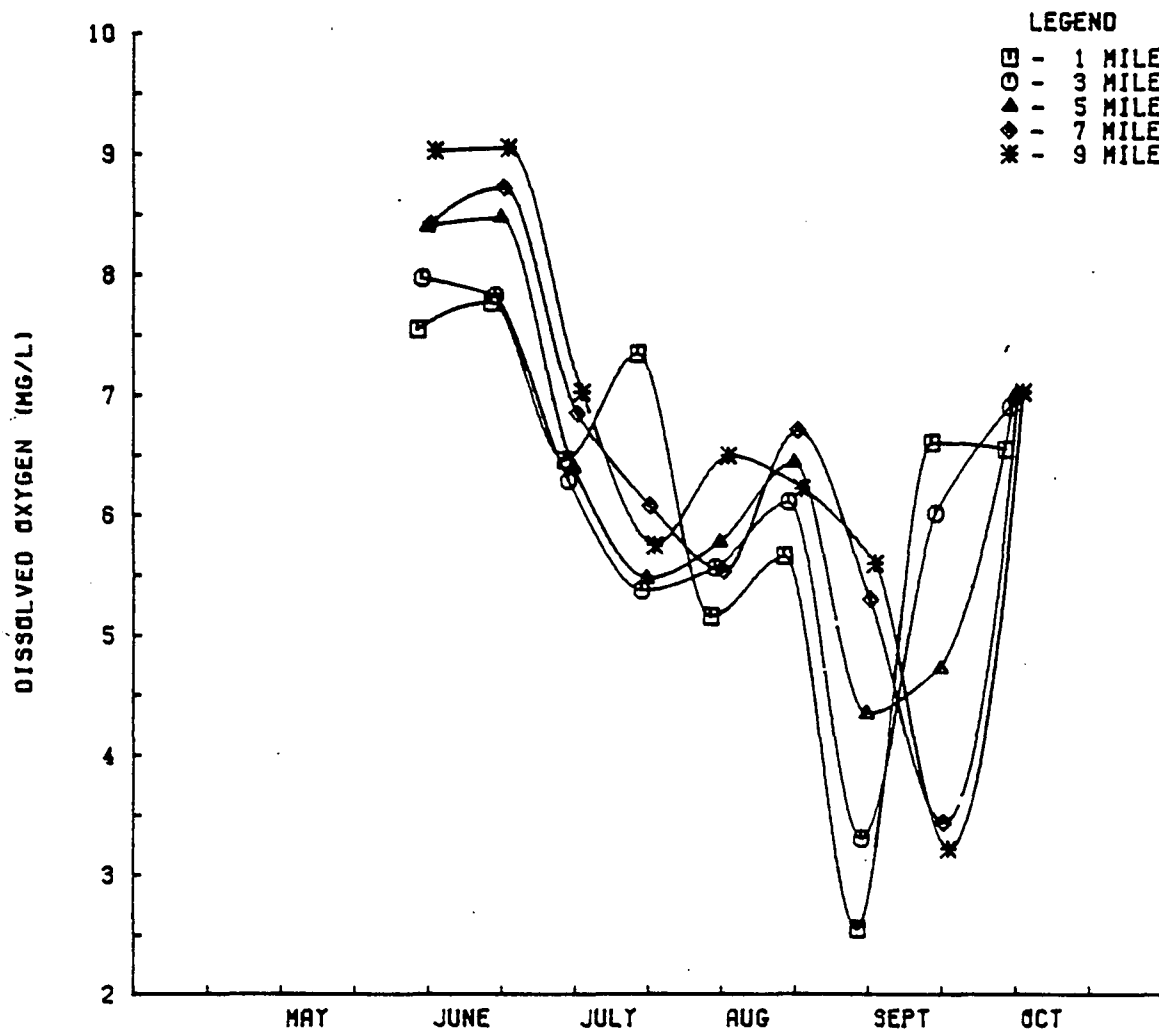


FIGURE 19  
SHORE-TO-SEAWARD DISTRIBUTION OF DISSOLVED OXYGEN, 1980.  
SEMI-MONTHLY AVERAGES OF ALL SOUTHERN PERPENDICULARS  
JC61-JC85 AT FIXED DISTANCES FROM SHORE.

## V. Bacteriological Results

Table 6 presents a summary of the fecal coliform data collected along the New Jersey coast between May 1, 1980 and September 30, 1980. The geometric means for each station over this time period are plotted on Figure 20. The highest geometric mean was 2.7 fecal coliform per 100 ml at station JC93, which is off the amusement piers in Wildwood, New Jersey. This station also had the highest geometric mean last year of all the New Jersey coast stations, 10.1 fecal coliform per 100 ml. There are several storm sewers in the area that discharge directly to the ocean possibly causing the slightly elevated values at this station.

The bacteriological standard for primary contact recreation, which includes bathing, in New Jersey waters is: the monthly geometric mean of five or more samples shall not exceed 50 fecal coliform per 100 ml of sample. Because of the consistently low fecal coliform values along the coast of New Jersey, a four-month geometric mean was used to compare to the standard rather than four separate monthly geometric means. Figure 20 clearly shows that the New Jersey coastal waters were well under the state standard. Based on fecal coliform bacteria, New Jersey coastal waters have excellent water quality.

Throughout the summer sampling period, a total of 614 samples were collected along the coastal beaches of New Jersey and analyzed for total and fecal coliform bacteria. Only four of the 614 samples or 0.6 percent had fecal coliform values of 50 or above. These samples were:

Table 6

Summary of Bacteriological Data Collected  
Along the New Jersey Coast

June 1, 1980 Through September 30, 1980

| <u>Station</u> | <u>Number of Samples<br/>Collected</u> | <u>Maximum Value Fecal<br/>Coliform per 100 ml</u> | <u>Geometric Mean Fecal<br/>Coliform per 100 ml</u> |
|----------------|----------------------------------------|----------------------------------------------------|-----------------------------------------------------|
| JC01A          | 16                                     | 12                                                 | 1.5                                                 |
| JC02           | 16                                     | 21                                                 | 1.3                                                 |
| JC03           | 16                                     | 8                                                  | 1.1                                                 |
| JC05           | 16                                     | 2                                                  | 1.1                                                 |
| JC08           | 17                                     | 3                                                  | 1.1                                                 |
| JC11           | 18                                     | 740                                                | 2.0                                                 |
| JC14           | 18                                     | 18                                                 | 1.5                                                 |
| JC21           | 20                                     | 340                                                | 2.1                                                 |
| JC24           | 17                                     | 27                                                 | 1.4                                                 |
| JC27           | 17                                     | 4                                                  | 1.3                                                 |
| JC30           | 16                                     | 4                                                  | 1.1                                                 |
| JC33           | 17                                     | 3                                                  | 1.1                                                 |
| JC37           | 17                                     | 4                                                  | 1.3                                                 |
| JC41           | 17                                     | 1                                                  | 1.0                                                 |
| JC44           | 17                                     | 5                                                  | 1.2                                                 |
| JC47A          | 17                                     | 1                                                  | 1.0                                                 |
| JC49           | 17                                     | 1                                                  | 1.0                                                 |
| JC53           | 17                                     | 44                                                 | 2.3                                                 |
| JC55           | 17                                     | 20                                                 | 1.2                                                 |
| JC57           | 15                                     | 3                                                  | 1.1                                                 |
| JC59           | 15                                     | 1                                                  | 1.0                                                 |
| JC61           | 14                                     | 3                                                  | 1.1                                                 |
| JC63           | 15                                     | 4                                                  | 1.1                                                 |
| JC65           | 15                                     | 3                                                  | 1.1                                                 |
| JC67           | 15                                     | 1                                                  | 1.0                                                 |
| JC69           | 15                                     | 3                                                  | 1.1                                                 |
| JC73           | 15                                     | 4                                                  | 1.1                                                 |

Table 6 (Continued)

| <u>Station</u> | <u>Number of Samples<br/>Collected</u> | <u>Maximum Value Fecal<br/>Coliform per 100 ml</u> | <u>Geometric Mean Fecal<br/>Coliform per 100 ml</u> |
|----------------|----------------------------------------|----------------------------------------------------|-----------------------------------------------------|
| JC75           | 15                                     | 50                                                 | 2.3                                                 |
| JC77           | 14                                     | 7                                                  | 1.3                                                 |
| JC79           | 14                                     | 8                                                  | 1.3                                                 |
| JC81           | 14                                     | 24                                                 | 1.5                                                 |
| JC83           | 14                                     | 5                                                  | 1.4                                                 |
| JC85           | 14                                     | 26                                                 | 1.3                                                 |
| JC87           | 14                                     | 3                                                  | 1.1                                                 |
| JC89           | 14                                     | 2                                                  | 1.1                                                 |
| JC91           | 12                                     | 4                                                  | 1.2                                                 |
| JC93           | 12                                     | 24                                                 | 2.7                                                 |
| JC95           | 11                                     | 3                                                  | 1.1                                                 |
| JC97           | 12                                     | 39                                                 | 2.1                                                 |
| JC99           | 12                                     | 3                                                  | 1.3                                                 |

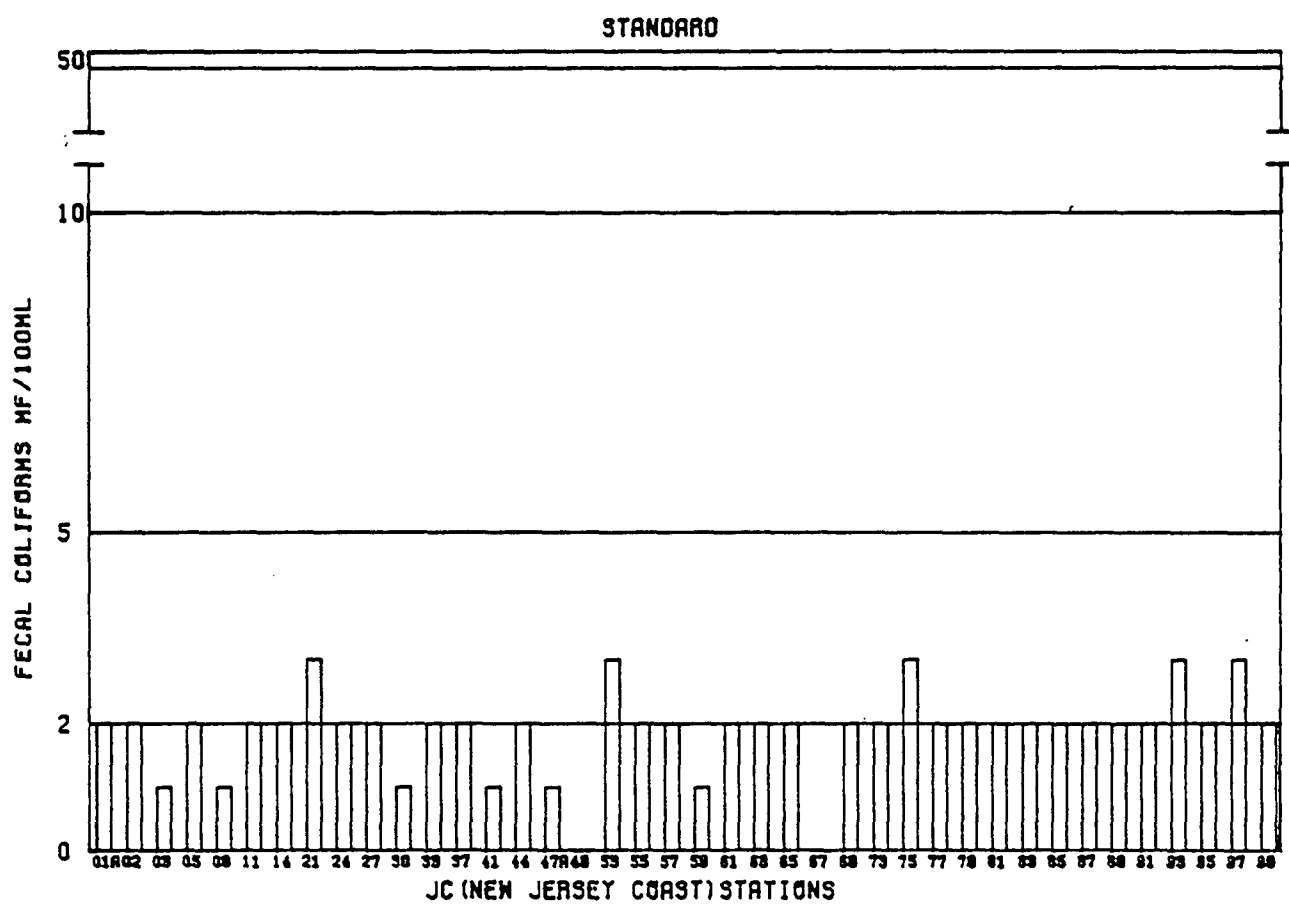


FIGURE 20  
GEOMETRIC MEANS OF FECAL COLIFORM DATA COLLECTED JUNE 1, 1980 TO  
DECEMBER 31, 1980 ALONG THE COAST OF NEW JERSEY.

| <u>Station</u> | <u>Date Sampled</u> | <u>Fecal Coliform<br/>per 100 ml</u> |
|----------------|---------------------|--------------------------------------|
| JC11           | 6/17/80             | 740                                  |
| JC21           | 8/25/80             | 340                                  |
| JC21           | 8/28/80             | 60                                   |
| JC75           | 6/25/80             | 50                                   |

The high value for JC11 on June 17 was apparently attributable to the release of inadequately chlorinated sewage effluent through a break in the Northeast Monmouth County Regional Sewerage Authority's outfall line. The situation was corrected and no further elevated counts were noted. Causes of the other three elevated values are unknown.

The raw bacteriological data collected along the New Jersey coast are appended as Appendix D.

Table 7 presents a summary of the fecal coliform data collected along the coast of Long Island from May through September 1980. Figure 21 shows the geometric mean for the five month period for each station in comparison to the New York State standard. The highest geometric mean occurred at station LIC10, 3.3 fecal coliform per 100 ml of sample. Station LIC10 is located at Point Lookout.

The bacteriological water quality standard for primary contact recreation, which includes bathing, in New York State is: the monthly geometric mean of five or more samples shall not exceed 200 fecal coliform per 100 ml of sample. As with the New Jersey coast bacteriological data, the Long Island coast data are also consistently low, therefore, rather than using five separate monthly geometric means for each station, one geometric mean for a five month period was calculated for each station and compared to the standard. From Figure 21, it is apparent that the standard was not

Table 7

Summary of Bacteriological Data Collected  
Along the Long Island Coast

May 1, 1980 Through September 30, 1980

| <u>Station</u> | <u>Number of Samples<br/>Collected</u> | <u>Maximum Value Fecal<br/>Coliform per 100 ml</u> | <u>Geometric Mean Fecal<br/>Coliform per 100 ml</u> |
|----------------|----------------------------------------|----------------------------------------------------|-----------------------------------------------------|
| LIC01          | 15                                     | 28                                                 | 1.4                                                 |
| LIC02          | 16                                     | 12                                                 | 1.6                                                 |
| LIC03          | 16                                     | 12                                                 | 1.3                                                 |
| LIC04          | 16                                     | 18                                                 | 2.1                                                 |
| LIC05          | 16                                     | 25                                                 | 1.9                                                 |
| LIC07          | 16                                     | 20                                                 | 1.4                                                 |
| LIC08          | 16                                     | 16                                                 | 1.3                                                 |
| LIC09          | 16                                     | 13                                                 | 1.7                                                 |
| LIC10          | 16                                     | 20                                                 | 3.3                                                 |
| LIC12          | 16                                     | 1                                                  | 1.0                                                 |
| LIC13          | 16                                     | 4                                                  | 1.2                                                 |
| LIC14          | 15                                     | 4                                                  | 1.2                                                 |
| LIC15          | 15                                     | 6                                                  | 1.4                                                 |
| LIC16          | 15                                     | 8                                                  | 1.7                                                 |
| LIC17          | 15                                     | 16                                                 | 1.3                                                 |
| LIC18          | 15                                     | 1                                                  | 1.0                                                 |
| LIC19          | 14                                     | 2                                                  | 1.1                                                 |
| LIC20          | 14                                     | 7                                                  | 1.5                                                 |
| LIC21          | 13                                     | 3                                                  | 1.1                                                 |
| LIC22          | 13                                     | 11                                                 | 1.7                                                 |
| LIC23          | 13                                     | 2                                                  | 1.3                                                 |
| LIC24          | 13                                     | 2                                                  | 1.3                                                 |
| LIC25          | 13                                     | 5                                                  | 1.1                                                 |
| LIC26          | 12                                     | 6                                                  | 1.1                                                 |
| LIC27          | 13                                     | 10                                                 | 1.4                                                 |
| LIC28          | 13                                     | 1                                                  | 1.0                                                 |

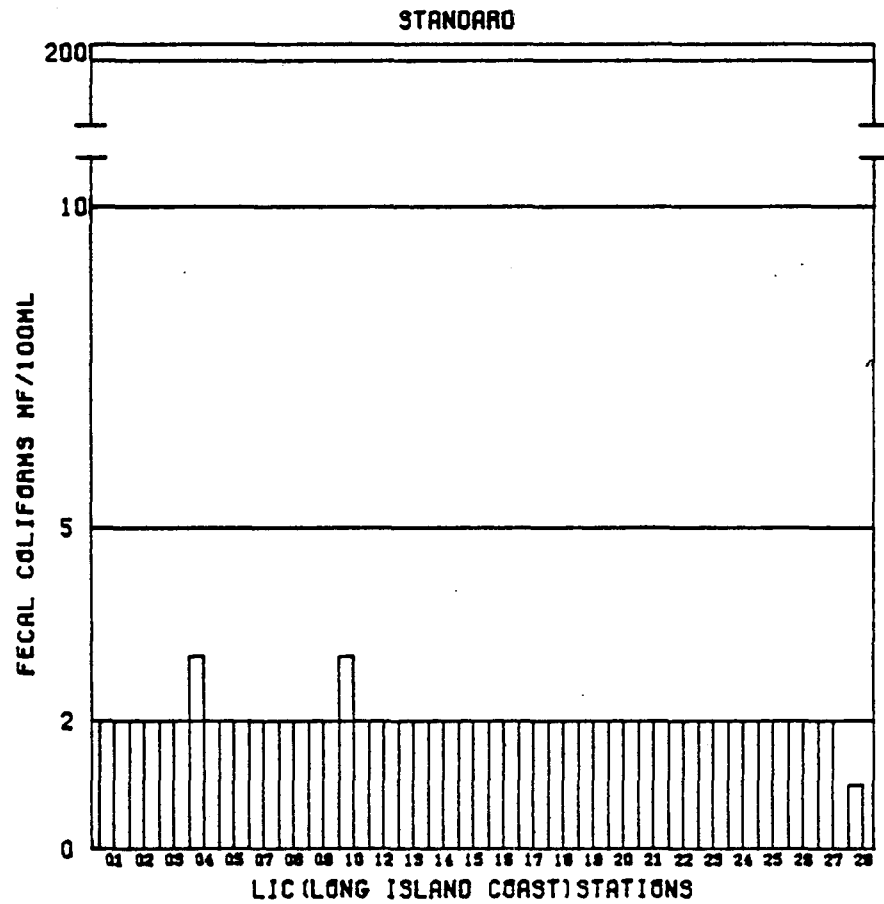


FIGURE 21  
 GEOMETRIC MEANS OF FECAL COLIFORM DATA COLLECTED  
 MAY 1, 1980 TO DECEMBER 31, 1980 ALONG THE  
 COAST OF LONG ISLAND.



approached. Based on bacteriological data alone, the New York State coastal waters along Long Island are of excellent quality.

Over the five months, a total of 381 samples were collected along the coast of Long Island and analyzed for total and fecal coliform bacteria. There were no densities found in excess of the 200 fecal coliform per 100 ml standard. The highest recorded density was 28 fecal coliform bacteria per 100 ml of sample at station LIC01 on July 31, 1980.

The bacteriological data collected from the coastal waters of Long Island from May through September 1980 are appended in Appendix D.

From May through September 1980 a total of 675 samples were collected in the inner New York Bight for total and fecal coliform analysis. The stations sampled in this area were the 20 inner NYB series stations, the LIC09 and LIC14 perpendicular stations, and the JC14 and JC27 perpendicular stations. Of the 675 samples collected, three had fecal coliform bacteria densities in excess of 50 fecal coliform per 100 ml of sample. This represents 0.4 percent of the samples. During the summer of 1978, 3.3 percent of the samples collected in this area had fecal coliform densities in excess of 50 per 100 ml, and during the summer of 1979, 2.3 percent of the samples had fecal coliform densities over 50 per 100 ml. There appears to be a trend toward cleaner inner New York Bight ocean water in regard to fecal coliform densities. The three elevated values found this past summer were:

| <u>Station</u> | <u>Date<br/>Collected</u> | <u>Sample<br/>Depth (feet)</u> | <u>Fecal Coliform per<br/>100 ml of Sample</u> |
|----------------|---------------------------|--------------------------------|------------------------------------------------|
| NYB25          | 7/2/80                    | 076                            | 108                                            |
| NYB32          | 8/4/80                    | 002                            | 84                                             |
| NYB45          | 8/13/80                   | 088                            | 980                                            |

The elevated values at stations NYB25 and NYB45 are probably due to recent disposal of sewage sludge in the area prior to sample collection. The cause of the elevated value at NYB32 is unknown. New York Bight Apex water quality data are appended in Appendix E.

Table 8 presents a summary of the bacteriological data collected during the summer of 1980 along the coasts of Staten Island and Coney Island. The geometric mean for fecal coliforms per 100 ml of sample are plotted in Figure 22. The raw data collected during the summer along Staten Island and Coney Island are appended in Appendix D. Figure 7 shows the locations of the Staten Island and Coney Island stations.

The New York State water quality standard for primary contact recreation is the applicable standard for Staten Island and Coney Island beaches: the monthly geometric mean of five or more samples shall not exceed 200 fecal coliforms per 100 ml of sample. Because few samples collected had fecal coliform densities above the standard, only one geometric mean for the entire summer for each station was calculated and compared to the standard, Figure 22. All of the means were well below the standard. The highest geometric mean occurred at station SI SB, which was 52.6 fecal coliforms per 100 ml.

Through the summer period, 132 samples were collected and analyzed for fecal coliform bacteria along Staten Island and Coney Island. Of these 132 samples, 12 had fecal coliform densities equal to or above the standard. These samples were as follows:

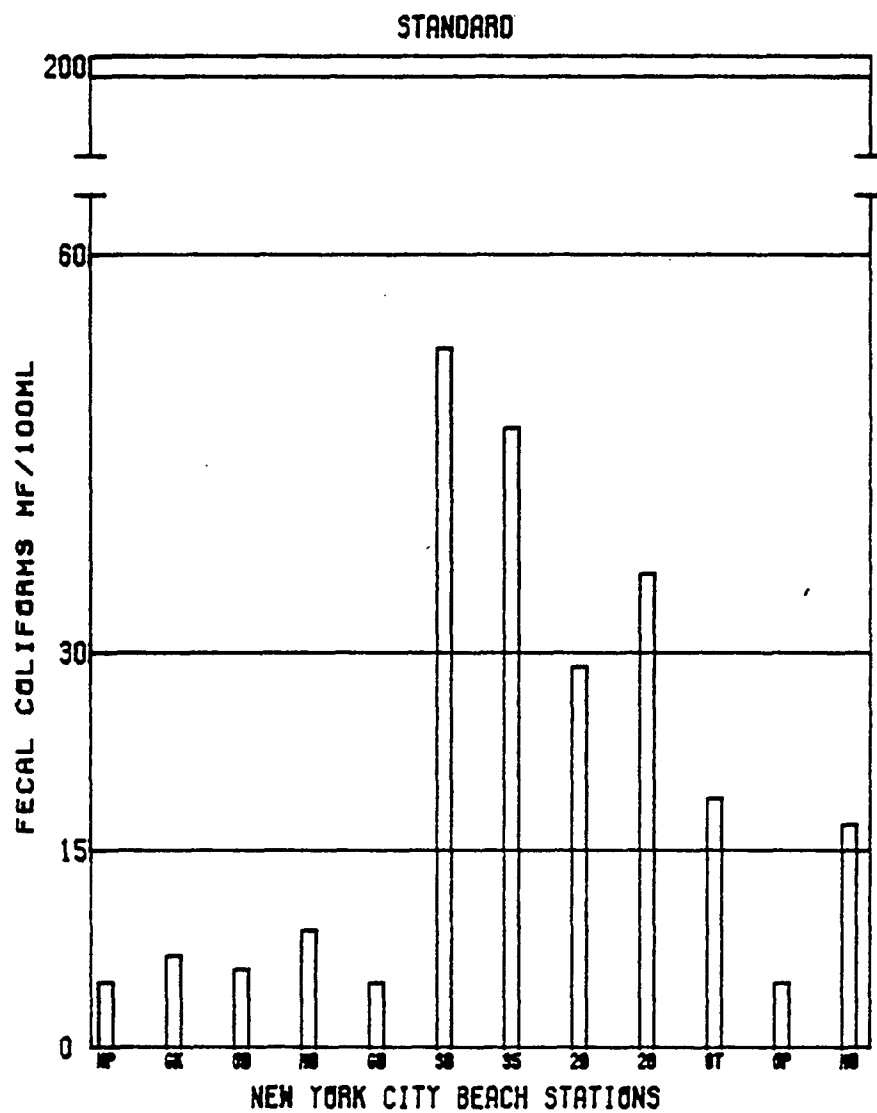


FIGURE 22  
 GEOMETRIC MEANS OF FECAL COLIFORM DATA COLLECTED  
 MAY 1, 1980 TO OCTOBER 31, 1980 ALONG THE  
 COAST OF STATEN ISLAND AND CONEY ISLAND

Table 8

Summary of Bacteriological Data Collected  
Along Coney Island and Staten Island Beaches

June 30, 1980 Through October 2, 1980

| <u>Station</u> | <u>Number of Samples<br/>Collected</u> | <u>Maximum Value Fecal<br/>Coliform per 100 ml</u> | <u>Geometric Mean Fecal<br/>Coliform per 100 ml</u> |
|----------------|----------------------------------------|----------------------------------------------------|-----------------------------------------------------|
| SI SB          | 11                                     | 208                                                | 52.6                                                |
| SI GB          | 11                                     | 136                                                | 4.9                                                 |
| SI MB          | 11                                     | 128                                                | 8.3                                                 |
| SI OB          | 11                                     | 41                                                 | 5.3                                                 |
| SI GK          | 11                                     | 70                                                 | 6.7                                                 |
| SI WP          | 11                                     | 24                                                 | 4.6                                                 |
| NY MB          | 11                                     | 240                                                | 16.5                                                |
| NY OP          | 11                                     | 96                                                 | 4.8                                                 |
| NY 8th         | 11                                     | 520                                                | 18.1                                                |
| NY 20th        | 11                                     | 640                                                | 35.2                                                |
| NY 29th        | 11                                     | 420                                                | 28.2                                                |
| NY 35th        | 11                                     | 640                                                | 46.1                                                |

| <u>Station</u> | <u>Date</u> | <u>Fecal Coliforms</u><br><u>Per 100 ml</u> |
|----------------|-------------|---------------------------------------------|
| SI SB          | 9/10/80     | 208                                         |
| NY MB          | 8/6/80      | 240                                         |
| NY 8th         | 8/6/80      | 440                                         |
| NY 8th         | 8/21/80     | 520                                         |
| NY 8th         | 10/2/80     | 312                                         |
| NY 20th        | 8/6/80      | 640                                         |
| NY 20th        | 9/10/80     | 200                                         |
| NY 20th        | 10/2/80     | 288                                         |
| NY 29th        | 6/30/80     | 220                                         |
| NY 29th        | 8/6/80      | 420                                         |
| NY 35th        | 6/30/80     | 640                                         |
| NY 35th        | 8/6/80      | 480                                         |

The fecal coliform densities above the standard along Staten Island and Coney Island represent 9% of the samples collected compared to only 0.6% above the standard for the New Jersey coast and 0.0% above the standard for the Long Island coast during the same period.

Based on fecal coliform densities, the waters along Staten Island and Coney Island are "safe" for primary contact recreation. However, one must realize that 9% of the samples collected exceeded the standard and that the Staten Island and Coney Island beaches are much more likely to be contaminated with fecal coliform bacteria on any given day than either the New Jersey or Long Island beaches. This likelihood of being contaminated is probably a result of these beaches proximity to the Hudson River which receives large volumes of raw and poorly treated sewage each day.

## VI. NEW YORK BIGHT APEX SEDIMENT

### Heavy Metals in New York Bight Sediments

One of the most environmentally persistent components of sewage sludge is heavy metals. The presence of relatively high concentrations of metals such as cadmium, chromium, copper, lead, mercury, nickel and zinc in the New York Bight sediments is fairly well documented, although the range of concentrations can vary significantly with various reports.

An evaluation of data collected by NOAA (1972), EPA (1974-1980) and NYCDEP (1978-1980) indicated elevated concentrations of heavy metals in the immediate vicinity of the sewage sludge and dredge spoils sites. The NOAA report further shows that there are elevated concentrations of heavy metals in the Hudson canyon although the values decrease with distance from the impacted area. Further, all above-mentioned data sources indicated station number 24 to be the most heavily impacted station. This station is located just to the east of the cellar dirt dump site and to the west of the sludge dump site.

The loadings of heavy metals from sewage sludge to the New York Bight Apex is less than 6 percent of that from other sources (National Advisory Committee on Oceans and Atmosphere, "The Role of the Ocean in a Waste Management Strategy," Washington, D.C., January 1981). As such, the disposal of sewage sludge in the New York Bight Apex is not a dominant source of heavy metals. The disposal of dredge spoils in the New York Bight Apex is reported to contribute up to 80 percent of the heavy metal loadings. This does not include mercury, which comes primarily from municipal wastewater discharges.

In evaluating the available data it appears that:

1. The highest concentration of heavy metals in sediment is in the immediate area of the sewage sludge, cellar dirt and dredge spoils dumpsites. In both EPA and NOAA data, there is no clear trend indicating a migration of metals into areas outside the immediate dumpsite area, except down the Hudson Canyon in a south easterly direction.

2. The data do not reflect a pattern of increasing concentrations of heavy metals over the years.

Figures 22, 23 and 24 illustrate heavy metals concentrations in samples taken from the New York Bight Apex by EPA from 1974-1980. Heavy metals data from the New York Bight EPA sampling stations from 1974-1980 are contained in Appendix F.

#### Toxics in New York Bight Sediment

A study done by NOAA in September 1973 in the New York Bight Apex showed elevated levels of PCB at stations adjacent to the sewage sludge dumpsite, and the highest concentration (1500 ppb total PCB) was in the sample taken from the sludge dumpsite. The same study showed similar results for DDT and its metabolites in sediment. The sewage sludge dumpsite sample had a concentration of 120 ppb DDT and its metabolites; adjacent stations showed concentrations ranging from .05 ppb-9.0 ppb DDT and its metabolites. This study concluded that, while sediments close to the Hudson-Raritan outflow contain organics that are rich in PCB's, the high organic inputs at the sewage sludge dumpsite are the major input of PCB's and DDT's to the Bight Apex. The 1980 EPA samples of the sewage sludge dumpsite (NYB 26) sediment showed a total PCB concentration of

1380 ppb. A sample from Station NYB 24, midway between the sludge and dredge spoils dumpsites had a concentration of 5060 ppb total PCB as well as a DDT and metabolite concentration of 187 ppb. No other DDT or PCB were detected in any other samples in the New York Bight Apex.

Table 9 lists the toxics data from samples taken by EPA in May and August, 1980. High levels of phthalates, a plasticizer typically found in environmental sediment samples, were found. Concentrations were higher at stations at and near the sludge and dredge spoils dumpsites than at other stations. Polynuclear aromatics were found in 0.4 to 1300 ppb range, the higher concentrations found at stations NYB 23 (dredge spoils dumpsite), NYB 26 (sludge dumpsite) and stations immediately adjacent to those sites. NYB 40-42, NYB 20, 21, 25, 27 and NYB 32, 33, were relatively clean, with toxic concentrations, other than phthalates, low to zero.



Table 9

**Toxics in New York Bight Sediment, Summer 1980**

[illegible]

Table 9 continued

## Toxics in New York Bight Sediment, Summer 1980

|                            | NYB34  | NYB35    | NYB40   | NYB41 | NYB42 | NYB43 | NYB44   | NYB45   | NYB 46 | NYB47 |
|----------------------------|--------|----------|---------|-------|-------|-------|---------|---------|--------|-------|
| bis(2-ethylhexyl) phthal.  | 68.00  | 16000.00 | 99.00   |       | 81.00 | 71.00 | 4200.00 | 9500.00 | 99.00  |       |
| butyl benzyl phthalate     |        |          | 2200.00 |       |       |       | 1900.00 | 1400.00 |        |       |
| di-N-butylphthalate        | 89.00  | 740.00   | 180.00  |       |       | 30.00 | 170.00  | 230.00  | 110.00 |       |
| benzene                    | 0.10   |          | 0.40    |       |       |       | 0.40    | 0.30    | 0.40   | 0.20  |
| carbon tetrachloride       |        | 0.70     | 0.30    |       |       |       | 2.30    | 12.00   |        |       |
| methylene chloride         | 0.20   |          | 0.60    | 0.60  |       | 1.10  | 1.90    | 4.30    | 0.90   |       |
| toluene                    |        | 1.50     | 0.60    |       |       | 1.90  | 120.00  | 6.80    |        |       |
| chloroform                 |        | 0.40     |         | 0.50  |       |       |         |         |        |       |
| phenol                     |        | 41.00    |         |       |       | 49.00 |         | 76.00   |        |       |
| fluoranthene               | 430.00 | 570.00   |         |       |       | 69.00 | 260.00  | 87.00   |        |       |
| diethyl phthalate          |        | 75.00    |         |       |       | 27.00 | 45.00   |         |        |       |
| pyrene                     | 340.00 | 510.00   |         |       |       | 67.00 | 200.00  |         |        |       |
| ethylbenzene               |        |          |         |       |       | 0.30  | 4.90    | 1.20    |        |       |
| trichloroethylene          |        | 9.80     |         |       |       | 1.10  | 0.50    | 0.90    |        |       |
| naphthalene                |        |          |         |       |       |       | 54.00   |         |        |       |
| 1,2-benzanthracene         | 180.00 |          |         |       |       |       | 100.00  | 26.00   |        |       |
| 3,4-benzofluoranthene      |        |          |         |       |       |       | 120.00  |         |        |       |
| 11,12-benzofluoranthene    |        |          |         |       |       |       | 130.00  |         |        |       |
| chrysene                   | 170.00 |          |         |       |       |       | 130.00  | 38.00   |        |       |
| anthracene                 | 160.00 | 140.00   |         |       |       |       | 45.00   |         |        |       |
| phenanthrene               | 370.00 | 460.00   |         |       |       |       | 260.00  | 39.00   |        |       |
| 1,1,1-trichloroethane      |        | 0.60     |         |       |       |       | 0.40    | 1.00    |        |       |
| di-N-octyl phthalate       |        |          |         |       |       |       |         |         |        |       |
| benzo A pyrene             | 140.00 |          |         |       |       |       |         |         |        |       |
| acenaphthene               | 16.00  |          |         |       |       |       |         |         |        |       |
| 1,3-dichlorobenzene        |        |          |         |       |       |       |         |         |        |       |
| 1,4-dichlorobenzene        |        |          |         |       |       |       |         |         |        |       |
| isophorone                 |        |          |         |       |       |       |         |         |        |       |
| acenaphthylene             |        |          |         |       |       |       |         |         |        |       |
| fluorene                   |        |          |         |       |       |       |         |         |        |       |
| chlorobenzene              |        |          |         |       |       |       |         |         |        |       |
| 1,2-dichloropropane        |        |          |         |       |       |       |         |         |        |       |
| 1,2,4-trichlorobenzene     |        |          |         |       |       |       |         |         |        |       |
| 1,2-dichlorobenzene        |        |          |         |       |       |       |         |         |        |       |
| 4,4'DDE                    |        |          |         |       |       |       |         |         |        |       |
| 4,4'DDD                    |        |          |         |       |       |       |         |         |        |       |
| PCB-1242                   |        |          |         |       |       |       |         |         |        |       |
| PCB-1260                   |        |          |         |       |       |       |         |         |        |       |
| 1,2-trans dichloroethylene |        |          |         |       |       |       |         |         |        |       |
| 1,12-benzoperylene         | 62.00  |          |         |       |       |       |         |         |        |       |
| Ideno(1,2,3-C,D) pyrene    | 64.00  |          |         |       |       |       |         |         |        |       |

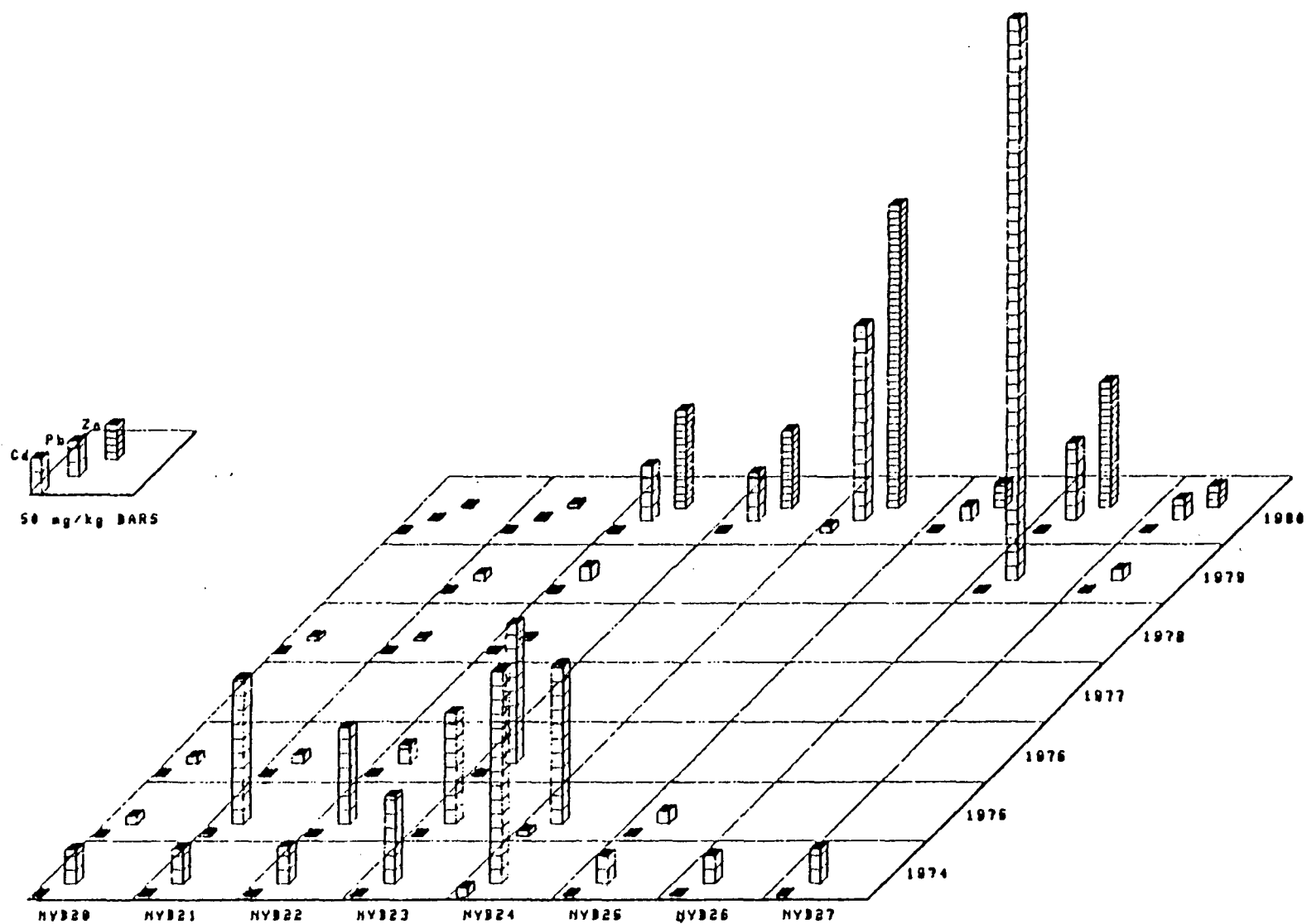


FIGURE 23  
HEAVY METALS IN NEW YORK BIGHT SEDIMENT,  
STATIONS 20-27.

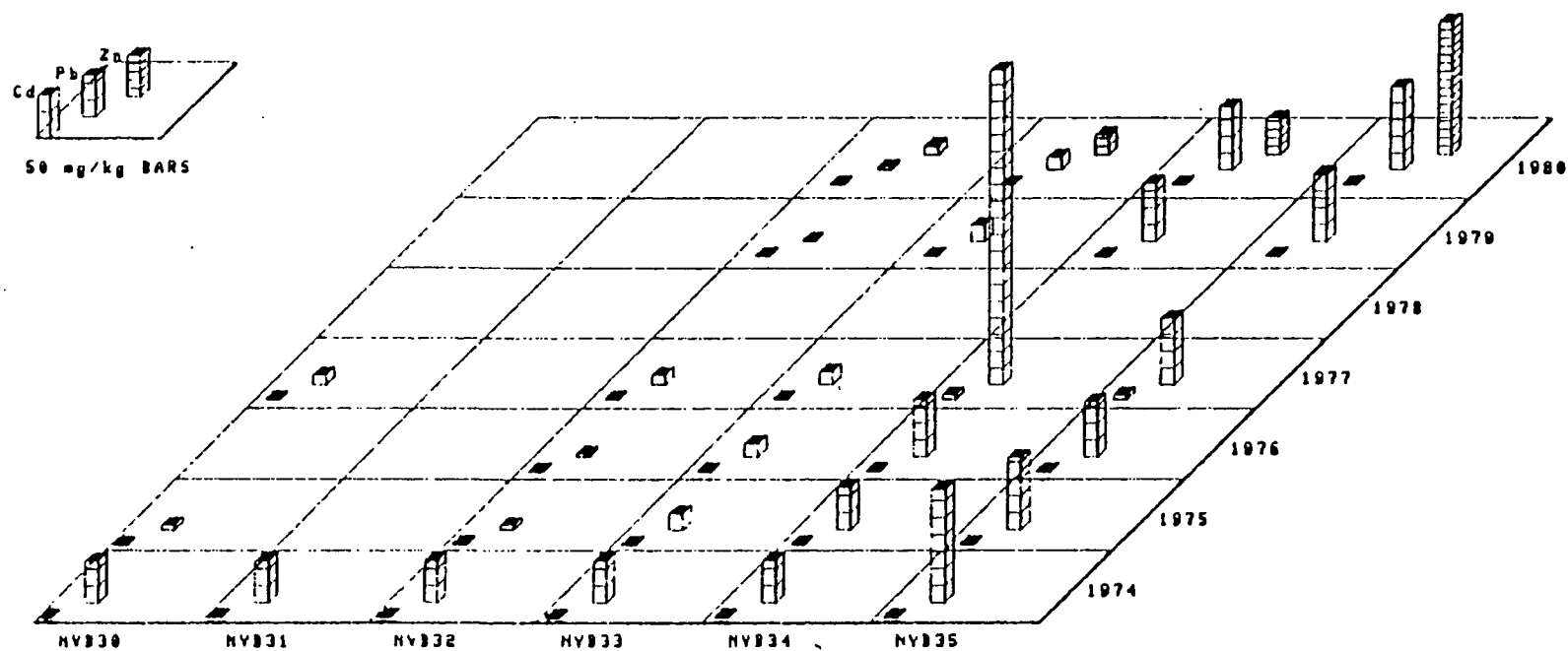


FIGURE 24  
HEAVY METALS IN NEW YORK BIGHT SEDIMENT,  
STATIONS 30-35.

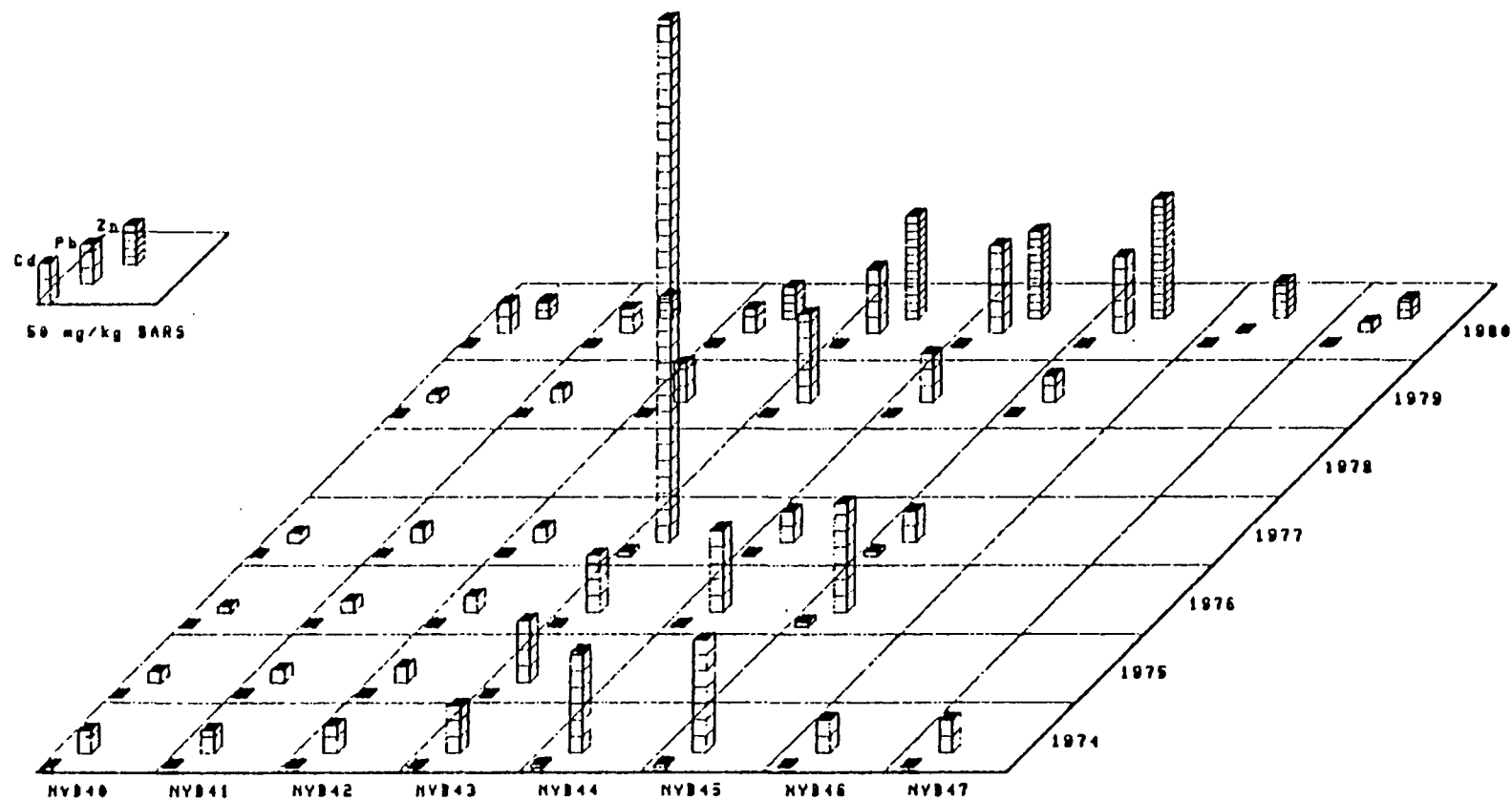


FIGURE 25  
HEAVY METALS IN NEW YORK BIGHT SEDIMENT,  
STATIONS 40-47.

## VII. ENVIRONMENTAL EPISODES

### Newark Bay

On July 2, 1980, Region II was notified of an extremely offensive odor emanating from Newark Bay. This problem was found to be associated with the diversion of primary treated chlorinated sewage effluent into Newark Bay by the Passaic Valley Sewerage Commission (PVSC) treatment facilities. The diversion was required by the PVSC in order to complete the construction of new outlet facilities and to repair the existing land portion of the outfall to the Upper New York Harbor.

On July 3, a meeting was held with the New Jersey Department of Environmental Protection (NJDEP) and the PVSC to ensure that immediate action was taken to help mitigate the situation, and EPA began a monitoring program to assess the impact of the diversion on the Newark Bay water quality. The EPA helicopter was used to collect water samples from 20 stations in Newark Bay, the Hackensack and Passaic Rivers at the north end of the bay, and the Kill Van Kull and the Arthur Kill at the south end of the bay (Table 10 and Figure 26). Samples were collected at low slack tide and transported back to the Edison lab for analysis for dissolved oxygen and sulfide.

Throughout the month of July, dissolved oxygen levels were found to be zero or near zero for both surface and deep samples (Figures 27 and 28). The area around the PVSC outfall was particularly offensive, with sulfide levels reaching 8 mg/l on July 30 (Figures 29 and 30).

Table 10

## Newark Bay Sampling Locations

| <u>Station No.</u> | <u>Location</u>                                                    |
|--------------------|--------------------------------------------------------------------|
| EWB1               | Passaic River, approximately 1/2 mile from mouth                   |
| EWB2               | Hackensack River, approximately 1/2 mile from mouth                |
| EWB3               | Mouth of Passaic River                                             |
| EWB4               | Mouth of Hackensack River                                          |
| EWB5               | Passaic Valley Sewage Outfall                                      |
| EWB6               | Approximately 600 yards south of outfall                           |
| EWB7               | Off Roosevelt Marina                                               |
| EWB8               | Bouy RN"2"                                                         |
| EWB9               | Bay just south of Roosevelt Stadium                                |
| EWB10              | West side of Newark Bay, at Turnpike Extension Bridge              |
| EWB11              | Center of Newark Bay, at Turnpike Extension Bridge                 |
| EWB12              | East side of Newark Bay, at Turnpike Extension Bridge              |
| EWB13              | At mouth of Elizabeth Channel                                      |
| EWB14              | East side of Bay, off small stadium                                |
| EWB15              | Elizabeth Pier, west side of Newark Bay                            |
| EWB16              | Middle of Newark Bay, at Elizabeth Pier                            |
| EWB17              | East side of Newark Bay, across from Elizabeth Pier                |
| EWB18              | South end of Newark Bay (center) at railroad bridge                |
| EWB19              | Mouth of Newark Bay, west side, at entrance to Elizabethport Reach |
| EWB20              | Mouth of Newark Bay, east side, at entrance to Kill Van Kull       |
| EWB21              | Kill Van Kull                                                      |
| EWB22              | Kill Van Kull, east end, off cement pilings                        |

These conditions persisted for approximately one month until August 15, when diversion was discontinued and normal treatment facility operating conditions were restored. Samples collected after this date showed a steady rise in dissolved oxygen, with recovery being more dramatic in the southern portion of the bay, due to the diluting effect of tides and distance from the PVSC outfall. Although dissolved oxygen levels continue to rise, the impact of the <sup>dis</sup>position of solids across the bay will have to be assessed. Appendix G contains the dissolved oxygen and sulfide data for the Newark Bay stations as well as a more detailed account of the Newark Bay episode.



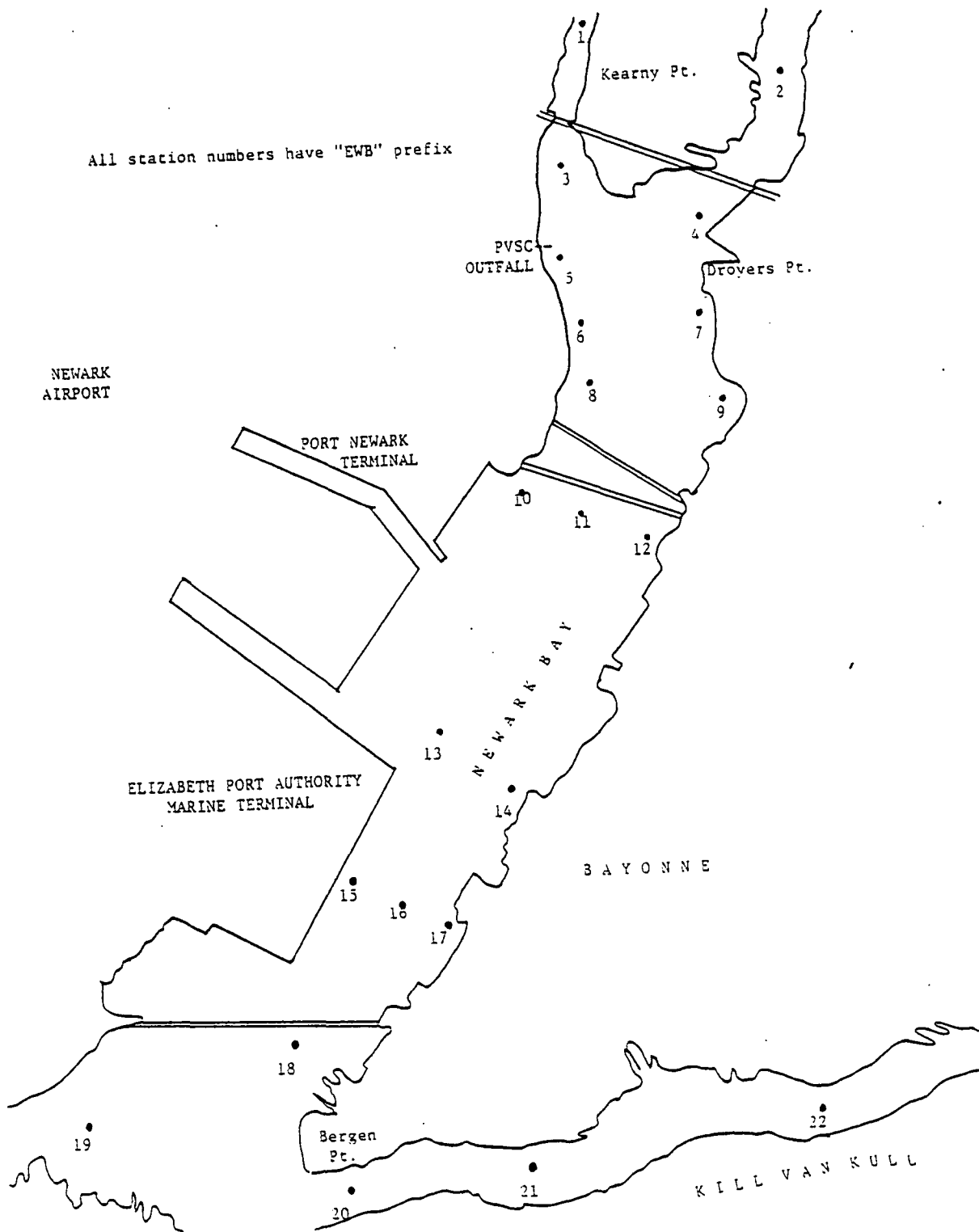
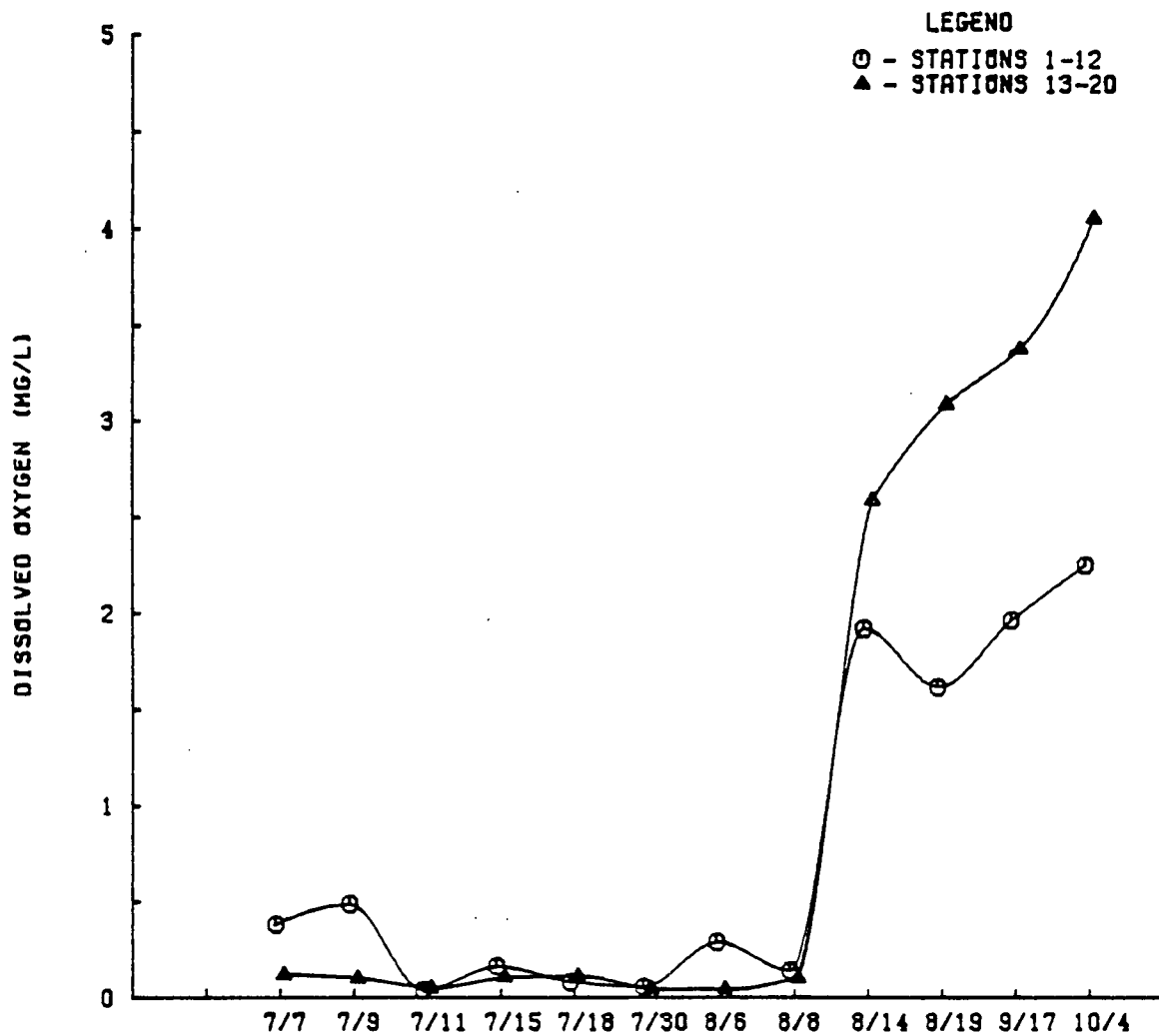


FIGURE 26  
NEWARK BAY SAMPLING STATION LOCATIONS



**FIGURE 27**  
 NEWARK BAY AVERAGES OF DISSOLVED OXYGEN FOR NORTHERN  
 STATIONS (ENB 1-12) AND SOUTHERN STATIONS (ENB 13-20) SURFACE SAMPLES

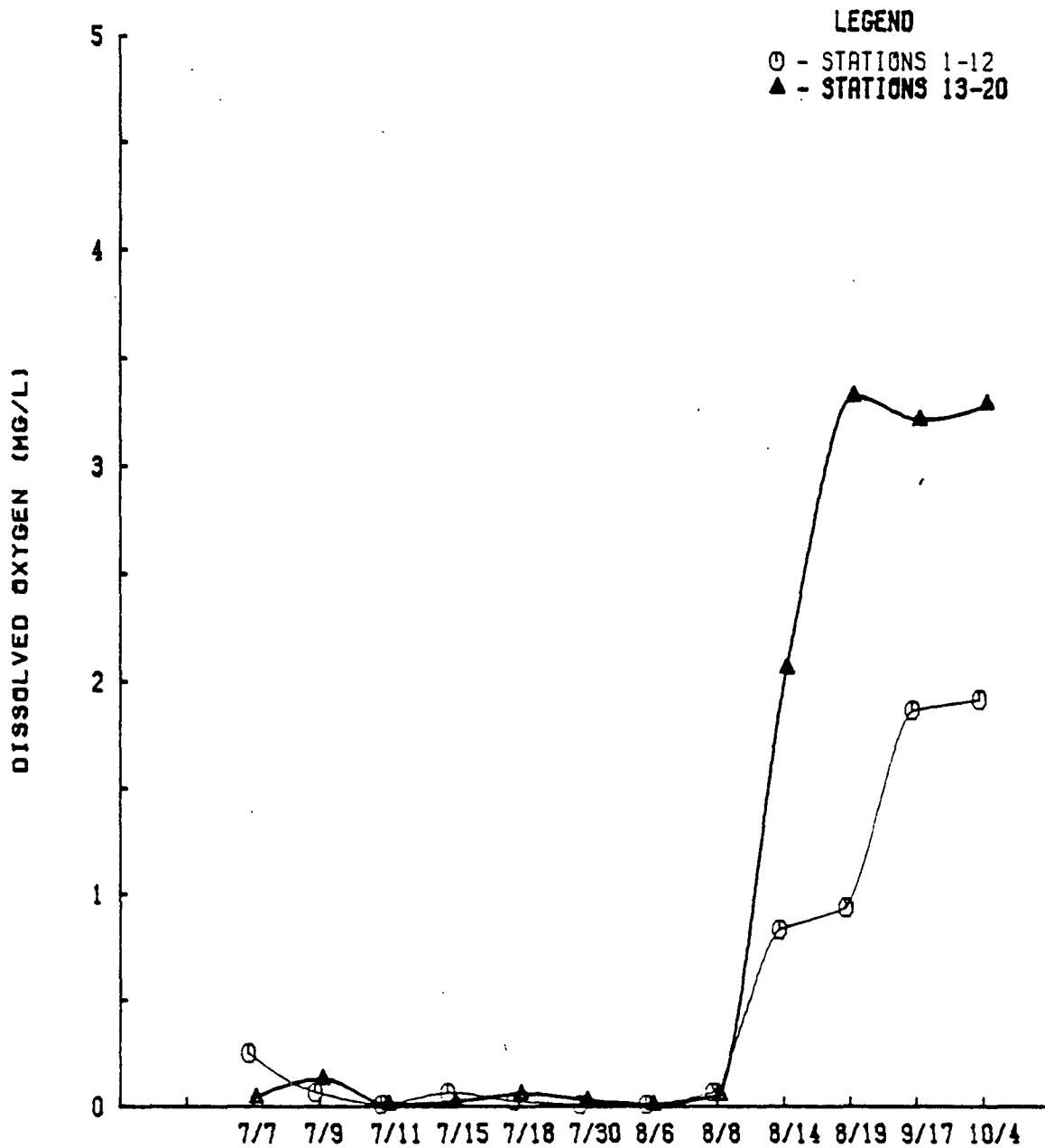


FIGURE 28

NEMARK BAY AVERAGES OF DISSOLVED OXYGEN FOR NORTHERN STATIONS (ENB 1-12) AND SOUTHERN STATIONS (ENB 13-20) DEEP SAMPLES.

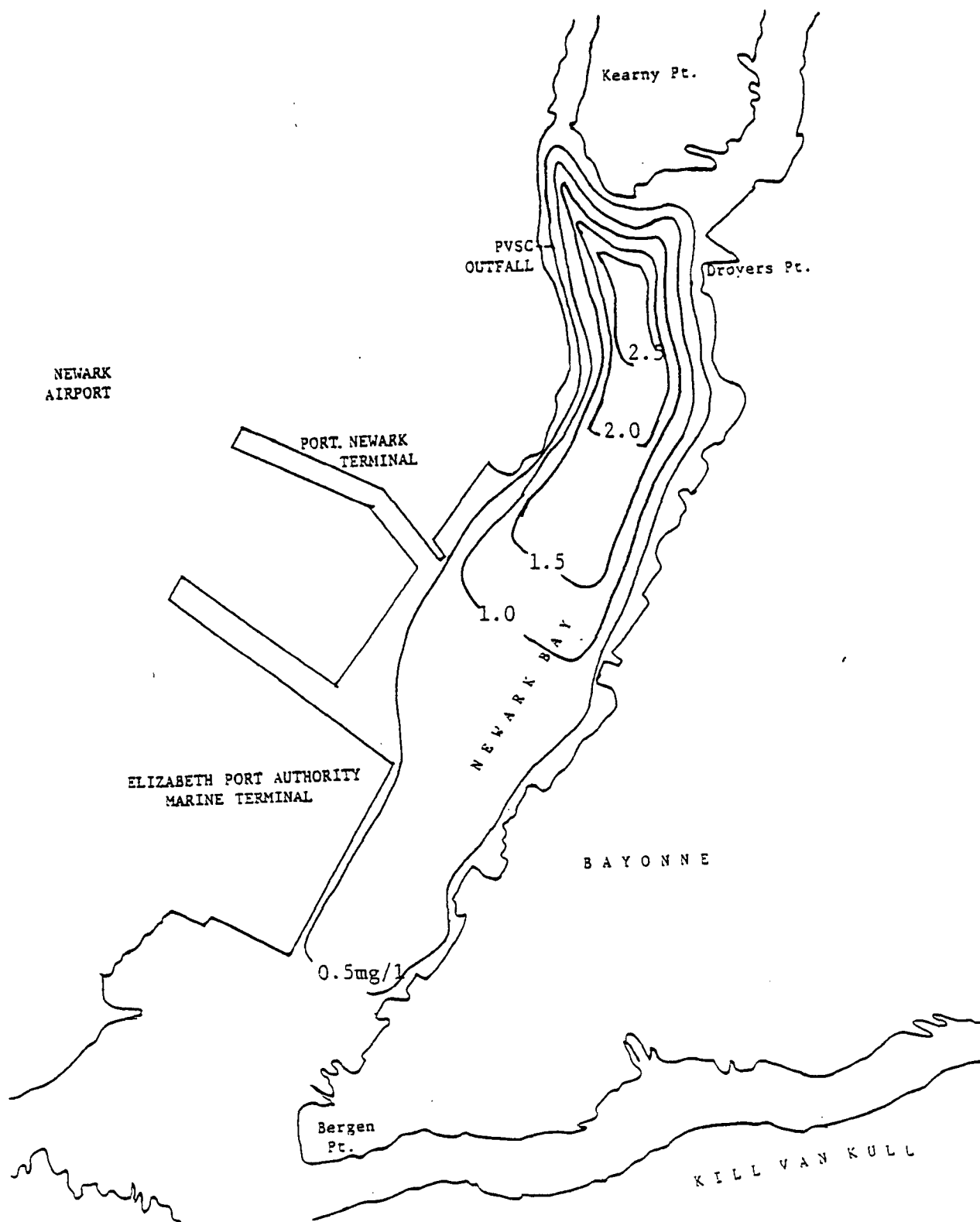


FIGURE 29  
NEWARK BAY LOW SLACK TIDE, JULY 30, 1980. TOTAL SULFIDE, SHALLOW SAMPLE

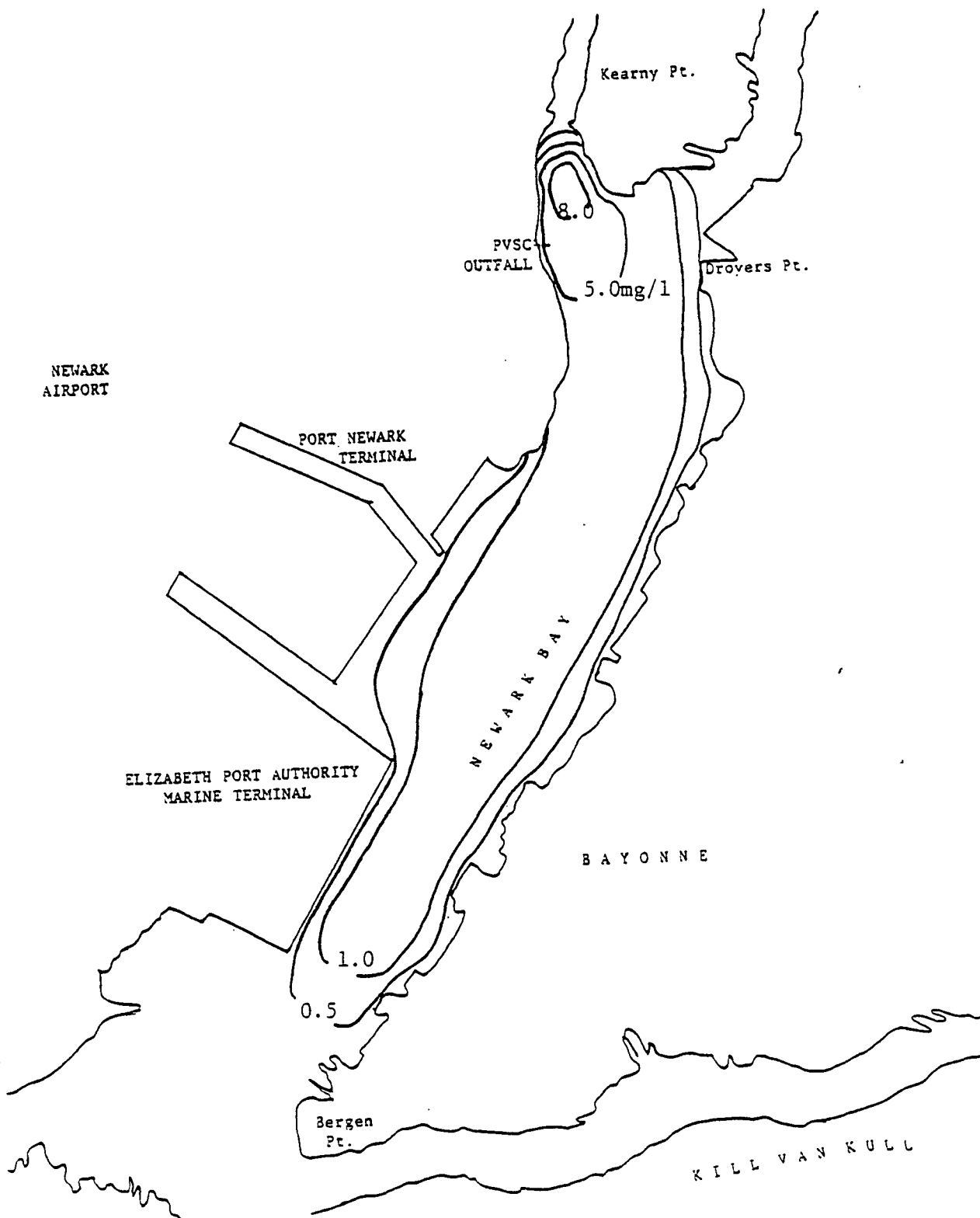


FIGURE 30  
NEWARK BAY LOW SLACK TIDE, JULY 30, 1980. TOTAL SULFIDE, DEEP SAMPLE

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## APPENDIX A

### Summary of Phytoplankton Dynamics and Bloom Incidence in New Jersey Coastal Waters Summer 1980

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N.J. Department of Environmental  
Protection  
Division of Water Resources  
Bureau of Monitoring and  
Data Management

## I. INTRODUCTION

This report is a continuation of the efforts of the Department of Environmental Protection to monitor the occurrence of red tides, and to assess their causes and effects in New Jersey's northern coastal area. This survey is conducted in cooperation with the US Environmental Protection Agency, Region II, Surveillance Unit. It was initiated in 1974 in cooperation with the National Marine Fisheries Service, Sandy Hook Laboratory, to obtain information on the development of blooms and on seasonal phytoplankton composition in these waters. The cooperative role changed in 1977 with the advent of EPA's New York Bight helicopter monitoring program. The history of our survey, and of bloom occurrence, is discussed in detail in the respective report for 1979. In 1980 the EPA assumed the primary role in field collection, with routine sampling by helicopter. The present report summarizes, for the summer of 1980, the phytoplankton dynamics observed as part of this ongoing program.



## II. FIELD and LABORATORY METHODS

Field collections were made by personnel of the EPA, Edison (N.J.) Laboratories. Phytoplankton samples were collected by helicopter on a routine weekly basis from eight stations, ranging from Sandy Hook peninsula (bay and ocean side) to south of Manasquan Inlet. Routine sampling stations corresponded to the following EPA stations: RB13, NYB20, NYB22, JC05, JC11, JC21, JC30, and JC37. Additional samples were taken whenever and wherever an apparent bloom was observed. Routine samples were collected about 50 meters from shore along the surf zone, one meter below the surface, using a one liter Kemmerer sampler. Samples were immediately transferred to one liter plastic cube containers, and preserved with Lugol's Iodine at one drop per 100 ml.

Procedures for quantitative analysis of samples, prior to June, 1980, were given in the 1979 report. Analysis of nutrients and other parameters was performed by the EPA, Edison Laboratories. Phytoplankton samples collected after June, 1980, were analyzed as follows, based on accepted procedures.

Preserved samples in cube containers were resuspended. Aliquots were removed and applied to a Palmer-Maloney counting slide. Preliminary phytoplankton analysis was performed by thoroughly scanning the slide at 180X. The high-dry (400X) objective and phase contrast were employed when necessary to facilitate cell identification. Differential cell counts were performed by recharging the slide with two separate successive aliquots from the same sample, and viewing them under the high-

dry objective. For each aliquot, ten random, non-overlapping fields on each of four equidistant vertical transects were counted. This resulted in a total of 80 fields counted per sample, 40 in each aliquot. Results were expressed as cells per ml., based on the appropriate lens-microscope calibration factor. Cells as small as 5 $\mu$  were identified to species where possible. Cells smaller than 5 $\mu$  were generally coccoid members of the Chlorophyceae, for which definitive study is needed, since they constitute a major portion of the phytoplankton biomass here.

### III. RESULTS AND DISCUSSION

Samples collected between June and August, 1980, contained small centric diatoms, which were difficult to identify due to their minute cell size (7-10 $\mu$ ). From what could be discerned, these cells fit the description of Thalassiosira nordenskioldii in Lebour (1930) and were identified as such. When observed under the high-dry objective, however, some of these cells displayed an indistinct concavity in the center of the valvular surface. This feature was observed on Cyclotella caspia in Campbell (1973), and both Thalassiosira condensata and Schröderella schroderi as described by Lebour. Since it was impossible to confirm the presence of this structure on the cells in our samples, we based our identification only on readily discernible features.

Our identification of Nannochloris sp. and Chlorella sp. was based upon descriptions provided by Butcher (1952). The Nannochloris cells we observed appeared to be N. atomus. Speciation of Chlorella was not possible in the present study. Some Chlorella may have been Nannochloris maculatus, which closely resembled the larger Chlorella cells.

Olisthodiscus sp., normally a prominent member of the phytoplankton here, may not be completely quantified in the June-August portion of this report. In preserved samples cells are normally distorted or ruptured and may not be recognized. Live material is not available in the present study.

Major species succession and relative abundance is summarized in Table I. Phytoplankton data from routine sampling is presented in Appendix 'a'. Average nutrient concentrations for the routine stations are given in Appendix 'b'. Background information and related studies are discussed in the 1979 report.

In 1980, no major red tides were detected. The succession of dominant species was modified from that of previous years. Diatoms were dominant in late spring (Asterionella glacialis) and again in late summer (Skeletonema costatum and Thalassiosira nordenskioldii). Although blooms were observed in the Sandy Hook vicinity, the spring abundance of A. japonica showed some neritic influence, being dominant over a wider area than the summer species. In 1980, a bloom of the flagellate, Chroomonas sp., occurred in late spring in Sandy Hook Bay. Detection of isolated blooms such as this may be partially due to differences in the sampling scheme between 1979 and 1980. Species widely dominant in 1979, but apparently not in 1980, were Cyclotella caspia (a diatom) and Katodinium rotundatum (a dinoflagellate). Blooms of Olisthodiscus luteus, in recent years the most prevalent red tide species, occurred somewhat later, and were less intense and less extensive than in 1979. Similarly, Nannochloris atomus, normally the most numerically dominant phytoplankter here, bloomed from Sandy Hook to Manasquan; whereas, in 1980, blooms were centered primarily around Sandy Hook.

Urban hypertrophication as well as hydrographic and meteorological conditions have contributed to phytoplankton growth in these waters in recent years. However, in 1980 it was possible that alteration in the man-induced factor, such as the diversion from the estuary of a major sewerage discharge, limited normal bloom development.

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TABLE I

Major phytoplankton species found in the 1980 NJDEP survey. Those seasonally dominant (+) often approached cell densities of  $10^4$ /ml; while those abundant (-) appeared frequently, but in lower numbers. The numerically preponderant chlorophytes, because of their minute cell size (<5 $\mu$ ), attained dominance only when they approached  $10^5$  cells/ml. Blooms (\*) occurred when cell concentrations of a dominant species at some point exceeded  $10^4$ /ml ( $10^5$  for chlorophytes).

| Season           | Species                       | Sampling Location |      |       |       |      |      |      |      |
|------------------|-------------------------------|-------------------|------|-------|-------|------|------|------|------|
|                  |                               | RB13              | JC05 | NYB20 | NYB22 | JC11 | JC21 | JC30 | JC37 |
| Inter<br>spring  | diatoms                       |                   |      |       |       |      |      |      |      |
|                  | <u>Asterionella glacialis</u> | *                 | *    | -     | +     | +    | +    | +    |      |
|                  | <u>Cerataulina pelagica</u>   | -                 | -    | -     | -     |      |      |      | -    |
|                  | <u>Cyclotella caspia</u>      | +                 |      |       |       | -    |      |      |      |
| Spring<br>summer | <u>Skeletonema costatum</u>   | +                 |      | -     | -     | -    |      |      | -    |
|                  | dinoflagellates               |                   |      |       |       |      |      |      |      |
|                  | <u>Prorocentrum minimum</u>   |                   | -    |       |       | -    | -    |      |      |
|                  | <u>Gymnodinium</u> sp.        | +                 | -    |       |       |      |      |      |      |
| Summer           | <u>Katodinium rotundatum</u>  | +                 | -    |       | -     |      |      |      |      |
|                  | other phytoflagellates        |                   |      |       |       |      |      |      |      |
|                  | <u>Chroomonas</u> sp.         | *                 | -    |       | -     | -    |      |      |      |
|                  | <u>Olisthodiscus luteus</u>   | -                 |      |       | -     | -    |      |      |      |
|                  | <u>Rhodomonas minuta</u>      | -                 | -    | -     | -     |      |      |      |      |
|                  | <u>Calycomonas ovalis</u>     | -                 |      | -     |       |      |      |      |      |
|                  | chlorophytes                  |                   |      |       |       |      |      |      |      |
|                  | <u>Nannochloris</u> sp.       | +                 | +    | +     | +     | +    | -    |      | -    |
|                  | <u>Nannochloris</u> sp.       | *                 | *    | +     | +     | +    | -    | -    |      |
|                  | dinoflagellates               |                   |      |       |       |      |      |      |      |
|                  | <u>Prorocentrum</u> sp.       |                   | +    |       |       |      |      |      |      |
|                  | <u>P. micans</u>              |                   | -    |       | -     |      |      |      |      |
| Summer<br>turn   | <u>Peridinium trochoideum</u> |                   | -    |       | -     |      | -    |      | -    |
|                  | other phytoflagellates        |                   |      |       |       |      |      |      |      |
|                  | <u>Olisthodiscus luteus</u>   | *                 | *    | -     | -     |      |      |      |      |
|                  | <u>Eutreptia viridis</u>      | -                 | +    |       |       |      |      |      |      |
|                  | <u>Pyramimonas</u> sp.        | -                 | -    |       |       |      |      |      |      |
|                  | <u>Chroomonas</u> sp.         |                   | -    | +     | -     |      |      |      |      |
|                  | <u>Calycomonas gracilis</u>   | -                 | -    | -     |       |      |      |      |      |
|                  | diatoms                       |                   |      |       |       |      |      |      |      |
|                  | <u>Skeletonema costatum</u>   | +                 | +    | +     | *     | +    |      |      | -    |
|                  | <u>Thalassiosira gravida</u>  |                   |      | -     | -     |      |      |      |      |
|                  | <u>T. nordenskioldii</u>      | *                 | -    | +     | +     |      |      | -    |      |
|                  | <u>Chaetoceros</u> sp.        | +                 | -    | -     |       |      |      | -    |      |
| Summer<br>turn   | <u>Biddulphia obtusa</u>      |                   | -    |       |       | -    |      |      |      |
|                  | <u>Leptocylindrus danicus</u> |                   | -    |       | -     |      |      |      | -    |
|                  | <u>Cerataulina pelagica</u>   |                   |      | -     | -     |      |      |      | -    |

APPENDIX 'a'

Routine Count data  
from the 1980 NJDEP Survey

## NJDEP

## PHYTOPLANKTON SURVEY

Count Data (cells/ml.)

Date: May 27, 1980

| SPECIES                          | Sampling Location |           |              |             |      |  |  |  |
|----------------------------------|-------------------|-----------|--------------|-------------|------|--|--|--|
|                                  | SB15              | X<br>JC05 | mile<br>JC11 | off<br>JC21 | JC30 |  |  |  |
| diatoms                          |                   |           |              |             |      |  |  |  |
| <u>Cyclotella</u> sp.            | 400               |           | 400          |             |      |  |  |  |
| <u>Cerataulina pelagica</u>      | 400               | 1100      |              |             |      |  |  |  |
| <u>Biddulphia</u> sp.            |                   |           |              | 400         |      |  |  |  |
| <u>Asterionella glacialis</u>    | 9200              | 15000     | 5500         | 5500        | 3700 |  |  |  |
| <u>Phaeodactylum tricornutum</u> |                   | 400       |              |             |      |  |  |  |
| dinoflagellates                  |                   |           |              |             |      |  |  |  |
| <u>Prorocentrum minimum</u>      |                   | 400       | 400          | 400         |      |  |  |  |
| <u>Dinophysis acuminata</u>      | 400               | 400       |              |             |      |  |  |  |
| <u>D. acuta</u>                  | 400               |           |              |             |      |  |  |  |
| <u>Gymnodinium</u> sp.           | 700               | 400       |              |             |      |  |  |  |
| <u>Katodinium rotundatum</u>     | 2600              |           |              |             |      |  |  |  |
| <u>Heterocapsa triquetra</u>     | 400               |           |              |             | 400  |  |  |  |
| <u>Ceratium lineatum</u>         | 400               |           |              |             |      |  |  |  |
| other phytoflagellates (?)       | 4000              | 1800      | 1800         |             |      |  |  |  |
| <u>Olisthodiscus luteus</u>      | 700               | 400       |              |             | 400  |  |  |  |
| <u>Chrysochromulina</u> sp.      | 400               |           |              |             |      |  |  |  |
| <u>Pyramimonas</u> sp.           | 400               |           |              |             |      |  |  |  |
| <u>Bipedinomomas</u> sp.         | 400               |           |              |             |      |  |  |  |
| <u>Euglena</u> sp.               | 400               |           |              |             |      |  |  |  |
| <u>Chroomonas</u> sp. (?)        | 73000             | 1100      |              |             |      |  |  |  |
| chlorophytes                     |                   |           |              |             |      |  |  |  |
| <u>Nannochloris</u> sp.          | -                 | 58000     | 30000        | 30000       |      |  |  |  |
| <u>Dunaliella</u> sp.            | 400               |           |              |             |      |  |  |  |
|                                  |                   |           | 80           |             |      |  |  |  |



## NJDEP

## PHYTOPLANKTON SURVEY

Count Data (cells/ml.)

Date: June 25, 1980

| SPECIES                             | Sampling Location |       |       |       |      |       |      |       |
|-------------------------------------|-------------------|-------|-------|-------|------|-------|------|-------|
|                                     | RB13              | JC05  | NYB20 | NYB22 | JC11 | JC21  | JC30 | JC37  |
| diatoms                             |                   |       |       |       |      |       |      |       |
| <u>Skeletonema costatum</u>         | 3700              |       | 1100  | 700   |      |       |      |       |
| <u>Cyclotella caspia</u>            | 3000              |       |       |       | 700  |       |      |       |
| <u>Thalassiosira nordenskioldii</u> |                   |       |       | 1800  |      |       |      |       |
| <u>Cerataulina pelagica</u>         | 700               | 1100  | 1100  | 2200  |      | 400   |      |       |
| <u>Asterionella glacialis</u>       | 1800              | 7400  | 1100  | 2600  |      | 400   |      |       |
| dinoflagellates                     |                   |       |       |       |      |       |      |       |
| <u>Prorocentrum minimum</u>         |                   |       |       |       |      | 400   |      |       |
| <u>Dinophysis acuminata</u>         |                   |       |       |       |      |       |      | 400   |
| <u>Gymnodinium amplinucleum</u>     | 3300              | 400   |       |       |      |       | 400  |       |
| <u>G. danicans</u>                  |                   |       | 400   |       |      |       |      |       |
| <u>G. lazulum</u>                   |                   | 400   |       | 400   |      |       |      |       |
| <u>Gyrodinium spirale</u>           |                   |       | 400   |       |      |       |      |       |
| <u>Katodinium rotundatum</u>        | 1100              |       |       | 1800  |      |       | 400  | 400   |
| other phytoflagellates              |                   |       |       |       |      |       |      |       |
| <u>Olisthodiscus luteus</u>         | 700               | 400   |       | 1800  | 700  | 400   |      |       |
| <u>Calycomonas gracilis</u>         |                   | 400   |       |       |      |       |      |       |
| <u>Pyramimonas micron</u>           | 700               |       |       |       | 700  | 700   |      |       |
| <u>Euglena proxima</u>              | 700               | 400   |       |       |      |       |      |       |
| <u>Eutreptia lanowii</u>            | 400               |       |       |       |      |       |      |       |
| <u>E. viridis</u>                   |                   |       |       | 400   |      |       |      |       |
| <u>Chroomonas sp.</u>               |                   |       | 400   | 700   |      |       | 400  |       |
| <u>Rhodomonas amphioxiea</u>        | 400               |       |       |       |      |       |      |       |
| <u>R. minuta</u>                    | 1100              | 2200  | 400   | 1100  |      |       |      | 400   |
| <u>Cryptomonas sp.</u>              |                   | 400   |       |       |      |       |      | 400   |
| chlorophytes                        |                   |       |       |       |      |       |      |       |
| <u>Nannochloris sp.</u>             | 66000             | 22000 | 4000  | 44000 | 7000 | 15000 | 5500 | 15000 |
| <u>Ankistrodesmus convolutus</u>    |                   |       |       |       | 400  |       |      |       |

NJDEP  
PHYTOPLANKTON SURVEY  
Count Data (cells/ml.)  
Date: July 8, 1980

| SPECIES                       | Sampling Location |       |       |       |       |       |      |  |
|-------------------------------|-------------------|-------|-------|-------|-------|-------|------|--|
|                               | RB13              | JC05  | NYB20 | NYB22 | JC11  | JC21  | JC30 |  |
| diatoms                       |                   |       |       |       |       |       |      |  |
| <u>Skeletonema costatum</u>   |                   |       |       |       | 1500  |       |      |  |
| <u>Cyclotella caspia</u>      | 400               |       |       |       |       |       |      |  |
| <u>Thalassiosira gravida</u>  |                   | 400   |       | 400   |       |       | 400  |  |
| <u>Cerataulina pelagica</u>   |                   |       |       | 400   |       |       |      |  |
| <u>Chaetoceros decipiens</u>  |                   |       |       |       | 400   |       | 400  |  |
| <u>Asterionella glacialis</u> |                   |       |       |       |       | 400   |      |  |
| dinoflagellates               |                   |       |       |       |       |       |      |  |
| <u>Prorocentrum minimum</u>   |                   |       | 400   |       |       | 400   |      |  |
| <u>P. redfieldii</u>          |                   |       | 400   | 400   |       | 400   | 400  |  |
| <u>Katodinium rotundatum</u>  | 1100              | 400   | 400   | 700   |       | 400   |      |  |
| <u>Peridinium trochoideum</u> |                   | 400   |       |       |       | 400   |      |  |
| <u>Ceratium lineatum</u>      |                   | 400   |       |       |       |       |      |  |
| <u>C. tripos</u>              |                   |       |       |       |       |       | 400  |  |
| other phytoflagellates        |                   |       |       |       |       |       |      |  |
| <u>Olisthodiscus luteus</u>   | 400               | 400   |       |       | 400   |       |      |  |
| <u>Calycomonas gracilis</u>   |                   |       |       |       | 400   |       |      |  |
| <u>C. ovalis</u>              | 700               |       | 700   | 400   | 400   |       | 400  |  |
| <u>Pyramimonas sp.</u>        |                   | 400   |       |       |       |       |      |  |
| <u>P. micron</u>              |                   |       |       | 400   |       |       | 400  |  |
| <u>Tetraselmis maculata</u>   |                   |       |       |       |       |       | 400  |  |
| <u>Euglena sp.</u>            |                   | 400   |       |       |       |       |      |  |
| <u>Rhodomonas amphioxiea</u>  |                   |       | 400   |       |       |       |      |  |
| <u>R. minuta</u>              |                   | 700   | 700   | 400   |       | 400   |      |  |
| chlorophytes                  |                   |       |       |       |       |       |      |  |
| <u>Nannochloris sp.</u>       | 66000             | 58000 | 44000 | -     | 30000 | 15000 |      |  |
| <u>Chlorella. sp.</u>         |                   |       |       | 4000  |       | 400   |      |  |

## NJDEP

## PHYTOPLANKTON SURVEY

Count Data (cells/ml.)

Date: July 22, 1980

| SPECIES                          | Sampling Location |        |       |       |       |       |       |       |
|----------------------------------|-------------------|--------|-------|-------|-------|-------|-------|-------|
|                                  | RBI3              | JC02   | JC05  | NYB20 | NYB22 | JC11  | JC21  | JC30  |
| <u>Diatoms</u>                   |                   |        |       |       |       |       |       |       |
| <u>Thalassiosira gravida</u>     |                   |        |       |       | 400   | 400   |       |       |
| <u>T. nordenskioldii</u>         |                   |        |       | 1800  |       |       |       |       |
| <u>Cerataulina pelagica</u>      |                   |        |       | 400   |       |       |       |       |
| <u>Chaetoceros decipiens</u>     |                   | 400    |       |       |       |       |       |       |
| <u>Phaeodactylum tricornutum</u> |                   | 400    |       |       |       |       |       |       |
| <u>Nitzschia sp.</u>             |                   | 1100   |       |       |       |       |       |       |
| <u>Prorocentrum sp.</u>          |                   | 5500   |       |       |       |       |       |       |
| <u>P. micans</u>                 |                   | 1100   | 1100  |       |       |       | 400   | 400   |
| <u>P. minimum</u>                |                   | 700    |       |       |       |       |       |       |
| <u>Katodinium rotundatum</u>     |                   | 1100   |       | 400   |       |       |       |       |
| <u>Other phytoflagellates</u>    |                   |        |       |       |       |       |       |       |
| <u>Olisthodiscus luteus</u>      | 11000             | 10000  | 1800  | 700   | 1800  |       |       |       |
| <u>Calycomonas gracilis</u>      |                   |        | 700   | 700   | 400   | 400   |       |       |
| <u>C. ovalis</u>                 |                   |        |       | 400   |       |       |       |       |
| <u>Bipedinomonas sp.</u>         |                   | 700    |       |       |       |       |       |       |
| <u>Pyramimonas sp.</u>           | 400               | 700    |       |       | 400   |       |       |       |
| <u>P. micron</u>                 | 400               |        |       |       |       |       |       |       |
| <u>Tetraselmis maculata</u>      |                   | 400    |       |       | 1100  |       |       |       |
| <u>Euglena sp.</u>               |                   |        |       | 400   |       |       |       |       |
| <u>Eutreptia viridis</u>         | 1100              | 3300   | 400   |       |       |       |       |       |
| <u>Chroomonas sp.</u>            |                   | 1800   |       | 3700  | 1800  | 400   | 400   | 400   |
| <u>Rhodomonas minuta</u>         | 400               | 700    |       |       |       |       |       |       |
| <u>Chlorophytes</u>              |                   |        |       |       |       |       |       |       |
| <u>Nannochloris sp.</u>          | 81000             | 180000 | 44000 | 30000 | 52000 | 30000 | 22000 | 15000 |

NJDEP  
PHYTOPLANKTON SURVEY  
Count Data (cells/ml.)  
Date: August 13, 1980

| SPECIES                      | Sampling Location |      |       |       |      |      |      |      |
|------------------------------|-------------------|------|-------|-------|------|------|------|------|
|                              | RB13              | JC05 | NYB20 | NYB22 | JC11 | JC21 | JC30 | JC37 |
| diatoms                      |                   |      |       |       |      |      |      |      |
| <u>Skeletonema costatum</u>  | 1880              |      | 3760  |       | 200  |      |      |      |
| <u>Cyclotella</u> sp.        |                   |      |       |       | 200  |      |      |      |
| <u>Thalassiosira gravida</u> |                   |      | 940   |       | 200  |      |      |      |
| <u>T. nordenskioldii</u>     | 8460              | 1320 | 3950  | 3760  | 200  | 200  | 1500 |      |
| <u>Biddulphia</u> sp.        |                   |      | 200   |       |      |      |      |      |
| <u>Chaetoceros</u> sp.       | 6960              | 200  | 1130  |       |      |      |      |      |
| <u>Rhizosolenia setigera</u> | 200               |      |       | 200   |      |      |      | 200  |
| <u>Leptocylindrus</u> sp.    |                   |      |       |       |      |      |      |      |
| dinoflagellates              |                   |      |       |       |      |      |      |      |
| <u>Gymnodinium</u> sp.       |                   |      | 200   |       |      |      |      | 200  |
| <u>Glenodinium danicum</u>   |                   |      |       |       |      |      | 200  | 200  |
| <u>Peridinium divergens</u>  |                   |      |       |       |      | 200  |      |      |
| <u>P. trochoideum</u>        |                   | 200  | 200   | 200   | 200  |      |      | 380  |
| <u>Heterocapsa triquetra</u> |                   |      |       |       |      |      | 200  |      |
| other phytoflagellates       |                   |      |       |       |      |      |      |      |
| <u>Calycomonas gracilis</u>  | 1130              | 200  | 750   | 200   |      |      |      | 200  |
| <u>Pyramimonas</u> sp.       |                   | 200  | 200   | 200   |      |      | 200  | 380  |
| chlorophytes                 |                   |      |       |       |      |      |      |      |
| <u>Nannochloris</u> sp..     | 7500              | 1500 | 7500  | 1500  | -    | 3000 | 6000 | 6000 |
| <u>Chlorella</u> sp.         | 570               | 380  | 300   | 200   | 200  |      | 940  | 380  |

## NJDEP

## PHYTOPLANKTON SURVEY

Count Data (cells/ml.)

Date: July 15, 1980

| SPECIES                       | Sampling Location |       |       |       |       |       |      |       |
|-------------------------------|-------------------|-------|-------|-------|-------|-------|------|-------|
|                               | RB13              | JC05  | NYB20 | NYB22 | JC11  | JC21  | JC30 | JC37  |
| diatoms                       |                   |       |       |       |       |       |      |       |
| <u>Leptocylindrus danicus</u> |                   |       |       |       |       |       |      | 700   |
| <u>Skeletonema costatum</u>   | 3700              | 400   | 400   | 1800  | 400   |       |      | 700   |
| <u>Cyclotella</u> sp.         |                   |       | 400   |       |       |       |      | 400   |
| <u>Thalassiosira</u> sp.      |                   | 400   |       |       |       |       |      |       |
| <u>T. nordenskioldii</u>      |                   |       |       | 700   | 400   |       | 400  |       |
| <u>Cerataulina pelagica</u>   |                   |       | 400   |       |       |       |      | 700   |
| <u>Chaetoceros decipiens</u>  |                   |       | 400   | 400   |       |       |      |       |
| <u>C. sociale</u>             |                   |       |       |       |       |       | 1100 |       |
| <u>Rhizosolenia setigera</u>  |                   |       |       |       |       |       |      | 400   |
| <u>Asterionella glacialis</u> |                   | 400   | 1500  | 3700  |       |       |      |       |
| dinoflagellates               |                   |       |       |       |       |       |      |       |
| <u>Prorocentrum micans</u>    | 400               |       |       | 700   |       |       |      | 400   |
| <u>Dinophysis acuta</u>       |                   | 400   |       |       |       |       |      | 400   |
| <u>Gymnodinium</u> sp.        |                   |       |       |       |       |       |      |       |
| other phytoflagellates        |                   |       |       |       |       |       |      |       |
| <u>Olisthodiscus luteus</u>   | 400               |       |       | 400   |       |       |      |       |
| <u>Calycomonas ovalis</u>     | 700               | 400   |       | 400   | 400   |       |      |       |
| <u>Chrysochromulina</u> sp.   | 400               |       |       |       |       |       |      |       |
| <u>Pyramimonas</u> sp.        |                   |       |       | 400   |       |       |      |       |
| <u>Eutreptia</u> sp.          |                   |       |       |       |       | 400   |      |       |
| <u>Chroomonas</u> sp.         | 400               |       |       |       |       |       |      |       |
| <u>Rhodomonas amphioxiea</u>  |                   |       | 400   |       | 400   |       |      |       |
| <u>R. minuta</u>              |                   |       |       |       |       | 400   | 400  |       |
| chlorophytes                  |                   |       |       |       |       |       |      |       |
| <u>Nannochloris</u> sp.       | 58000             | 22000 | 5500  | 44000 | 15000 | 22000 | 4000 | 22000 |
| <u>Chlorella</u> sp.          |                   | 400   |       |       |       |       | 400  | 400   |
|                               |                   |       | 85    |       |       |       |      |       |

## NJDEP

## PHYTOPLANKTON SURVEY

Count Data (cells/ml.)

Date: August 28, 1980

| SPECIES                       | Sampling Location |       |       |       |       |       |       |  |  |
|-------------------------------|-------------------|-------|-------|-------|-------|-------|-------|--|--|
|                               |                   | JC02  | JC05  | NYB20 | NYB22 | NYB24 | JC11  |  |  |
| diatoms                       |                   |       |       |       |       |       |       |  |  |
| <u>Leptocylindrus danicus</u> |                   | 400   | 700   | 200   | 400   |       |       |  |  |
| <u>Skeletonema costatum</u>   |                   | 1800  | 7000  | 4400  | 9200  | 1500  | 3700  |  |  |
| <u>Thalassiosira gravida</u>  |                   | 400   |       |       | 560   |       |       |  |  |
| <u>T. nordenskioldii</u>      |                   |       | 400   |       | 560   |       |       |  |  |
| <u>Chaetoceros</u> sp..       |                   |       | 1100  | 1500  | 200   |       |       |  |  |
| <u>Biddulphia obtusa</u>      |                   | 400   | 700   | 400   | 400   |       | 700   |  |  |
| <u>Cerataulina pelagica</u>   |                   |       |       | 380   | 380   | 200   |       |  |  |
| <u>Rhizosolenia alata</u>     |                   |       |       |       |       | 400   |       |  |  |
| dinoflagellates               |                   |       |       |       |       |       |       |  |  |
| <u>Prorocentrum micans</u>    |                   |       | 400   |       |       |       |       |  |  |
| <u>P. redfieldi</u>           |                   |       | 200   | 200   |       |       |       |  |  |
| <u>Gymnodinium</u> sp.        |                   |       |       | 400   |       |       |       |  |  |
| <u>Peridinium trochoideum</u> |                   |       | 380   | 200   | 400   |       | 400   |  |  |
| other phytoflagellates        |                   |       |       |       |       |       |       |  |  |
| <u>Calycomonas gracilis</u>   |                   | 400   | 400   | 400   |       |       |       |  |  |
| <u>Euglena</u> sp.            |                   | 400   |       |       |       |       |       |  |  |
| <u>Rhodomonas amphioxiea</u>  |                   | 400   |       |       |       |       |       |  |  |
| <u>R. minuta</u>              |                   |       | 400   |       |       |       |       |  |  |
| chlorophytes                  |                   |       |       |       |       |       |       |  |  |
| <u>Nannochloris</u> sp.       |                   | 37000 | 22000 | 7300  | -     | 1800  | 30000 |  |  |
|                               |                   |       | 86    |       |       |       |       |  |  |

APPENDIX "b"  
Average Nutrient Concentrations  
from the 1980 NJDEP Survey

analysis by EPA  
Edison Laboratories

Nutrient Data For NJDEP Red  
Tide Survey, 1980

All figures are expressed as mg/L. Values for June, July and August represent computed mean values for that month. Data reported for the months of February and May are single sample values and not mean values.

Some samples contained nutrient levels reported as below the lower limits of detection, 0.020 mg/L for nitrogen and 0.010 mg/L for phosphates. If all samples from a station for a specific month were below these limits, the table values were expressed as the detectable limit prefixed by the symbol "less than" (<).

Other tabled mean values were calculated from samples both above and below the lower detectable limits. Samples below the detectable limit were assigned values of 0.020 mg/L for nitrogen, 0.010 mg/L for phosphates, and then used for computation. These resulting mean values are denoted in the table by an asterisk and should be interpreted as the highest probable mean value for that station in that month.



FEBRUARY

| <u>Station</u> | <u>Depth(ft.)</u> | <u>NH<sub>3</sub>+NH<sub>4</sub></u> | <u>NO<sub>3</sub></u> | <u>ortho<br/>PO<sub>4</sub></u> |
|----------------|-------------------|--------------------------------------|-----------------------|---------------------------------|
| NYB - 20       | 2                 | 0.058                                | 0.076                 | 0.022                           |
|                | 47                | < 0.020                              | < 0.020               | 0.026                           |
| NYB - 22       | 2                 | 0.019                                | 0.020                 | 0.022                           |
|                | 88                | 0.020                                | < 0.020               | 0.022                           |

## MAY

| <u>Station</u> | <u>Depth(ft.)</u> | <u>NH<sub>3</sub>+NH<sub>4</sub></u> | <u>NO<sub>2</sub>+NO<sub>3</sub></u> | <u>Ortho<br/>PO<sub>4</sub></u> |
|----------------|-------------------|--------------------------------------|--------------------------------------|---------------------------------|
| NYB - 20       | 2                 | < 0.020                              | 0.040                                | 0.024                           |
|                | 50                | 0.043                                | < 0.020                              | 0.031                           |
| NYB - 22       | 2                 | < 0.020                              | < 0.020                              | 0.017                           |
|                | 66                | 0.024                                | < 0.020                              | 0.024                           |
| NYB - 24       | 2                 | < 0.020                              | < 0.020                              | 0.017                           |
|                | 126               | 0.043                                | < 0.020                              | 0.036                           |

## JUNE

| <u>Station</u> | <u>Depth(ft.)</u> | <u>NH<sub>3</sub>+NH<sub>4</sub></u> | <u>NO<sub>2</sub>+NO<sub>3</sub></u> | <u>Ortho<br/>PO<sub>4</sub></u> |
|----------------|-------------------|--------------------------------------|--------------------------------------|---------------------------------|
| JC - 05        | 2                 | 0.051                                | <0.020                               | 0.029                           |
| JC - 11        | 2                 | 0.091                                | <0.020                               | 0.025                           |
| JC - 21        | 2                 | 0.064                                | <0.020                               | 0.030                           |
| JC - 30        | 2                 | 0.032                                | <0.020                               | 0.024                           |
| JC - 37        | 2                 | 0.036                                | <0.020                               | 0.024                           |
| JC - 57        | 2                 | 0.044*                               | <0.020                               | 0.022                           |
| NYB - 20       | 2                 | 0.029                                | <0.020                               | 0.017                           |
|                | 45                | 0.044                                | <0.020                               | 0.031                           |
| NYB - 22       | 2                 | 0.039                                | <0.020                               | 0.018                           |
|                | 86                | 0.042                                | <0.020                               | 0.032                           |
| NYB - 24       | 2                 | 0.030                                | <0.020                               | 0.015                           |
|                | 123               | 0.031                                | <0.020                               | 0.026                           |

JULY

| <u>Station</u> | <u>Depth(ft.)</u> | <u>NH<sub>3</sub>+NH<sub>4</sub></u> | <u>NO<sub>2</sub>+NO<sub>3</sub></u> | <u>ortho<br/>PO<sub>4</sub></u> |
|----------------|-------------------|--------------------------------------|--------------------------------------|---------------------------------|
| JC - 05        | 2                 | 0.046                                | <0.020                               | 0.033                           |
| JC - 11        | 2                 | 0.054                                | <0.020                               | 0.033                           |
| JC - 21        | 2                 | 0.039                                | <0.020                               | 0.029                           |
| JC - 30        | 2                 | 0.031                                | <0.020                               | 0.025                           |
| JC - 37        | 2                 | 0.030*                               | <0.020                               | 0.025                           |
| JC - 57        | 2                 | 0.030*                               | <0.020                               | 0.026                           |
| NYB - 20       | 2                 | 0.035*                               | <0.020                               | 0.029                           |
|                | 45                | 0.055                                | 0.020                                | 0.030                           |
| NYB - 22       | 2                 | 0.041                                | <0.020                               | 0.033                           |
|                | 86                | 0.042                                | 0.020                                | 0.039                           |
| NYB - 24       | 2                 | 0.020*                               | <0.020                               | 0.020                           |
|                | 123               | 0.045                                | 0.020                                | 0.050                           |

## AUGUST

| <u>Station</u> | <u>Depth(ft.)</u> | <u>NH<sub>3</sub>+NH<sub>4</sub></u> | <u>NO<sub>2</sub>+NO<sub>3</sub></u> | <u>ortho<br/>PO<sub>4</sub></u> |
|----------------|-------------------|--------------------------------------|--------------------------------------|---------------------------------|
| RB - 13        | 2                 | 0.032                                | 0.080                                | 0.057                           |
| JC - 05        | 2                 | 0.032                                | 0.030*                               | 0.033                           |
| JC - 11        | 2                 | 0.061                                | 0.030*                               | 0.027                           |
| JC - 21        | 2                 | 0.138                                | 0.040†                               | 0.034                           |
| JC - 30        | 2                 | 0.115                                | 0.030*                               | 0.032                           |
| JC - 37        | 2                 | 0.092                                | 0.030*                               | 0.030                           |
| JC - 57        | 2                 | 0.020                                | 0.020                                | 0.017                           |
| NYB - 20       | 2                 | 0.040                                | 0.042                                | 0.034                           |
|                | 45                | 0.050                                | 0.023                                | 0.031                           |
| NYB - 22       | 2                 | 0.031                                | 0.024                                | 0.021                           |
|                | 86                | 0.054                                | 0.023                                | 0.280                           |
| NYB - 24       | 2                 | 0.026                                | 0.023                                | 0.015                           |
|                | 123               | 0.061                                | 0.023                                | 0.044                           |

APPENDIX B

Virus and Salmonella Sampling

Summer 1980

## Introduction

One of the major problems in regard to ambient water quality monitoring is the detection of viral agents. Such monitoring has been hampered by the unavailability of reliable standard methods for the concentration, detection, and isolation of virus from large volumes of water.

For the past several years, EPA Region II has been monitoring the New York Bight area for total and fecal coliforms. In 1980, monitoring was conducted for the above mentioned parameters, as well as for enteric viruses and Salmonella.

## Methodology

Marine water samples were collected at selected sampling sites (Table 1, Figure 1) using the EPA vessel "Clean Waters". The volumes sampled were between 200-210 gallons. The water samples were concentrated by means of a Virus Concentrator (Aqueella Unit). This concentrator was developed at the Baylor University College of Medicine, and was supplied by the Carborundum Company, New York. Through a series of steps [clarification (prefiltration), concentration, elution, reconcentration and assay], viruses were recovered.

## Virus Filtration and Concentration

In the sample collection procedure, sea water is passed through yarn-wound filters of given porosities. Use of pleated filters has resulted in a significant improvement in virus recovery and were, therefore, used in the final filtration stage. The concentration procedure consists of the following:

1. Adsorption of virus to a fiberglass cartridge in the presence of .015 M  $\text{AlCl}_3$  at pH 3.5.
2. Elution with glycine buffer at pH 10.5.
3. Reconcentration by 0.3 M  $\text{AlCl}_3$  by flocculation.

The virus sampling was initiated on July 7, 1980 and completed in October 1980. Eight stations were sampled. The principal factors limiting the number of samples collected was the availability of the "Clean Waters" and weather conditions.

Table 2 contains a list of the sampling stations with the number of PFU's obtained. Table 3 shows the viruses identified, and the corresponding total and fecal coliform counts for the sample.

### Virus Assay

The final concentrate (15-20) ml was frozen at -70°C and shipped to the U.S. EPA Environmental Monitoring and Support Laboratory (EMSL), Cincinnati, Ohio for assay. Plaque-forming units (PFU) were determined using the BGM cell line. Plaque-purified enteric virus was used for characterization by utilizing specific immune sera in the neutralization test.

### Virus Results

Enteric viruses were isolated and characterized at all of the sampling stations except JC-01A. The number of enteroviruses isolated, indicated in plaque forming units (PFU), ranged from 2-160 PFU. The present efficiency of recovery of viruses with the Aquella Virus Concentrator is between 35%-40%. Therefore, where a zero PFU count was obtained, one should not conclude that viruses were not present.

In addition, a new, more sensitive (PFU) assay technique was employed on samples NYB-30, NYB-20, and J-17-B. A 3.2 to 3.8 fold increase in the number of viruses was detected. At station NYB-20, where previously a zero PFU count was obtained, 2 PFU's were isolated.

### Salmonella Filtration

Utilizing the Aquella's capabilities of filtering large volumes of marine water, the system was also used to concentrate a sample for Salmonella analysis. After 200 gallons of sample were passed through the clarifying filter, the filter was aseptically removed and cut in half. Both halves were then placed in a pre-enrichment nutrient broth media to be transported back to the laboratory. After an approximate 2-3 hour ambient temperature incubation, one filter half was placed in 300 ml of Tetrathionate broth and the other was placed in 300 ml of Selenite Cystine broth. The pre-enrichment nutrient broth, that bathed the filters, was also incubated. Isolation and identification were carried out according to procedures described in Microbiological Methods for Monitoring the Environment (EPA 600/8-78-017).

### Salmonella Results

Salmonella serotypes isolated from the samples are shown in Table 3. There is a greater correlation of Salmonella isolates to increased PFU than Salmonella to total and fecal coliform counts. At stations LIC-03, NYB-30, and J-17-B, where numerous Cocksackie and ECHO viruses were isolated and characterized, various Salmonella serotypes were also identified.

Salmonella enteritidis ser. Oranienburg was isolated at station LIC-03 (Rockaway). The fecal coliform count was 5/100 ml whereas the PFU count was 160. At station NYB-30 (Ambrose Channel), Salmonella enteritidis ser. Gp C<sub>1</sub> and Gp D<sub>1</sub> were isolated. The fecal coliform count was 33/100 ml. The PFU count was 38. Midway between Rockaway and Coney Island at station J-17-B, the greatest number of Salmonella serotypes were isolated. They were as follows:



1. S. enteritidis ser. Adelaide
2. S. enteritidis ser. Indiana
3. S. enteritidis ser. Montevideo
4. S. enteritidis ser. Blockley

The fecal coliform counts were high with a count of 490/100 ml. The virus count was also high with 84 PFU.

#### Enterovirus Isolations

At station J17-B, midway between Rockaway and Coney Island, Cocksackie B1, B2, B3, B4, A7, and ECHO 6 were isolated. The PFU count was 84. In the Ambrose Channel (NYB-30), Cocksackie B2, B3, and B4 virus were isolated. A count of 38 PFU's were determined at this station. The largest number of viral isolates and PFU's were found at LIC-03 off Rockaway Beach. Cocksackie B1, B4, B5, A9, A16, ECHO-1, E-3, E-4, E-7, E-17, E-18, E-20, E-23, E-27, and 160 PFU's were isolated. The sample collected at LIC-05 off of Bay 41st Street yielded 6 PFU and ECHO-1 virus.

Station NYB-20, located two miles off Highland, New Jersey, had a PFU density of 2. Cocksackie B3 was isolated. Stations JC-11, off Monmouth Beach, New Jersey, and JC-3, off Sandy Hook Beach, both contained 2 PFU and Cocksackie B1 and B3 isolated respectively. At JC-01A, Northern End of Sandy Hook, New Jersey, viruses were not detected.

This data suggests that raw sewage coming from the New York Harbor area and the non-chlorinated effluent coming from the Jamaica Bay area STP plants provide the chief source of enteric viruses. The Hudson River, flowing in an east-southeasterly direction combining with tidal currents, tend to move the water in a clockwise direction depositing viruses at these sampling stations.

These results are consistent with the earlier virus studies, except that in this sampling period viruses were isolated from LIC-03. In 1977 they were not.

#### Bacterial Indicators of Enteric Virus

The presence of fecal and total coliforms do not necessarily indicate the presence of enteric viruses (Table 2 and Table 4). Table 4 compares the total fecal and virus population at selected sampling stations in the New York Bight. Among the various sampling stations in this study, ratios of fecal coliforms to enteric virus varied from 230:1 at LIC-03 to 200,000:1 at NYB-20. Ratios of total coliform showed even a greater disparity varying from 1400:1 at LIC-05 to 3,200,000:1 at JC-11. These ratios cannot reflect the virus load from raw sewage in the New York Bight area. Berg and Metcalf (1978) dismissed as insensitive the use of a constant ratio between fecal as indicator bacteria and enteric viruses. The data presented above suggests that the ideal and best indicator is the virus itself.

TABLE 1

Virus Sample Stations - New York Bight

| Station No. | Station Location                                                                                   |
|-------------|----------------------------------------------------------------------------------------------------|
| J-17-8      | Midway between Rockaway and Coney Island                                                           |
| LIC-03      | Rockaway Beach off B129 Road (0.125 miles off shore)                                               |
| LIC-05      | Off of Foot of B41 Street (0.125 miles off shore)                                                  |
| NYB-20      | 2 miles off Highlands, N.J.                                                                        |
| JC-11       | Monmouth Beach Bath & Tennis Club (0.125 miles<br>off shore)                                       |
| JC-03       | Sandy Hook Beach (0.125 miles off shore - Tower)                                                   |
| JC-01A      | Northern End of Sandy Hook (0.125 miles off shore)                                                 |
| NYB-30      | Ambrose Channel, Buoy 3.5 miles from Coney Island<br>and 2.5 miles from Rockaway Point (Buoy F1-5) |

Enterovirus Isolations in the New York Bight

| Station                                 | Date<br>Sampled | Salinity<br>‰ | Water<br>Temperature°C | pH  | Enterovirus<br>PFU | Conductivity<br>u mhos/cm |
|-----------------------------------------|-----------------|---------------|------------------------|-----|--------------------|---------------------------|
| JC-01-A<br>Sandy Hook, NJ               | 7/07/80         | 24.8          | 21.3                   | 7.7 | 0                  | 35.8                      |
| JC-03<br>Sandy Hook, NJ                 | 7/14/80         | 26.0          | 21.2                   | 7.7 | 2                  | 37.5                      |
| LIC-03<br>Rockaway, NY                  | 7/28/80         | 28.8          | 21.6                   | 8.0 | 160                | 41.6                      |
| LIC-05<br>Far Rockaway,<br>NY           | 8/4/80          | 28.5          | 22.4                   | 8.0 | 6                  | 41.3                      |
| JC-11<br>Monmouth Beach,<br>NJ          | 8/11/80         | 28.7          | 18.0                   | 7.9 | 2                  | 38.5                      |
| NYB-30<br>Ambrose Channel               | 9/15/80         | 24.2          | 20.0                   | 8.1 | 38                 | -                         |
| NYB-20<br>2 Miles off<br>Sandy Hook, NJ | 9/22/80         | 28.3          | 21.3                   | 8.1 | 2                  | 40.4                      |
| J-17<br>Rockaway Inlet                  | 10/15/80        | 28.5          | 14.0                   | 7.7 | 84                 | 35.9                      |

Micro-organisms (Enteric Viruses, Salmonella, Total and Fecal Coliform) Isolated in the New York Bight

| Station No. | Location                      | Date     | Virus Identification*                                                      | Salmonella<br>Serotypes                                                                                                  | Total<br>Coliform<br>MF/100 ml | Fecal<br>Coliform<br>MF/100 ml                                               |
|-------------|-------------------------------|----------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------------------------------------------------------------|
| JC-01-A     | Sandy Hook, NJ                | 7/07/80  | 0                                                                          | 0                                                                                                                        | 49                             | 13                                                                           |
| JC-03       | Sandy Hook, NJ                | 7/14/80  | CB3                                                                        | 0                                                                                                                        | 21                             | 5                                                                            |
| LIC-03      | Rockaway, NY                  | 7/28/80  | CA9, CA16, CB1, CB4,<br>CB5, E1, E3, E4, E7,<br>E17, E18, E20, E23,<br>E27 | <u>S. enteritidis</u><br><u>ser. Oranienburg</u>                                                                         | 79                             | 5                                                                            |
| LIC-05      | Far Rockaway, NY              | 8/4/80   | E1                                                                         | 0                                                                                                                        | 11                             | 5                                                                            |
| JC-11       | Monmouth Beach,<br>NY         | 8/11/80  | CB1                                                                        | 0                                                                                                                        | 790                            | 8                                                                            |
| NYB-30      | Ambrose Channel               | 9/15/80  | CB2, CB3, CB4                                                              | <u>S. enteritidis</u><br><u>ser. Gp C<sub>1</sub></u><br><u>Gp D<sub>1</sub></u>                                         | 490                            | 33                                                                           |
| NYB-20      | 2 Miles Off<br>Sandy Hook, NJ | 9/22/80  | CB3                                                                        | 0                                                                                                                        | 230                            | 49                                                                           |
| J-17        | Rockaway Inlet                | 10/15/80 | CA7, CB1, CB2<br>CB3, CB4, E6                                              | <u>S. enteritidis</u><br><u>ser. Adelaide</u><br><u>S. enteritidis</u><br><u>S. enteritidis</u><br><u>S. enteritidis</u> | 790                            | 490<br><u>ser. Indiana</u><br><u>ser. Montevideo</u><br><u>ser. Blockley</u> |

\* Virus Identification: C = Coxsackie virus  
E = Echo virus

Ratios of Total and Fecal Coliforms to Viruses at Stations in the New York Bight

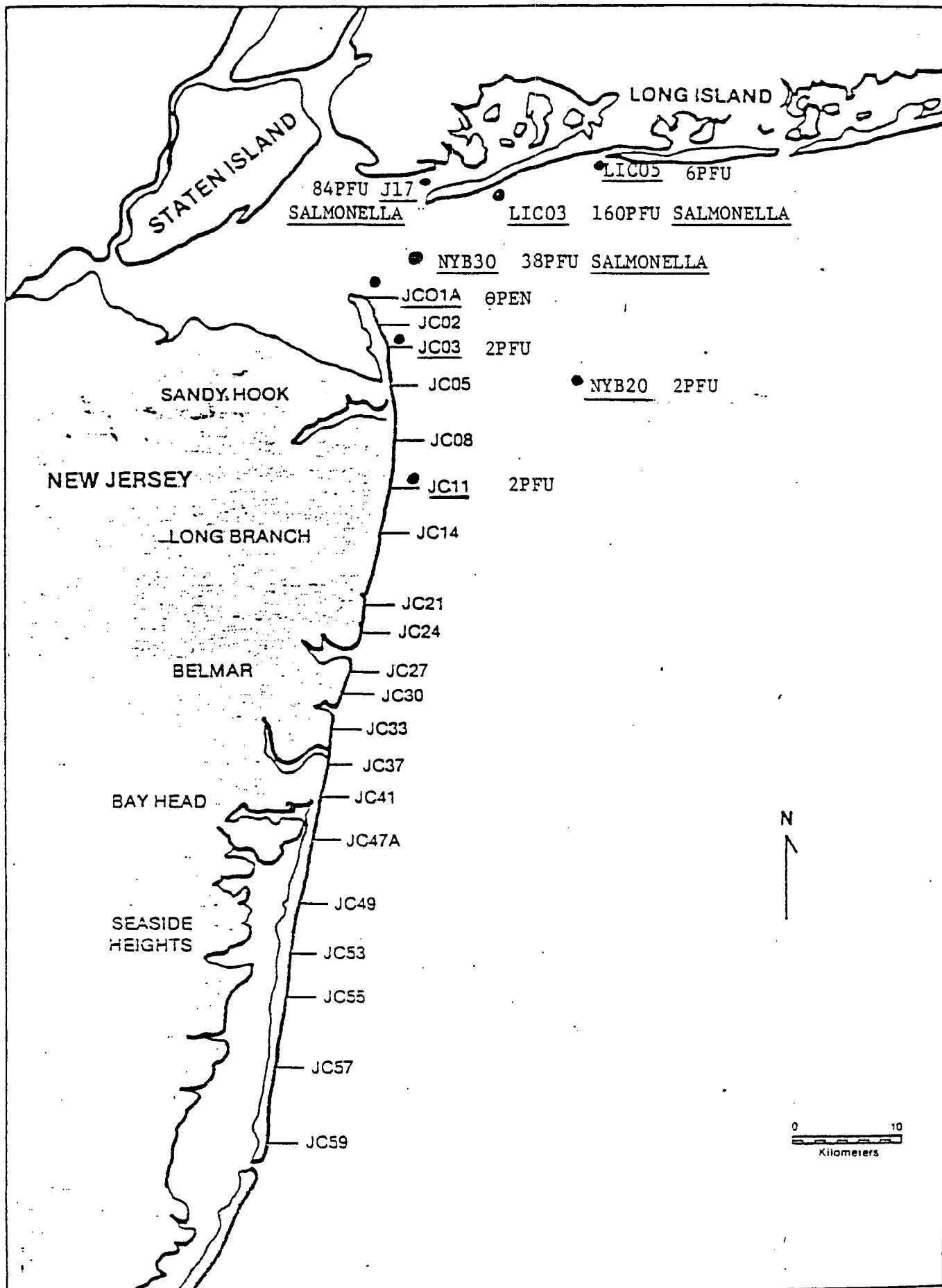
| Station   | Viruses<br>(PFU/100 ml) | Fecal<br>Coliforms<br>(CFU/100 ml) | Fecal<br>Coliforms:<br>Viruses | Total<br>Coliforms:<br>(CFU/100 ml) | Total<br>Coliforms:<br>Viruses |
|-----------|-------------------------|------------------------------------|--------------------------------|-------------------------------------|--------------------------------|
| JC-03     | .00026 (1.0) *          | 5                                  | 19,000:1                       | 21                                  | 81,000:1                       |
| LIC-03    | .022 (84)               | 5                                  | 230:1                          | 79                                  | 3,600:1                        |
| LIC-05    | .00079 (3)              | 5                                  | 6,300:1                        | 11                                  | 1,400:1                        |
| JC-11     | .00025 (.96)            | 8                                  | 32,000:1                       | 790                                 | 3,200,000:1                    |
| NYB-30 °  | .0047 (33)              | 33                                 | 8,100:1                        | 490                                 | 104,000:1                      |
| NYB-20 °  | .00025 (.97)            | 49                                 | 200,000:1                      | 230                                 | 920,000:1                      |
| J-17 °    | .010 (41)               | 490                                | 49,000:1                       | 790                                 | 79,000:1                       |
| NYB-30 ** | .0015 (5.7)             | 33                                 | 22,000:1                       | 490                                 | 330,000:1                      |
| NYB-20 ** | 0 (0)                   | 49                                 | -                              | 230                                 | -                              |
| J-17 **   | .0028 (10.7)            | 490                                | 180,000:1                      | 790                                 | 280,000:1                      |

CFU = Colony Forming Units

\* = ( ) - PFU/100 gallons

° = New more sensitive technique (suspended cells)

\*\* - Older, overlay technique



## APPENDIX C

Dissolved Oxygen Values Recorded in the New York Bight

May 1 - September 30, 1980

STCRET RETRIEVAL DATE 81/03/03  
 NY820 NY8-20  
 40 23 54.0 073 56 03.0 2  
 2 MILES EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030  
 0047 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>DC<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/05/28           | 10 30             | 0002          | 9.8                 | 14.9                           |
|                    | 10 30             | 0050          | 7.9                 | 10.0                           |
| 80/06/02           | 09 04             | 0002          | 11.6                |                                |
|                    | 09 04             | 0045          | 7.9                 |                                |
| 80/06/10           | 10 03             | 0002          | 9.3                 |                                |
|                    | 10 03             | 0045          | 7.8                 |                                |
| 80/06/14           | 10 40             | 0002          | 9.5                 | 14.9                           |
|                    | 10 40             | 0045          | 8.4                 | 13.6                           |
| 80/06/16           | 09 12             | 0002          | 8.3                 | 15.3                           |
|                    | 09 12             | 0045          | 9.3                 | 12.7                           |
| 80/06/24           | 08 49             | 0002          | 9.5                 | 18.7                           |
|                    | 08 49             | 0045          | 7.2                 | 11.6                           |
| 80/06/27           | 08 03             | 0002          | 9.2                 | 18.7                           |
|                    | 08 03             | 0045          | 6.2                 | 12.0                           |
| 80/07/02           | 08 29             | 0002          | 8.2                 | 18.7                           |
|                    | 08 29             | 0045          | 6.9                 | 14.8                           |
| 80/07/05           | 10 00             | 0002          | 7.8                 | 20.5                           |
|                    | 10 00             | 0045          | 8.3                 | 18.9                           |
| 80/07/07           | 16 13             | 0002          | 9.8                 | 21.0                           |
|                    | 16 13             | 0045          | 7.3                 | 15.2                           |
| 80/07/12           | 10 21             | 0002          | 7.4                 | 19.7                           |
|                    | 10 21             | 0045          | 5.9                 | 14.0                           |
| 80/07/21           | 13 25             | 0002          | 11.7                | 23.6                           |
|                    | 13 25             | 0045          | 6.2                 | 16.0                           |
| 80/08/01           | 09 29             | 0002          | 7.1                 | 23.2                           |
|                    | 09 29             | 0045          | 6.4                 | 19.9                           |
| 80/08/02           | 08 22             | 0002          | 7.3                 | 22.3                           |
|                    | 08 22             | 0045          | 6.9                 | 19.3                           |
| 80/08/04           | 08 37             | 0002          | 8.0                 | 22.9                           |
|                    | 08 37             | 0045          | 7.1                 | 16.7                           |
| 80/08/09           | 09 43             | 0002          | 7.3                 | 23.2                           |
|                    | 09 43             | 0045          | 6.6                 | 16.0                           |
| 80/08/13           | 14 21             | 0002          | 10.6                | 23.3                           |
|                    | 14 21             | 0045          | 7.3                 | 16.7                           |
| 80/08/20           | 13 36             | 0002          | 9.3                 | 20.4                           |
|                    | 13 37             | 0045          | 6.9                 | 15.8                           |
| 80/08/28           | 13 15             | 0002          | 8.2                 | 23.7                           |
|                    | 13 15             | 0045          | 7.4                 | 23.0                           |
| 80/09/02           | 12 50             | 0002          | 8.6                 | 22.0                           |
|                    | 12 50             | 0045          | 7.1                 | 21.0                           |
| 80/09/13           | 08 00             | 0002          | 9.3                 |                                |
|                    | 08 00             | 0045          | 4.9                 |                                |
| 80/10/04           | 10 44             | 0002          | 6.6                 | 17.0                           |
|                    | 10 44             | 0045          | 6.1                 | 17.1                           |



STCRET RETRIEVAL DATE 81/03/03  
 NYB21 NYB-21  
 40 23 54.0 073 53 30.0 2  
 4 MILES EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030  
 0079 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FRCM     | OF    |       | 00    | WATER |
| TG       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/05/28 | 10 55 | 0002  | 9.3   | 14.8  |
|          | 10 55 | 0080  | 8.2   | 9.1   |
| 80/06/02 | 09 11 | 0002  | 10.5  |       |
|          | 09 11 | 0076  | 7.9   |       |
| 80/06/10 | 10 10 | 0002  | 8.9   |       |
|          | 10 10 | 0076  | 7.9   |       |
| 80/06/16 | 09 20 | 0002  | 8.8   | 14.6  |
|          | 09 20 | 0076  | 7.3   | 10.1  |
| 80/06/24 | 08 55 | 0002  | 9.4   | 18.4  |
|          | 08 55 | 0076  | 7.3   | 10.9  |
| 80/07/02 | 08 34 | 0002  | 8.6   | 18.1  |
|          | 08 34 | 0076  | 7.0   | 13.2  |
| 80/07/07 | 16 10 | 0002  | 8.8   | 20.7  |
|          | 16 10 | 0076  | 7.7   | 13.7  |
| 80/07/21 | 13 21 | 0002  | 14.9  | 24.1  |
|          | 13 21 | 0076  | 5.0   | 14.3  |
| 80/08/01 | 09 34 | 0002  | 5.9   | 22.3  |
|          | 09 34 | 0076  | 6.0   | 14.9  |
| 80/08/04 | 08 40 | 0002  | 8.0   | 24.0  |
|          | 08 40 | 0076  | 11.9  | 16.8  |
| 80/08/13 | 14 16 | 0002  | 9.5   | 22.3  |
|          | 14 16 | 0076  | 7.9   | 16.1  |
| 80/08/20 | 13 39 | 0002  | 10.1  | 20.0  |
|          | 13 41 | 0076  | 6.5   | 14.3  |
| 80/08/28 | 12 55 | 0002  | 8.0   | 23.2  |
|          | 12 55 | 0076  | 8.0   | 22.6  |
| 80/09/02 | 12 35 | 0002  | 8.4   | 22.0  |
|          | 12 35 | 0076  | 5.5   | 18.4  |

STCRET RETRIEVAL DATE 81/03/03  
 NY822 NY8-22  
 40 23 54.0 073 51 00.0 2  
 6 MILES EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YCRK BIGHT SURVEILLANCE MUD GROUNDS  
 1111H030  
 0090 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/05/28           | 11 10             | 0002          | 8.9                 | 14.8                           |
|                    | 11 10             | 0066          | 8.3                 | 9.7                            |
| 80/06/02           | 09 16             | 0002          | 10.4                |                                |
|                    | 09 16             | 0086          | 7.6                 |                                |
| 80/06/10           | 10 16             | 0002          | 8.7                 |                                |
|                    | 10 16             | 0086          | 7.8                 |                                |
| 80/06/14           | 10 50             | 0002          | 10.0                | 16.8                           |
|                    | 10 50             | 0086          | 7.6                 | 9.5                            |
| 80/06/16           | 09 25             | 0002          | 8.3                 | 13.7                           |
|                    | 09 25             | 0086          | 7.5                 | 9.6                            |
| 80/06/24           | 08 59             | 0002          | 10.2                | 18.2                           |
|                    | 08 59             | 0086          | 7.2                 | 10.4                           |
| 80/06/27           | 08 08             | 0002          | 10.1                | 18.7                           |
|                    | 08 08             | 0086          | 6.6                 | 11.4                           |
| 80/07/02           | 08 39             | 0002          | 7.5                 | 17.8                           |
|                    | 08 39             | 0086          | 7.0                 | 12.2                           |
| 80/07/05           | 09 55             | 0002          | 7.9                 | 21.4                           |
|                    | 09 55             | 0086          | 7.1                 | 15.5                           |
| 80/07/07           | 16 05             | 0002          | 9.3                 | 21.0                           |
|                    | 16 05             | 0086          | 5.5                 | 12.9                           |
| 80/07/12           | 10 15             | 0002          | 8.2                 | 19.9                           |
|                    | 10 15             | 0086          | 5.4                 | 12.6                           |
| 80/07/21           | 13 19             | 0002          | 11.5                | 23.8                           |
|                    | 13 19             | 0086          | 5.7                 | 12.4                           |
| 80/08/01           | 09 39             | 0002          | 8.0                 | 23.4                           |
|                    | 09 39             | 0086          | 7.4                 | 15.7                           |
| 80/08/02           | 08 31             | 0002          | 8.1                 | 23.0                           |
|                    | 08 31             | 0086          | 6.4                 | 14.0                           |
| 80/08/04           | 08 44             | 0002          | 7.8                 | 23.9                           |
|                    | 08 44             | 0086          | 8.4                 | 16.8                           |
| 80/08/09           | 09 37             | 0002          | 8.3                 | 23.0                           |
|                    | 09 37             | 0086          | 7.3                 | 14.1                           |
| 80/08/13           | 14 14             | 0002          | 10.2                | 23.2                           |
|                    | 14 14             | 0086          | 7.1                 | 14.6                           |
| 80/08/20           | 13 43             | 0002          | 9.2                 | 20.3                           |
|                    | 13 45             | 0086          | 8.3                 | 13.8                           |
| 80/08/28           | 12 45             | 0002          | 8.6                 | 23.6                           |
|                    | 12 45             | 0086          | 7.9                 | 22.1                           |
| 80/09/02           | 12 20             | 0002          | 8.8                 | 22.5                           |
|                    | 12 20             | 0086          | 5.4                 | 16.8                           |
| 80/09/13           | 08 06             | 0002          | 8.1                 |                                |
|                    | 08 06             | 0086          | 4.7                 |                                |
| 80/10/04           | 10 47             | 0002          | 7.8                 | 17.5                           |
|                    | 10 47             | 0086          | 5.1                 | 16.9                           |

STCRET RETRIEVAL DATE 81/03/03  
 NY823 NY8-23  
 40 23 54.J 073 49 12.0 2  
 7.4MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE CELLAR DIRT  
 1111H030  
 0100 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CC    | WATER |
| TC       | CAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/05/28 | 11 30 | 0002  | 9.0   | 14.8  |
|          | 11 30 | 0105  | 7.6   | 9.2   |
| 80/06/02 | 09 21 | 0002  | 10.3  |       |
|          | 09 21 | 0103  | 8.3   |       |
| 80/06/10 | 10 23 | 0002  | 8.9   |       |
|          | 10 23 | 0103  | 8.1   |       |
| 80/06/16 | 09 30 | 0002  | 11.3  | 14.5  |
|          | 09 30 | 0103  | 7.0   | 9.8   |
| 80/06/24 | 09 03 | 0002  | 9.7   | 17.9  |
|          | 09 03 | 0103  | 7.5   | 10.3  |
| 80/07/02 | 08 42 | 0002  | 7.9   | 18.7  |
|          | 08 42 | 0103  | 6.5   | 11.3  |
| 80/07/07 | 16 00 | 0002  | 8.1   | 21.1  |
|          | 16 00 | 0103  | 6.0   | 12.3  |
| 80/07/21 | 13 16 | 0002  | 10.7  | 24.3  |
|          | 13 16 | 0103  | 5.7   | 13.3  |
| 80/08/01 | 09 41 | 0002  | 7.9   | 23.5  |
|          | 09 41 | 0103  | 6.7   | 13.2  |
| 80/08/04 | 08 48 | 0002  | 7.7   | 23.9  |
|          | 08 48 | 0103  | 6.0   | 14.1  |
| 80/08/13 | 14 09 | 0002  | 10.0  | 23.2  |
|          | 14 09 | 0103  | 6.4   | 14.2  |
| 80/08/20 | 13 47 | 0002  | 8.3   | 20.4  |
|          | 13 48 | 0103  | 5.5   | 13.7  |
| 80/08/28 | 12 15 | 0002  | 7.6   | 23.7  |
|          | 12 15 | 0103  | 7.5   | 19.9  |
| 80/09/02 | 12 05 | 0002  | 8.5   | 22.4  |
|          | 12 05 | 0103  | 6.6   | 16.7  |

STCRET RETRIEVAL DATE 81/03/03  
 NY824 NY8-24  
 40 23 54.0 073 47 30.0 2  
 8.6MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030  
 0123 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>DQ<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/05/28           | 11 55             | 0002          | 9.0                 | 14.7                           |
|                    | 11 55             | 0126          | 7.3                 | 9.5                            |
| 80/06/02           | 09 26             | 0002          | 9.9                 |                                |
|                    | 09 26             | 0123          | 8.5                 |                                |
| 80/06/10           | 10 30             | 0002          | 9.9                 |                                |
|                    | 10 30             | 0123          | 8.4                 |                                |
| 80/06/14           | 11 00             | 0002          | 11.0                | 16.2                           |
|                    | 11 00             | 0123          | 8.1                 | 10.4                           |
| 80/06/16           | 09 35             | 0002          | 10.9                | 14.8                           |
|                    | 09 35             | 0123          | 8.1                 | 10.0                           |
| 80/06/24           | 09 07             | 0002          | 9.5                 | 17.9                           |
|                    | 09 07             | 0123          | 8.9                 | 10.4                           |
| 80/06/27           | 08 14             | 0002          | 10.5                | 19.5                           |
|                    | 08 14             | 0123          | 7.9                 | 10.9                           |
| 80/07/02           | 09 30             | 0002          | 8.0                 | 19.5                           |
|                    | 09 30             | 0123          | 5.7                 | 10.7                           |
| 80/07/05           | 09 50             | 0002          | 9.2                 | 21.2                           |
|                    | 09 50             | 0123          |                     | 14.8                           |
| 80/07/07           | 15 56             | 0002          | 8.2                 | 21.3                           |
|                    | 15 56             | 0123          | 6.4                 | 12.0                           |
| 80/07/12           | 10 10             | 0002          | 8.4                 | 20.0                           |
|                    | 10 10             | 0123          | 5.9                 |                                |
| 80/07/21           | 13 14             | 0002          | 10.0                | 22.4                           |
|                    | 13 14             | 0123          | 7.8                 | 12.6                           |
| 80/08/01           | 09 46             | 0002          | 7.8                 | 23.3                           |
|                    | 09 46             | 0123          | 6.1                 | 13.7                           |
| 80/08/02           | 08 37             | 0002          | 7.9                 | 22.9                           |
|                    | 08 37             | 0123          | 7.1                 | 14.3                           |
| 80/08/04           | 08 53             | 0002          | 7.7                 | 24.0                           |
|                    | 08 53             | 0123          | 5.6                 | 13.4                           |
| 80/08/09           | 09 33             | 0002          | 7.3                 | 24.8                           |
|                    | 09 33             | 0123          | 7.1                 | 13.9                           |
| 80/08/13           | 14 06             | 0002          | 11.8                | 23.8                           |
|                    | 14 06             | 0123          | 6.4                 | 14.2                           |
| 80/08/20           | 13 52             | 0002          | 7.8                 | 20.4                           |
|                    | 13 53             | 0123          | 7.5                 | 13.3                           |
| 80/08/28           | 11 40             | 0002          | 7.6                 | 23.4                           |
|                    | 11 40             | 0123          | 5.9                 | 18.4                           |
| 80/09/02           | 11 55             | 0002          | 8.4                 | 22.4                           |
|                    | 11 55             | 0123          | 6.7                 | 13.7                           |
| 80/09/13           | 08 11             | 0002          | 7.5                 |                                |
|                    | 08 11             | 0123          | 7.7                 |                                |
| 80/10/04           | 10 49             | 0002          | 7.8                 | 18.0                           |
|                    | 10 49             | 0123          | 6.6                 | 17.6                           |

STCRET RETRIEVAL DATE 81/03/03  
 NY825 NY8-25  
 40 23 54.0 073 45 00.0 2  
 10.6MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE SGE SLUDGE G  
 1111H030  
 0078 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>DC<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/05/28           | 12 25             | 0002          | 9.0                 | 14.7                           |
|                    | 12 25             | 0075          | 8.5                 | 9.5                            |
| 80/06/02           | 09 29             | 0002          | 8.7                 |                                |
|                    | 09 29             | 0076          | 8.9                 |                                |
| 80/06/10           | 10 35             | 0002          | 9.0                 |                                |
|                    | 10 35             | 0076          | 8.8                 |                                |
| 80/06/16           | 09 39             | 0076          | 7.9                 | 10.2                           |
| 80/06/24           | 09 11             | 0002          | 9.0                 | 18.1                           |
|                    | 09 11             | 0076          | 7.3                 | 11.1                           |
| 80/07/02           | 09 34             | 0002          | 8.2                 | 19.6                           |
|                    | 09 34             | 0076          | 7.0                 | 12.7                           |
| 80/07/07           | 15 53             | 0002          | 8.6                 | 21.2                           |
|                    | 15 53             | 0076          | 5.0                 | 13.0                           |
| 80/07/21           | 13 10             | 0002          | 9.4                 | 23.1                           |
|                    | 13 10             | 0076          | 5.1                 | 13.7                           |
| 80/08/01           | 09 50             | 0002          | 7.8                 | 23.3                           |
|                    | 09 50             | 0076          | 6.9                 | 16.1                           |
| 80/08/04           | 08 56             | 0002          | 7.5                 | 24.1                           |
|                    | 08 56             | 0076          | 7.6                 | 14.7                           |
| 80/08/13           | 14 02             | 0002          | 9.3                 | 24.1                           |
|                    | 14 02             | 0076          | 7.2                 | 14.6                           |
| 80/08/20           | 13 55             | 0002          | 7.9                 | 20.0                           |
|                    | 13 56             | 0076          | 7.5                 | 13.4                           |
| 80/08/27           | 13 00             | 0002          | 7.4                 | 24.0                           |
|                    | 13 00             | 0076          | 6.5                 | 19.3                           |
| 80/09/02           | 11 40             | 0002          | 8.3                 | 23.0                           |
|                    | 11 40             | 0076          | 6.0                 | 15.1                           |

STCRET RETRIEVAL DATE 81/03/03  
 NY826 NY8-26  
 40 23 54.0 073 43 15.0 2  
 12MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE SGE SLUDGE G  
 1111H030  
 0078 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300<br>DO | 00010<br>WATER<br>TEMP |
|----------|-------|-------|-------------|------------------------|
| FROM     | OF    |       |             |                        |
| TO       | DAY   | FEET  | MG/L        | CENT                   |
| 80/05/28 | 12 50 | 0002  | 9.2         | 14.6                   |
|          | 12 50 | 0077  | 8.8         | 8.9                    |
| 80/06/02 | 09 34 | 0002  | 8.7         |                        |
|          | 09 34 | 0076  | 8.7         |                        |
| 80/06/10 | 10 39 | 0002  | 9.2         |                        |
|          | 10 39 | 0076  | 9.0         |                        |
| 80/06/16 | 09 45 | 0002  | 9.7         | 14.9                   |
|          | 09 45 | 0076  | 7.9         | 9.9                    |
| 80/06/24 | 09 15 | 0002  | 8.6         | 18.4                   |
|          | 09 15 | 0076  | 7.7         | 12.0                   |
| 80/07/02 | 09 39 | 0002  | 8.1         | 19.6                   |
|          | 09 39 | 0076  | 6.8         | 12.6                   |
| 80/07/07 | 15 45 | 0002  | 8.1         | 21.1                   |
|          | 15 45 | 0076  | 7.4         | 13.9                   |
| 80/07/21 | 13 05 | 0002  | 9.0         | 23.5                   |
|          | 13 05 | 0076  | 6.9         | 13.0                   |
| 80/08/01 | 09 54 | 0002  | 8.6         | 23.4                   |
|          | 09 54 | 0076  | 6.6         | 14.3                   |
| 80/08/04 | 09 03 | 0002  | 7.6         | 24.1                   |
|          | 09 03 | 0076  | 7.8         | 13.8                   |
| 80/08/13 | 13 59 | 0002  | 8.1         | 24.3                   |
|          | 13 59 | 0076  | 7.3         | 15.8                   |
| 80/08/20 | 13 57 | 0002  | 7.9         | 20.2                   |
|          | 13 58 | 0076  | 8.4         | 14.6                   |
| 80/08/27 | 12 45 | 0002  | 7.5         | 23.5                   |
|          | 12 45 | 0076  | 7.5         | 21.9                   |

SECRET RETRIEVAL DATE 81/03/03  
 NY827 NY8-27  
 40 23 54.0 073 40 32.0 2  
 14MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030  
 0081 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/02           | 09 38             | 0002          | 8.7                 |                                |
|                    | 09 38             | 0079          | 9.4                 |                                |
| 80/06/10           | 10 45             | 0002          | 9.0                 |                                |
|                    | 10 45             | 0079          | 9.0                 |                                |
| 80/06/16           | 09 50             | 0002          | 9.3                 | 16.0                           |
|                    | 09 50             | 0079          | 7.8                 | 10.0                           |
| 80/06/24           | 09 19             | 0002          | 8.6                 | 18.1                           |
|                    | 09 19             | 0079          | 8.1                 | 11.5                           |
| 80/07/02           | 09 43             | 0002          | 8.3                 | 19.7                           |
|                    | 09 43             | 0079          | 7.5                 | 12.4                           |
| 80/07/07           | 15 43             | 0002          | 7.9                 | 21.2                           |
|                    | 15 43             | 0079          | 7.4                 | 13.8                           |
| 80/07/21           | 13 00             | 0002          | 8.4                 | 23.9                           |
|                    | 13 00             | 0079          | 7.5                 | 14.5                           |
| 80/08/01           | 09 59             | 0002          | 8.6                 | 23.2                           |
|                    | 09 59             | 0079          | 7.4                 | 14.7                           |
| 80/08/04           | 09 08             | 0002          | 7.5                 | 24.2                           |
|                    | 09 08             | 0079          | 9.0                 | 15.1                           |
| 80/08/13           | 13 55             | 0002          | 8.8                 | 24.5                           |
|                    | 13 55             | 0079          | 7.4                 | 15.9                           |
| 80/08/27           | 12 20             | 0002          | 7.8                 | 22.7                           |
|                    | 12 20             | 0079          | 7.0                 | 20.6                           |

STCRET RETRIEVAL DATE 81/03/03  
 NY832 NY8-32  
 40 29 25.0 073 56 00.0 2  
 ADJACENT TO AMBRCSE CHANNEL  
 34025 NEW JERSEY  
 ATLANTIC CCEAN  
 NEW YCRK BIGHT SURV FLIA WHISTLE  
 1111H030  
 0024 FEET DEPTH CLASS 00

/TYPA/AM8NT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/02           | 10 17             | 0002          | 9.9                 |                                |
|                    | 10 17             | 0041          | 9.3                 |                                |
| 80/06/10           | 12 47             | 0002          | 7.6                 |                                |
|                    | 12 47             | 0041          | 7.4                 |                                |
| 80/06/16           | 10 58             | 0002          | 8.5                 | 13.4                           |
|                    | 10 58             | 0041          | 7.8                 | 9.9                            |
| 80/06/24           | 10 24             | 0002          | 9.8                 | 18.0                           |
|                    | 10 24             | 0041          | 8.1                 | 12.0                           |
| 80/07/02           | 10 50             | 0002          | 7.4                 | 19.5                           |
|                    | 10 50             | 0041          | 7.8                 | 13.0                           |
| 80/07/09           | 11 00             | 0002          | 6.5                 | 22.5                           |
|                    | 11 00             | 0041          | 6.5                 | 17.7                           |
| 80/07/21           | 13 32             | 0002          | 6.6                 | 20.3                           |
|                    | 13 32             | 0041          | 6.1                 | 15.9                           |
| 80/08/01           | 10 52             | 0002          | 7.0                 | 23.3                           |
|                    | 10 52             | 0041          | 7.6                 | 17.7                           |
| 80/08/04           | 10 38             | 0002          | 5.3                 | 23.8                           |
|                    | 10 38             | 0041          | 8.2                 | 19.4                           |
| 80/08/13           | 14 44             | 0002          | 7.4                 | 19.4                           |
|                    | 14 44             | 0041          | 7.5                 | 17.8                           |
| 80/09/02           | 10 30             | 0002          | 6.8                 | 23.5                           |
|                    | 10 30             | 0041          | 6.0                 | 20.8                           |



STCRET RETRIEVAL DATE 81/03/03  
 NY833 NYB-33  
 40 18 36.0 073 53 45.0 2  
 ADJACENT TO AMBRCSE CHANNEL  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV BW MCA WHISTLE  
 1111H030  
 0046 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/02           | 10 10             | 0002          | 10.1                |                                |
|                    | 10 10             | 0044          | 11.4J               |                                |
| 80/06/10           | 12 42             | 0002          | 7.5                 |                                |
|                    | 12 42             | 0044          | 8.4                 |                                |
| 80/06/16           | 10 53             | 0002          | 10.8                | 13.8                           |
|                    | 10 53             | 0044          | 8.5                 | 12.1                           |
| 80/06/24           | 10 19             | 0002          | 10.8                | 17.0                           |
|                    | 10 19             | 0044          | 7.2                 | 11.9                           |
| 80/07/02           | 10 45             | 0002          | 8.3                 | 19.2                           |
|                    | 10 45             | 0044          | 8.2                 | 14.0                           |
| 80/07/09           | 10 56             | 0002          | 6.7                 | 20.2                           |
|                    | 10 56             | 0044          | 7.0                 | 15.8                           |
| 80/07/21           | 13 35             | 0002          | 9.0                 | 22.7                           |
|                    | 13 35             | 0044          | 5.9                 | 15.2                           |
| 80/08/01           | 10 48             | 0002          | 7.9                 | 23.1                           |
|                    | 10 48             | 0044          | 7.8                 | 17.5                           |
| 80/08/04           | 10 35             | 0002          | 5.8                 | 23.6                           |
|                    | 10 35             | 0044          | 8.3                 | 19.0                           |
| 80/08/13           | 14 39             | 0002          | 10.0                | 23.0                           |
|                    | 14 39             | 0044          | 7.8                 | 15.7                           |
| 80/09/02           | 10 45             | 0002          | 6.8                 | 23.2                           |
|                    | 10 45             | 0044          | 5.5                 | 19.8                           |

STCRET RETRIEVAL DATE 81/03/03  
 NY834 NY8-34  
 40 27 15.0 073 50 00.0 2  
 ADJACENT SOUTH SIDE CF HORN  
 34025 NEW JERSEY  
 ATLANTIC CCEAN  
 NEW YORK BIGHT SURVEILLANCE AMBROSE HORN  
 1111H030  
 0087 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>00<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/02           | 10 05             | 0002          | 10.0                |                                |
|                    | 10 05             | 0079          | 7.9                 |                                |
| 80/06/10           | 12 36             | 0002          | 8.6                 |                                |
|                    | 12 36             | 0079          | 8.1                 |                                |
| 80/06/16           | 10 47             | 0002          | 9.5                 | 13.9                           |
|                    | 10 47             | 0079          | 8.0                 | 9.4                            |
| 80/06/24           | 10 14             | 0002          | 10.0                | 18.5                           |
|                    | 10 14             | 0079          | 7.7                 | 10.9                           |
| 80/07/02           | 10 41             | 0002          | 8.8                 | 19.9                           |
|                    | 10 41             | 0079          | 9.0                 | 12.6                           |
| 80/07/09           | 10 50             | 0002          | 8.8                 | 20.6                           |
|                    | 10 50             | 0079          | 5.8                 | 13.1                           |
| 80/07/21           | 13 38             | 0002          | 9.7                 | 22.8                           |
|                    | 13 38             | 0079          | 5.4                 | 13.7                           |
| 80/08/01           | 10 42             | 0002          | 8.1                 | 23.1                           |
|                    | 10 42             | 0079          | 7.0                 | 14.4                           |
| 80/08/04           | 10 30             | 0002          | 8.1                 | 24.4                           |
|                    | 10 30             | 0079          | 7.5                 | 16.2                           |
| 80/08/13           | 14 35             | 0002          | 9.9                 | 23.3                           |
|                    | 14 35             | 0079          | 7.1                 | 14.8                           |
| 80/08/26           | 13 45             | 0002          | 6.9                 | 22.8                           |
|                    | 13 45             | 0088          | 6.9                 | 19.8                           |
| 80/09/02           | 11 10             | 0002          | 9.8                 | 22.9                           |
|                    | 11 10             | 0079          | 6.0                 | 13.8                           |

SECRET RETRIEVAL DATE 81/03/03  
 NY835 NY8-35  
 40 26 10.0 073 47 12.0 2  
 2.5MI SE CF AMBRCSE HORN  
 34059 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030  
 0100 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>DO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/02           | 10 00             | 0002          | 8.7                 |                                |
|                    | 10 00             | 0093          | 9.5                 |                                |
| 80/06/10           | 12 30             | 0002          | 9.2                 |                                |
|                    | 12 30             | 0093          | 8.8                 |                                |
| 80/06/16           | 10 43             | 0002          | 10.5                | 14.8                           |
|                    | 10 43             | 0093          | 8.0                 | 9.7                            |
| 80/06/24           | 10 10             | 0002          | 11.2                | 18.3                           |
|                    | 10 10             | 0093          | 7.9                 | 12.2                           |
| 80/07/02           | 10 38             | 0002          | 8.3                 | 20.2                           |
|                    | 10 38             | 0093          | 6.5                 | 13.8                           |
| 80/07/09           | 10 45             | 0002          | 8.5                 | 21.1                           |
|                    | 10 45             | 0093          | 7.2                 | 15.0                           |
| 80/07/21           | 13 41             | 0002          | 10.2                | 24.1                           |
|                    | 13 41             | 0093          | 5.0                 | 12.9                           |
| 80/08/01           | 10 37             | 0002          | 7.8                 | 23.4                           |
|                    | 10 37             | 0093          | 7.8                 | 14.4                           |
| 80/08/04           | 10 26             | 0002          | 8.0                 | 24.4                           |
|                    | 10 26             | 0093          | 7.3                 | 15.7                           |
| 80/08/13           | 14 31             | 0002          | 9.7                 | 23.0                           |
|                    | 14 31             | 0093          | 7.1                 | 14.7                           |
| 80/08/26           | 13 25             | 0002          | 7.5                 | 22.2                           |
|                    | 13 25             | 0091          | 7.3                 | 19.0                           |
| 80/09/02           | 11 20             | 0002          | 8.3                 | 22.7                           |
|                    | 11 20             | 0093          | 6.6                 | 17.0                           |

STCRET RETRIEVAL DATE 81/03/03  
 NYB40 NYB-40  
 40 33 36.0 073 45 00.0 2  
 1.5 MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YCRK  
 ATLANTIC OCEAN 013391  
 NEW YCRK BIGHT SURVEILLANCE  
 1111H030  
 0044 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>00<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/02           | 11 09             | 0002          | 9.0                 |                                |
|                    | 11 09             | 0041          | 8.8                 |                                |
| 80/06/10           | 11 44             | 0002          | 8.5                 |                                |
|                    | 11 44             | 0041          | 8.8                 |                                |
| 80/06/14           | 11 18             | 0002          | 9.7                 | 15.9                           |
|                    | 11 18             | 0041          | 9.1                 | 10.9                           |
| 80/06/16           | 10 35             | 0002          | 9.4                 | 14.0                           |
|                    | 10 35             | 0041          | 7.8                 | 11.4                           |
| 80/06/24           | 10 02             | 0002          | 9.4                 | 18.1                           |
|                    | 10 02             | 0041          | 7.8                 | 15.4                           |
| 80/06/27           | 08 30             | 0002          | 9.4                 | 19.4                           |
|                    | 08 30             | 0041          | 7.9                 | 14.7                           |
| 80/07/02           | 10 25             | 0002          | 8.3                 | 20.2                           |
|                    | 10 25             | 0041          | 6.8                 | 18.0                           |
| 80/07/05           | 09 35             | 0002          | 8.9                 | 22.4                           |
|                    | 09 35             | 0041          | 8.0                 | 19.1                           |
| 80/07/07           | 15 05             | 0002          | 8.2                 | 20.2                           |
|                    | 15 05             | 0041          | 7.3                 | 17.7                           |
| 80/07/12           | 09 53             | 0002          | 8.0                 | 20.7                           |
|                    | 09 53             | 0041          | 5.8                 | 16.3                           |
| 80/07/21           | 12 29             | 0002          | 8.8                 | 24.4                           |
|                    | 12 29             | 0041          | 5.5                 | 17.0                           |
| 80/08/01           | 10 30             | 0002          | 8.7                 | 24.2                           |
|                    | 10 30             | 0041          | 6.0                 | 21.9                           |
| 80/08/02           | 08 51             | 0002          | 9.3                 | 23.3                           |
|                    | 08 51             | 0041          | 5.8                 | 21.2                           |
| 80/08/04           | 09 43             | 0002          | 7.3                 | 23.2                           |
|                    | 09 43             | 0041          | 7.1                 | 19.4                           |
| 80/08/09           | 09 20             | 0002          | 7.8                 | 22.2                           |
|                    | 09 20             | 0041          | 4.6                 | 18.7                           |
| 80/08/13           | 13 24             | 0002          | 7.1                 | 21.6                           |
|                    | 13 24             | 0041          | 6.0                 | 18.5                           |
| 80/08/26           | 11 25             | 0002          | 8.1                 | 23.8                           |
|                    | 11 25             | 0045          | 6.4                 | 21.0                           |
| 80/09/13           | 08 28             | 0002          | 8.3                 |                                |
|                    | 08 28             | 0041          | 5.2                 |                                |
| 80/10/04           | 11 05             | 0002          | 7.1                 | 17.0                           |
|                    | 11 05             | 0041          | 6.5                 | 16.9                           |

STCRET RETRIEVAL DATE 81/03/03  
 NY841 NY8-41  
 40 31 39.0 073 45 00.0 2  
 3.5 MI SOUTH OF ATLANTIC BEACH  
 36C59 NEW YORK  
 ATLANTIC OCEAN 013391  
 NEW YORK EIGHT SURVEILLANCE  
 1111H030  
 0060 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CO    | WATER |
| TO       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/02 | 11 12 | 0002  | 9.1   |       |
|          | 11 12 | 0059  | 8.9   |       |
| 80/06/10 | 11 37 | 0002  | 9.2   |       |
|          | 11 37 | 0059  | 9.0   |       |
| 80/06/16 | 10 30 | 0002  | 9.8   | 14.1  |
|          | 10 30 | 0059  | 6.5   | 9.6   |
| 80/06/24 | 09 58 | 0002  | 9.9   | 18.1  |
|          | 09 58 | 0059  | 7.3   | 13.1  |
| 80/07/02 | 10 19 | 0002  | 8.1   | 20.2  |
|          | 10 19 | 0059  | 8.0   | 13.9  |
| 80/07/07 | 15 10 | 0002  | 8.3   | 21.8  |
|          | 15 10 | 0059  | 7.4   | 16.6  |
| 80/07/21 | 12 37 | 0002  | 8.7   | 24.0  |
|          | 12 37 | 0059  | 6.1   | 17.0  |
| 80/08/01 | 10 26 | 0002  | 8.4   | 24.0  |
|          | 10 26 | 0059  | 6.4   | 17.0  |
| 80/08/04 | 09 38 | 0002  | 8.0   | 24.1  |
|          | 09 38 | 0059  | 7.1   | 18.1  |
| 80/08/13 | 13 27 | 0002  | 8.1   | 23.6  |
|          | 13 27 | 0059  | 8.2   | 17.2  |
| 80/08/26 | 11 45 | 0002  | 8.1   | 23.0  |
|          | 11 45 | 0059  | 9.3   | 20.9  |

STCRET RETRIEVAL DATE 81/03/03  
 NY842 NY8-42  
 40 29 42.0 073 45 00.0 2  
 5.5MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YORK  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030  
 0078 FEET DEPTH CLASS 00

/TPA/AM8NT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | 00    | WATER |
| TO       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/02 | 11 16 | 0002  | 8.9   |       |
|          | 11 16 | 0073  | 8.6   |       |
| 80/06/10 | 11 30 | 0002  | 12.3  |       |
|          | 11 30 | 0073  | 8.7   |       |
| 80/06/14 | 11 13 | 0002  | 10.5  | 15.9  |
|          | 11 13 | 0073  | 8.4   | 10.7  |
| 80/06/16 | 10 25 | 0002  | 9.6   | 14.4  |
|          | 10 25 | 0073  | 8.1   | 8.9   |
| 80/06/24 | 09 53 | 0002  | 9.8   | 18.3  |
|          | 09 53 | 0073  | 7.4   | 12.1  |
| 80/06/27 | 08 25 | 0002  | 9.3   | 19.6  |
|          | 08 25 | 0073  | 7.1   | 10.8  |
| 80/07/02 | 10 14 | 0002  | 8.5   | 19.9  |
|          | 10 14 | 0073  | 7.5   | 13.0  |
| 80/07/05 | 09 40 | 0002  | 8.0   | 21.3  |
|          | 09 40 | 0073  | 8.0   | 16.1  |
| 80/07/07 | 15 15 | 0002  | 8.2   | 21.8  |
|          | 15 15 | 0073  | 7.1   | 15.7  |
| 80/07/12 | 09 56 | 0002  | 9.2   | 20.8  |
|          | 09 56 | 0073  | 6.7   | 14.4  |
| 80/07/21 | 12 40 | 0002  | 8.7   | 23.6  |
|          | 12 40 | 0073  | 6.2   | 16.0  |
| 80/08/01 | 10 22 | 0002  | 7.9   | 23.3  |
|          | 10 22 | 0073  | 6.6   | 16.5  |
| 80/08/02 | 08 47 | 0002  | 7.8   | 23.0  |
|          | 08 47 | 0073  | 5.8   | 16.0  |
| 80/08/04 | 09 35 | 0002  | 8.3   | 24.2  |
|          | 09 35 | 0073  | 6.5   | 17.0  |
| 80/08/09 | 09 24 | 0002  | 8.0   | 23.8  |
|          | 09 24 | 0073  | 6.3   | 16.0  |
| 80/08/13 | 13 31 | 0002  | 8.3   | 24.1  |
|          | 13 31 | 0073  | 7.7   | 16.8  |
| 80/08/26 | 12 10 | 0002  | 7.7   | 22.1  |
|          | 12 10 | 0073  | 8.0   | 20.3  |
| 80/09/13 | 08 22 | 0002  | 8.3   |       |
|          | 08 22 | 0073  | 4.1   |       |
| 80/10/04 | 11 00 | 0002  | 7.5   | 17.2  |
|          | 11 00 | 0073  | 6.0   | 16.9  |

STCRET RETRIEVAL DATE 81/03/03  
 NY843 NY8-43  
 40 27 45.0 073 45 00.0 2  
 7.5MI SCUTH OF ATLANTIC BEACH  
 36059 NEW YORK  
 ATLANTIC OCEAN  
 NEW YCRK BIGHT SURVEILLANCE  
 1111H030  
 0089 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/02           | 11 21             | 0002          | 8.6                 |                                |
|                    | 11 21             | 0088          | 9.2                 |                                |
| 80/06/10           | 11 25             | 0002          | 10.0                |                                |
|                    | 11 25             | 0088          | 8.2                 |                                |
| 80/06/16           | 10 20             | 0002          | 10.3                | 14.8                           |
|                    | 10 20             | 0088          | 8.1                 | 9.1                            |
| 80/06/24           | 09 48             | 0002          | 8.3                 | 17.9                           |
|                    | 09 48             | 0088          | 7.4                 | 10.7                           |
| 80/07/02           | 10 10             | 0002          | 8.0                 | 20.0                           |
|                    | 10 10             | 0088          | 7.3                 | 13.1                           |
| 80/07/07           | 15 19             | 0002          | 8.1                 | 21.3                           |
|                    | 15 19             | 0088          | 7.0                 | 14.1                           |
| 80/07/21           | 12 42             | 0002          | 9.0                 | 23.1                           |
|                    | 12 42             | 0088          | 6.6                 | 15.0                           |
| 80/08/01           | 10 18             | 0002          | 7.9                 | 23.2                           |
|                    | 10 18             | 0088          | 6.8                 | 15.4                           |
| 80/08/04           | 09 30             | 0002          | 8.2                 | 24.2                           |
|                    | 09 30             | 0088          | 6.6                 | 15.5                           |
| 80/08/13           | 13 35             | 0002          | 9.5                 | 23.6                           |
|                    | 13 35             | 0088          | 7.5                 | 16.2                           |
| 80/08/26           | 12 30             | 0002          | 8.0                 | 22.1                           |
|                    | 12 30             | 0088          | 8.0                 | 19.9                           |

STCRET RETRIEVAL DATE 81/03/03  
 NY844 NY8-44  
 40 25 54.0 073 45 00.0 2  
 9.5MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YORK  
 ATLANTIC CCEAN  
 NEW YCRK BIGHT SURVEILLANCE  
 1111H030  
 0094 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>DO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/02           | 11 25             | 0002          | 8.6                 |                                |
|                    | 11 25             | 0091          | 9.1                 |                                |
| 80/06/10           | 11 16             | 0002          | 9.1                 |                                |
|                    | 11 16             | 0091          | 8.8                 |                                |
| 80/06/14           | 11 07             | 0002          | 10.5                | 16.3                           |
|                    | 11 07             | 0091          | 8.0                 | 10.0                           |
| 80/06/16           | 10 14             | 0002          | 9.6                 | 15.0                           |
|                    | 10 14             | 0091          | 7.1                 | 10.7                           |
| 80/06/24           | 09 43             | 0002          | 8.7                 | 18.1                           |
|                    | 09 43             | 0091          | 7.4                 | 10.2                           |
| 80/06/27           | 08 19             | 0002          | 9.8                 | 19.5                           |
|                    | 08 19             | 0091          | 7.2                 | 10.8                           |
| 80/07/02           | 10 05             | 0002          | 8.0                 | 19.9                           |
|                    | 10 05             | 0091          | 6.3                 | 11.8                           |
| 80/07/05           | 09 45             | 0002          | 8.1                 | 21.7                           |
|                    | 09 45             | 0091          | 6.0                 | 12.9                           |
| 80/07/07           | 15 23             | 0002          | 8.3                 | 21.0                           |
|                    | 15 23             | 0091          | 5.9                 | 14.0                           |
| 80/07/12           | 10 05             | 0002          | 8.6                 | 20.3                           |
|                    | 10 05             | 0091          | 5.2                 | 12.9                           |
| 80/07/21           | 12 45             | 0002          | 9.5                 | 23.4                           |
|                    | 12 45             | 0091          | 5.5                 | 14.3                           |
| 80/08/01           | 10 14             | 0002          | 7.9                 | 23.3                           |
|                    | 10 14             | 0091          | 6.8                 | 14.4                           |
| 80/08/02           | 08 42             | 0002          | 7.6                 | 23.0                           |
|                    | 08 42             | 0091          | 6.7                 | 15.1                           |
| 80/08/04           | 09 27             | 0002          | 7.8                 | 24.0                           |
|                    | 09 27             | 0091          | 6.5                 | 14.3                           |
| 80/08/09           | 09 29             | 0002          | 7.6                 | 24.7                           |
|                    | 09 29             | 0091          | 8.3                 | 14.4                           |
| 80/08/13           | 13 38             | 0002          | 9.5                 | 23.6                           |
|                    | 13 38             | 0091          | 7.1                 | 14.8                           |
| 80/08/26           | 12 45             | 0002          | 7.8                 | 22.1                           |
|                    | 12 45             | 0091          | 7.5                 | 18.9                           |
| 80/09/13           | 08 16             | 0002          | 7.5                 |                                |
|                    | 08 16             | 0091          | 5.5                 |                                |
| 80/10/04           | 10 55             | 0002          | 8.0                 | 17.7                           |
|                    | 10 55             | 0091          | 7.4                 | 17.5                           |



STCRET RETRIEVAL DATE 81/03/03  
 NY845 NY8-45  
 40 25 00.0 073 45 00.0 2  
 10.5MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YORK  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV SGE SLUDGE GROUNDS  
 1111H030  
 0090 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CO    | WATER |
| TC       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/02 | 11 30 | 0002  | 8.6   |       |
|          | 11 30 | 0088  | 9.5   |       |
| 80/06/10 | 11 09 | 0002  | 9.2   |       |
|          | 11 09 | 0088  | 8.5   |       |
| 80/06/16 | 10 10 | 0002  | 10.3  | 15.1  |
|          | 10 10 | 0088  | 7.8   | 10.2  |
| 80/06/24 | 09 35 | 0002  | 8.5   | 18.0  |
|          | 09 35 | 0088  | 7.0   | 11.4  |
| 80/07/02 | 09 59 | 0002  | 8.2   | 19.7  |
|          | 09 59 | 0088  | 6.6   | 13.0  |
| 80/07/07 | 15 25 | 0002  | 8.3   | 21.4  |
|          | 15 25 | 0088  | 6.4   | 14.6  |
| 80/07/21 | 12 47 | 0002  | 9.3   | 23.1  |
|          | 12 47 | 0088  | 5.7   | 14.5  |
| 80/08/01 | 10 10 | 0002  | 7.8   | 23.3  |
|          | 10 10 | 0088  | 6.9   | 15.2  |
| 80/08/04 | 09 23 | 0002  | 7.5   | 24.2  |
|          | 09 23 | 0088  | 5.3   | 13.9  |
| 80/08/13 | 13 41 | 0002  | 10.1  | 23.6  |
|          | 13 41 | 0088  | 4.4   | 15.3  |
| 80/08/20 | 14 13 | 0002  | 7.9   | 20.0  |
|          | 14 14 | 0088  | 7.7   | 13.2  |
| 80/08/26 | 13 00 | 0002  | 6.9   | 22.8  |
|          | 13 00 | 0088  | 8.0   | 18.8  |

STCRET RETRIEVAL DATE 81/03/03  
 NY846 NY8-46  
 40 22 00.0 073 43 15.0 2  
 11.8MI EAST OF SEA BRIGHT  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV SGE SLUDGE GROUNDS  
 1111H030  
 0084 FEET DEPTH CLASS 00

/TYP/AMBT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | DC    | WATER |
| TC       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/02 | 09 52 | 0002  | 8.4   |       |
|          | 09 52 | 0079  | 9.6   |       |
| 80/06/10 | 11 02 | 0002  | 9.0   |       |
|          | 11 02 | 0082  | 9.2   |       |
| 80/06/16 | 10 04 | 0002  | 8.5   | 15.6  |
|          | 10 04 | 0082  | 8.3   | 13.4  |
| 80/06/24 | 09 28 | 0002  | 8.6   | 18.2  |
|          | 09 28 | 0079  | 8.2   | 11.3  |
| 80/07/02 | 09 54 | 0002  | 8.5   | 19.8  |
|          | 09 54 | 0079  | 7.3   | 12.5  |
| 80/07/07 | 15 30 | 0002  | 8.4   | 21.3  |
|          | 15 30 | 0079  | 7.5   | 13.5  |
| 80/07/21 | 12 52 | 0002  | 8.3   | 23.7  |
|          | 12 52 | 0079  | 6.7   | 15.0  |
| 80/08/01 | 10 06 | 0002  | 8.1   | 23.5  |
|          | 10 06 | 0079  | 8.8   | 15.4  |
| 80/08/04 | 09 18 | 0002  | 7.4   | 23.5  |
|          | 09 18 | 0082  | 8.5   | 14.0  |
| 80/08/13 | 13 46 | 0002  | 7.8   | 24.4  |
|          | 13 46 | 0079  | 8.2   | 14.6  |
| 80/08/20 | 14 09 | 0002  | 7.0   | 19.7  |
|          | 14 10 | 0079  | 8.6   | 13.5  |
| 80/08/27 | 11 45 | 0002  | 7.3   | 23.3  |
|          | 11 45 | 0082  |       | 19.5  |

STCRET RETRIEVAL DATE 81/03/03  
 NY847 NY8-47  
 40 20 00.0 073 43 15.0 2  
 11.8MI EAST OF MONMOUTH BEACH  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV SGE SLUDGE GROUND  
 1111H030  
 0081 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | 00    | WATER |
| TC       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/02 | 09 46 | 0002  | 8.7   |       |
|          | 09 46 | 0082  | 10.0  |       |
| 80/06/10 | 10 55 | 0002  | 9.2   |       |
|          | 10 55 | 0079  | 9.2   |       |
| 80/06/16 | 10 00 | 0002  | 9.1   | 15.8  |
|          | 10 00 | 0079  | 9.6   | 10.5  |
| 80/06/24 | 09 22 | 0002  | 8.6   | 17.9  |
|          | 09 22 | 0082  | 7.4   | 12.0  |
| 80/07/02 | 09 51 | 0002  | 8.0   | 19.7  |
|          | 09 51 | 0082  | 7.6   | 12.0  |
| 80/07/07 | 15 35 | 0002  | 8.0   | 21.1  |
|          | 15 35 | 0082  | 8.0   | 14.6  |
| 80/07/21 | 12 55 | 0002  | 12.0  | 23.5  |
|          | 12 55 | 0082  | 7.4   | 14.8  |
| 80/08/01 | 10 03 | 0002  | 8.1   | 23.6  |
|          | 10 03 | 0082  | 7.5   | 12.7  |
| 80/08/04 | 09 13 | 0002  | 7.4   | 24.4  |
|          | 09 13 | 0079  | 7.4   | 12.8  |
| 80/08/13 | 13 48 | 0002  | 7.5   | 24.1  |
|          | 13 48 | 0082  | 8.6   | 15.3  |
| 80/08/20 | 14 06 | 0002  | 8.0   | 19.9  |
|          | 14 07 | 0082  | 8.9   | 13.5  |
| 80/08/27 | 11 20 | 0002  | 6.4   | 23.2  |
|          | 11 20 | 0079  | 6.9   | 21.6  |

SECRET RETRIEVAL DATE 81/03/03

JC14E

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ATLANTIC OCEAN - 1 NAUTICAL MI.OFF LONG BRANCH

34025 NEW JERSEY MONMOUTH

NCRTHEAST 013400

NEW JERSEY COAST

1111H030 790630

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/12           | 11 54             | 0002          | 9.1                 | 14.8                           |
|                    | 11 54             | 0040          | 6.9                 | 10.7                           |
| 80/06/14           | 10 09             | 0002          | 8.8                 | 15.6                           |
|                    | 10 09             | 0040          | 6.6                 | 10.8                           |
| 80/06/18           | 12 34             | 0002          | 9.8                 | 16.3                           |
|                    | 12 34             | 0040          | 6.3                 | 10.9                           |
| 80/06/24           | 15 22             | 0002          | 8.2                 | 19.0                           |
|                    | 15 22             | 0040          | 6.8                 | 12.1                           |
| 80/06/27           | 10 42             | 0002          | 9.8                 | 20.6                           |
|                    | 10 42             | 0040          | 6.6                 | 15.1                           |
| 80/07/05           | 10 10             | 0002          | 9.6                 | 21.3                           |
|                    | 10 10             | 0040          | 6.5                 | 18.8                           |
| 80/07/09           | 11 12             | 0002          | 8.4                 | 20.3                           |
|                    | 11 12             | 0040          | 5.1                 | 14.2                           |
| 80/07/12           | 10 30             | 0002          | 7.9                 | 20.6                           |
|                    | 10 30             | 0040          | 5.6                 | 15.0                           |
| 80/07/16           | 14 26             | 0002          | 7.8                 | 20.6                           |
|                    | 14 26             | 0040          | 4.8                 | 14.8                           |
| 80/07/18           | 10 45             | 0002          | 7.8                 | 21.9                           |
|                    | 10 45             | 0040          | 5.3                 | 17.4                           |
| 80/07/22           | 09 50             | 0002          | 8.3                 | 21.3                           |
|                    | 09 50             | 0040          | 5.3                 | 15.4                           |
| 80/07/30           | 09 50             | 0002          | 7.1                 | 21.8                           |
|                    | 09 50             | 0040          | 6.3                 | 18.8                           |
| 80/08/02           | 10 01             | 0002          | 7.9                 | 23.1                           |
|                    | 10 01             | 0040          | 5.3                 | 18.6                           |
| 80/08/08           | 09 17             | 0002          | 7.8                 | 23.3                           |
|                    | 09 17             | 0040          | 6.4                 | 17.4                           |
| 80/08/11           | 09 23             | 0002          | 9.3                 | 22.4                           |
|                    | 09 23             | 0040          | 7.0                 | 16.6                           |
| 80/08/18           | 10 45             | 0002          | 7.7                 | 20.4                           |
|                    | 10 45             | 0040          | 6.3                 | 14.8                           |
| 80/09/13           | 09 15             | 0002          | 7.9                 |                                |
|                    | 09 15             | 0040          | 5.0                 |                                |
| 80/10/04           | 09 45             | 0002          | 6.9                 | 17.9                           |
|                    | 09 45             | 0040          | 5.9                 | 17.8                           |

SECRET RETRIEVAL DATE 81/03/03

JC14G

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ATLANTIC OCEAN - 3 NAUTICAL MI. OFF LONG BRANCH

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| CATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CC    | WATER |
| TC       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/12 | 11 49 | 0002  | 8.5   | 14.8  |
|          | 11 49 | 0052  | 8.1   | 9.5   |
| 80/06/14 | 10 13 | 0002  | 8.9   | 15.4  |
|          | 10 13 | 0052  | 7.7   | 11.5  |
| 80/06/18 | 12 37 | 0002  | 9.5   | 16.4  |
|          | 12 37 | 0052  | 7.3   | 9.7   |
| 80/06/24 | 15 26 | 0002  | 8.6   | 18.9  |
|          | 15 26 | 0052  | 6.6   | 10.3  |
| 80/06/27 | 10 49 | 0002  | 8.2   | 20.9  |
|          | 10 49 | 0052  | 6.0   | 13.3  |
| 80/07/05 | 10 13 | 0002  | 9.7   | 21.4  |
|          | 10 13 | 0052  | 7.0   | 15.9  |
| 80/07/09 | 11 15 | 0002  | 8.3   | 20.9  |
|          | 11 15 | 0052  | 5.4   | 14.3  |
| 80/07/12 | 10 33 | 0002  | 7.8   | 21.2  |
|          | 10 33 | 0052  | 5.6   | 13.8  |
| 80/07/16 | 14 30 | 0002  | 7.8   | 21.6  |
|          | 14 30 | 0052  | 5.5   | 14.8  |
| 80/07/18 | 10 49 | 0002  | 7.9   | 20.5  |
|          | 10 49 | 0052  | 5.1   | 14.9  |
| 80/07/22 | 09 55 | 0002  | 8.5   | 22.2  |
|          | 09 55 | 0052  | 5.8   | 13.9  |
| 80/07/30 | 09 54 | 0002  | 8.7   | 23.4  |
|          | 09 54 | 0052  | 6.3   | 16.0  |
| 80/08/02 | 09 57 | 0002  | 7.5   | 23.0  |
|          | 09 57 | 0052  | 6.6   | 16.2  |
| 80/08/08 | 09 21 | 0002  | 8.4   | 24.2  |
|          | 09 21 | 0052  | 7.6   | 16.5  |
| 80/08/11 | 09 26 | 0002  | 10.0  | 23.2  |
|          | 09 26 | 0052  | 6.9   | 15.2  |
| 80/08/18 | 10 50 | 0002  | 8.2   | 21.1  |
|          | 10 50 | 0052  | 6.6   | 14.4  |
| 80/09/13 | 09 20 | 0002  | 7.6   |       |
|          | 09 20 | 0052  | 4.7   |       |
| 80/10/04 | 09 50 | 0002  | 7.0   | 17.2  |

STCRET RETRIEVAL DATE 81/03/03  
 JC141  
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 ATLANTIC OCEAN - 5 NAUTICAL MI.OFF LONG BRANCH  
 34025 NEW JERSEY MONMOUTH  
 NORTHEAST 013400  
 NEW JERSEY COAST  
 1111H030 790630  
 0000 FEET DEPTH CLASS 00

/TYP/AM8NT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CO    | WATER |
| TO       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/12 | 11 45 | 0002  | 8.8   | 14.8  |
|          | 11 45 | 0061  | 8.0   | 10.4  |
| 80/06/14 | 10 18 | 0002  | 9.0   | 15.2  |
|          | 10 18 | 0061  | 7.5   | 9.8   |
| 80/06/18 | 12 40 | 0002  | 8.7   | 16.4  |
|          | 12 40 | 0061  | 8.2   | 9.4   |
| 80/06/24 | 15 29 | 0002  | 8.7   | 19.1  |
|          | 15 29 | 0061  | 6.8   | 9.8   |
| 80/06/27 | 10 56 | 0002  | 8.9   | 20.5  |
|          | 10 56 | 0061  | 6.8   | 13.2  |
| 80/07/05 | 10 16 | 0002  |       | 21.4  |
|          | 10 16 | 0061  | 7.0   | 15.3  |
| 80/07/09 | 11 20 | 0002  | 8.5   | 21.1  |
|          | 11 20 | 0061  | 7.9   | 13.2  |
| 80/07/12 | 10 36 | 0002  | 8.4   | 20.7  |
|          | 10 36 | 0061  | 6.9   | 13.4  |
| 80/07/16 | 14 34 | 0002  | 7.8   | 22.6  |
|          | 14 34 | 0061  | 6.8   | 14.2  |
| 80/07/18 | 10 52 | 0002  | 8.1   | 20.6  |
|          | 10 52 | 0061  | 6.1   | 12.7  |
| 80/07/22 | 09 59 | 0002  | 9.0   | 21.7  |
|          | 09 59 | 0061  | 5.1   | 14.3  |
| 80/07/30 | 09 57 | 0002  | 7.8   | 23.2  |
|          | 09 57 | 0061  | 7.0   | 15.4  |
| 80/08/02 | 09 54 | 0002  | 9.0   | 23.3  |
|          | 09 54 | 0061  | 6.8   | 16.4  |
| 80/08/08 | 09 25 | 0002  | 8.3   | 24.2  |
|          | 09 25 | 0061  | 7.9   | 17.5  |
| 80/08/11 | 09 30 | 0002  | 7.4   | 24.1  |
|          | 09 30 | 0061  | 12.9  | 15.0  |
| 80/08/18 | 10 53 | 0002  | 8.7   | 20.5  |
|          | 10 53 | 0061  | 7.6   | 12.8  |
| 80/09/13 | 09 22 | 0002  | 7.7   |       |
|          | 09 22 | 0061  | 12.0  |       |
| 80/10/04 | 10 00 | 0002  | 7.6   | 17.7  |
|          | 10 00 | 0061  | 5.6   | 17.0  |

STCRET RETRIEVAL DATE 81/03/03

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ATLANTIC OCEAN - 7 NAUTICAL MI.OFF LONG BRANCH

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111HQ30 790630

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | CO010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/12           | 11 39             | 0002          | 9.0                 | 15.2                           |
|                    | 11 39             | 0065          | 8.1                 | 9.3                            |
| 80/06/14           | 10 24             | 0002          | 8.8                 | 15.7                           |
|                    | 10 24             | 0065          | 7.8                 | 9.5                            |
| 80/06/18           | 12 45             | 0002          | 8.7                 | 16.4                           |
|                    | 12 45             | 0065          | 7.8                 | 9.0                            |
| 80/06/24           | 15 33             | 0002          | 8.7                 | 19.2                           |
|                    | 15 33             | 0065          | 7.7                 | 12.0                           |
| 80/06/27           | 11 00             | 0002          | 8.3                 | 20.5                           |
|                    | 11 00             | 0065          | 9.2                 | 16.6                           |
| 80/07/05           | 10 20             | 0002          | 9.1                 | 21.4                           |
|                    | 10 20             | 0065          | 9.6                 | 13.7                           |
| 80/07/09           | 11 25             | 0002          | 9.0                 | 21.4                           |
|                    | 11 25             | 0065          | 8.1                 | 13.4                           |
|                    | 11 30             | 0002          | 8.4                 | 21.7                           |
|                    | 11 30             | 0076          | 7.4                 | 12.7                           |
| 80/07/12           | 10 40             | 0002          | 8.9                 | 21.0                           |
|                    | 10 40             | 0065          | 7.0                 | 14.0                           |
| 80/07/16           | 14 38             | 0002          | 7.9                 | 22.9                           |
|                    | 14 38             | 0065          | 7.3                 | 15.4                           |
| 80/07/18           | 10 55             | 0002          | 8.2                 | 21.5                           |
|                    | 10 55             | 0065          | 7.3                 | 14.2                           |
| 80/07/22           | 10 02             | 0002          | 8.5                 | 22.1                           |
|                    | 10 02             | 0065          | 6.0                 | 13.7                           |
| 80/07/30           | 10 00             | 0002          | 8.8                 | 23.2                           |
|                    | 10 00             | 0065          | 6.8                 | 14.6                           |
| 80/08/02           | 09 50             | 0002          | 8.3                 | 23.5                           |
|                    | 09 50             | 0065          | 6.5                 | 14.2                           |
| 80/08/08           | 09 28             | 0002          | 11.5                | 24.8                           |
|                    | 09 28             | 0065          | 7.3                 | 14.3                           |
| 80/08/11           | 09 33             | 0002          | 7.5                 | 24.2                           |
|                    | 09 33             | 0065          | 9.8                 | 14.5                           |
| 80/08/18           | 10 56             | 0002          | 7.5                 | 21.7                           |
|                    | 10 56             | 0065          | 6.8                 | 13.2                           |
| 80/09/13           | 09 25             | 0002          | 7.5                 |                                |
|                    | 09 25             | 0065          | 5.4                 |                                |
| 80/10/04           | 10 07             | 0002          | 5.7                 | 17.5                           |
|                    | 10 07             | 0065          | 5.8                 | 16.9                           |

STCRET RETRIEVAL DATE 81/03/C3

JC14M

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ATLANTIC CCEAN - 9 NAUTICAL MI.OFF LONG BRANCH

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY CCAST

1111H030 790630

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CO    | WATER |
| TC       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/12 | 11 33 | 0002  | 9.2   | 15.2  |
|          | 11 33 | 0076  | 8.4   | 8.3   |
| 80/06/14 | 10 29 | 0002  | 8.8   | 15.8  |
|          | 10 29 | 0076  | 8.3   | 10.5  |
| 80/06/18 | 12 50 | 0002  | 8.7   | 16.2  |
|          | 12 50 | 0076  | 8.4   | 9.9   |
| 80/06/24 | 15 36 | 0002  | 8.6   | 19.1  |
|          | 15 36 | 0076  | 7.6   | 10.0  |
| 80/06/27 | 11 07 | 0002  | 9.0   | 20.5  |
|          | 11 07 | 0076  | 8.0   | 13.0  |
| 80/07/05 | 10 24 | 0002  | 9.3   | 21.3  |
|          | 10 24 | 0076  | 6.5   | 13.7  |
| 80/07/12 | 10 43 | 0002  | 9.0   | 20.6  |
|          | 10 43 | 0076  | 7.0   | 12.3  |
| 80/07/16 | 14 40 | 0002  | 8.4   | 23.1  |
|          | 14 42 | 0076  | 6.3   | 14.7  |
| 80/07/18 | 10 58 | 0002  | 8.0   | 21.2  |
|          | 10 58 | 0076  | 6.5   | 14.4  |
| 80/07/22 | 10 06 | 0002  | 8.8   | 22.3  |
|          | 10 06 | 0076  | 6.1   | 13.9  |
| 80/07/30 | 10 04 | 0002  | 7.6   | 23.2  |
|          | 10 04 | 0076  | 6.3   | 13.8  |
| 80/08/02 | 09 46 | 0002  | 8.3   | 23.5  |
|          | 09 46 | 0076  | 6.3   | 13.2  |
| 80/08/08 | 09 32 | 0002  | 7.5   | 24.8  |
|          | 09 32 | 0076  | 5.9   | 14.7  |
| 80/08/11 | 09 36 | 0002  | 7.6   | 24.3  |
|          | 09 36 | 0076  | 5.8   | 13.9  |
| 80/08/18 | 10 59 | 0002  | 7.9   | 21.6  |
|          | 10 59 | 0076  | 5.5   | 12.3  |
| 80/09/13 | 09 30 | 0002  | 7.4   |       |
|          | 09 30 | 0076  | 5.8   |       |
| 80/10/04 | 10 11 | 0002  |       | 17.5  |
|          | 10 11 | 0076  | 7.6   | 17.2  |



SECRET RETRIEVAL DATE 81/03/03

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ATLANTIC OCEAN - 1 NAUTICAL MI.OFF ASBURY-BELMAR

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>DO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/12           | 10 37             | 0002          | 8.7                 | 13.8                           |
|                    | 10 37             | 0040          | 6.4                 | 9.0                            |
| 80/06/14           | 09 38             | 0002          | 8.7                 | 13.5                           |
|                    | 09 38             | 0040          | 5.5                 | 10.9                           |
| 80/06/18           | 12 16             | 0002          | 9.3                 | 16.3                           |
|                    | 12 16             | 0040          | 5.1                 | 10.1                           |
| 80/06/24           | 16 01             | 0002          | 8.8                 | 18.3                           |
|                    | 16 01             | 0040          | 4.9                 | 11.1                           |
| 80/06/27           | 11 32             | 0002          | 8.7                 | 20.2                           |
|                    | 11 32             | 0040          | 6.0                 | 13.8                           |
| 80/07/09           | 11 53             | 0002          | 8.1                 | 21.1                           |
|                    | 11 53             | 0040          | 5.8                 | 14.7                           |
| 80/07/12           | 11 05             | 0002          | 8.2                 | 20.5                           |
|                    | 11 05             | 0040          | 4.9                 | 13.6                           |
| 80/07/16           | 11 50             | 0002          | 7.5                 | 19.5                           |
|                    | 11 50             | 0040          | 5.5                 | 14.3                           |
| 80/07/18           | 11 17             | 0002          | 8.8                 | 20.1                           |
|                    | 11 17             | 0040          | 4.8                 | 14.4                           |
| 80/07/22           | 10 27             | 0002          | 7.8                 | 20.7                           |
|                    | 10 27             | 0040          | 4.9                 | 15.0                           |
| 80/07/30           | 10 25             | 0002          | 5.5                 | 22.6                           |
|                    | 10 25             | 0040          | 8.9                 | 17.3                           |
| 80/08/02           | 10 45             | 0002          | 3.7                 | 18.6                           |
| 80/08/08           | 09 52             | 0002          | 8.3                 | 23.7                           |
|                    | 09 52             | 0040          | 6.4                 | 17.8                           |
| 80/08/11           | 09 56             | 0002          | 9.4                 | 23.7                           |
|                    | 09 56             | 0040          | 6.5                 | 18.5                           |
| 80/08/18           | 11 22             | 0002          | 8.2                 | 20.3                           |
|                    | 11 22             | 0040          | 8.6                 | 14.5                           |
| 80/09/13           | 09 48             | 0002          | 8.5                 |                                |
|                    | 09 48             | 0040          | 4.5                 |                                |
| 80/10/04           | 10 35             | 0002          | 7.4                 | 16.6                           |
|                    | 10 35             | 0040          | 6.6                 | 16.9                           |

SECRET RETRIEVAL DATE 81/03/03

JC27G

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ATLANTIC OCEAN - 3 NAUTICAL MI.OFF ASBURY-BELMAR

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|-------------|--------------------------------|
|                    |                   |               | MG/L        |                                |
| 80/06/12           | 10 33             | 0002          | 8.8         | 13.7                           |
|                    | 10 33             | 0055          | 7.6         | 8.9                            |
| 80/06/14           | 09 44             | 0002          | 8.5         | 15.5                           |
|                    | 09 44             | 0055          | 6.5         | 10.5                           |
| 80/06/18           | 12 10             | 0002          | 8.8         | 16.1                           |
|                    | 12 10             | 0055          | 6.4         | 9.8                            |
| 80/06/24           | 15 55             | 0002          | 8.5         | 18.8                           |
|                    | 15 55             | 0055          | 7.4         | 12.6                           |
| 80/06/27           | 11 29             | 0002          | 8.1         | 20.4                           |
|                    | 11 29             | 0055          | 6.9         | 13.9                           |
| 80/07/09           | 11 48             | 0002          | 8.9         | 21.4                           |
|                    | 11 48             | 0055          | 6.7         | 14.9                           |
| 80/07/12           | 11 01             | 0002          | 7.8         | 21.4                           |
|                    | 11 01             | 0055          | 5.5         | 12.3                           |
| 80/07/16           | 14 00             | 0002          | 7.9         | 21.1                           |
|                    | 14 00             | 0055          | 5.5         | 16.7                           |
| 80/07/18           | 11 13             | 0002          | 8.8         | 20.0                           |
|                    | 11 13             | 0055          | 5.8         | 14.4                           |
| 80/07/22           | 10 24             | 0002          | 8.3         | 21.3                           |
|                    | 10 24             | 0055          | 6.6         | 14.7                           |
| 80/07/30           | 10 22             | 0002          | 8.7         | 22.8                           |
|                    | 10 22             | 0055          | 6.3         | 16.1                           |
| 80/08/02           | 10 49             | 0002          | 8.1         | 23.5                           |
|                    | 10 49             | 0055          | 5.1         | 18.2                           |
| 80/08/08           | 09 48             | 0002          | 8.8         | 24.8                           |
|                    | 09 48             | 0055          | 7.8         | 16.5                           |
| 80/08/11           | 09 53             | 0002          | 9.8         | 23.5                           |
|                    | 09 53             | 0055          | 7.3         | 15.4                           |
| 80/08/18           | 11 12             | 0055          | 7.3         | 14.3                           |
|                    | 11 15             | 0002          | 8.1         | 20.7                           |
| 80/09/13           | 09 45             | 0002          | 8.0         |                                |
|                    | 09 45             | 0055          | 6.2         |                                |
| 80/10/04           | 10 30             | 0002          | 7.8         | 16.9                           |
|                    | 10 30             | 0055          | 7.0         | 17.2                           |

STCRET RETRIEVAL DATE 81/03/03

JC271

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ATLANTIC OCEAN - 5 NAUTICAL MI.OFF ASBURY-BELMAR

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYP/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CC<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/12           | 10 28             | 0002          | 8.6                 | 13.7                           |
|                    | 10 28             | 0068          | 7.5                 | 9.6                            |
| 80/06/14           | 09 49             | 0002          | 9.0                 | 15.1                           |
|                    | 09 49             | 0068          | 5.8                 | 10.0                           |
| 80/06/18           | 11 57             | 0002          | 8.8                 | 16.3                           |
|                    | 11 57             | 0068          | 7.4                 | 10.1                           |
| 80/06/24           | 15 51             | 0002          | 8.7                 | 19.2                           |
|                    | 15 51             | 0068          | 7.4                 | 11.7                           |
| 80/06/27           | 11 24             | 0002          | 8.2                 | 20.0                           |
|                    | 11 24             | 0068          | 6.6                 | 13.4                           |
| 80/07/09           | 11 44             | 0002          | 8.3                 | 21.5                           |
|                    | 11 44             | 0068          | 6.3                 | 13.2                           |
| 80/07/12           | 10 58             | 0002          | 7.6                 | 21.4                           |
|                    | 10 58             | 0068          | 6.5                 | 11.9                           |
| 80/07/16           | 14 03             | 0002          | 7.8                 | 23.8                           |
|                    | 14 03             | 0068          | 6.3                 | 15.2                           |
| 80/07/18           | 11 11             | 0002          | 8.0                 | 20.5                           |
|                    | 11 11             | 0068          | 6.3                 | 12.9                           |
| 80/07/22           | 10 20             | 0002          | 8.1                 | 21.9                           |
|                    | 10 20             | 0068          | 5.8                 | 13.6                           |
| 80/07/30           | 10 17             | 0002          | 8.3                 | 23.1                           |
|                    | 10 17             | 0068          | 6.4                 | 15.9                           |
| 80/08/02           | 10 53             | 0002          | 8.1                 | 23.9                           |
|                    | 10 53             | 0068          | 5.9                 | 14.9                           |
| 80/08/08           | 09 45             | 0002          | 7.9                 | 24.9                           |
|                    | 09 45             | 0068          | 6.4                 | 15.3                           |
| 80/08/11           | 09 49             | 0002          | 7.4                 | 24.3                           |
|                    | 09 49             | 0068          | 7.5                 | 14.8                           |
| 80/08/18           | 11 12             | 0002          | 8.1                 | 20.6                           |
|                    | 11 12             | 0068          | 7.3                 | 13.7                           |
| 80/09/13           | 09 43             | 0002          | 7.7                 |                                |
|                    | 09 43             | 0068          | 6.1                 |                                |
| 80/10/04           | 10 25             | 0002          | 7.8                 | 17.1                           |
|                    | 10 25             | 0068          | 6.1                 | 17.0                           |

SECRET RETRIEVAL DATE 81/03/03

JC27M

40 13 00.0 073 48 20.0 2

ATLANTIC OCEAN - 9 NAUTICAL MI. OFF ASBURY-BELMAR

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CG<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/12           | 10 20             | 0002          | 9.0                 | 14.2                           |
|                    | 10 20             | 0063          | 9.2                 | 9.6                            |
| 80/06/14           | 10 00             | 0002          | 8.7                 | 15.9                           |
|                    | 10 00             | 0063          | 7.7                 | 8.9                            |
| 80/06/18           | 11 41             | 0002          | 8.8                 | 16.1                           |
|                    | 11 41             | 0063          | 8.0                 | 9.0                            |
| 80/06/24           | 15 45             | 0002          | 8.4                 | 19.0                           |
|                    | 15 45             | 0063          | 7.9                 | 10.3                           |
| 80/06/27           | 11 13             | 0002          | 8.6                 | 20.3                           |
|                    | 11 13             | 0063          | 7.3                 | 12.4                           |
| 80/07/09           | 11 36             | 0002          | 8.3                 | 21.6                           |
|                    | 11 36             | 0063          | 7.3                 | 12.5                           |
| 80/07/12           | 10 50             | 0002          | 8.2                 | 21.7                           |
|                    | 10 50             | 0063          | 8.0                 | 11.1                           |
| 80/07/16           | 14 17             | 0002          | 7.8                 | 23.1                           |
|                    | 14 17             | 0063          | 7.9                 | 16.6                           |
| 80/07/18           | 11 03             | 0002          | 7.8                 | 21.6                           |
|                    | 11 03             | 0063          | 7.4                 | 13.1                           |
| 80/07/22           | 10 12             | 0002          | 8.0                 | 22.3                           |
|                    | 10 12             | 0063          | 6.5                 | 14.6                           |
| 80/07/30           | 10 10             | 0002          | 7.7                 | 23.0                           |
|                    | 10 10             | 0063          | 7.2                 | 13.7                           |
| 80/08/02           | 11 02             | 0002          | 8.6                 | 24.5                           |
|                    | 11 02             | 0063          | 8.1                 | 17.9                           |
| 80/08/08           | 09 38             | 0002          | 7.0                 | 24.8                           |
|                    | 09 38             | 0063          | 7.0                 | 14.5                           |
| 80/08/11           | 09 41             | 0002          | 7.9                 | 24.5                           |
|                    | 09 41             | 0063          | 6.2                 | 14.5                           |
| 80/08/18           | 11 05             | 0002          | 7.8                 | 21.6                           |
|                    | 11 05             | 0063          | 6.8                 | 12.4                           |
| 80/09/13           | 09 35             | 0002          | 8.4                 |                                |
|                    | 09 35             | 0063          | 5.8                 |                                |
| 80/10/04           | 10 15             | 0002          | 7.6                 | 17.5                           |
|                    | 10 15             | 0063          | 7.7                 | 17.0                           |

STCRET RETRIEVAL DATE 81/03/03

JC27K

40 13 00.0 073 51 00.0 2

ATLANTIC OCEAN - 7 NAUTICAL MI.OFF ASBURY-BELMAR

34025 NEW JERSEY MONMOUTH

NGRTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYP/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CO    | WATER |
| TO       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/12 | 10 24 | 0002  | 8.9   | 14.2  |
|          | 10 24 | 0047  | 7.7   | 9.5   |
| 80/06/14 | 09 55 | 0002  | 8.7   | 15.4  |
|          | 09 55 | 0047  | 7.1   | 9.9   |
| 80/06/18 | 11 50 | 0002  | 8.8   | 16.2  |
|          | 11 50 | 0047  | 7.9   | 10.4  |
| 80/06/24 | 15 48 | 0002  | 8.6   | 18.7  |
|          | 15 48 | 0047  | 6.6   | 12.3  |
| 80/06/27 | 11 19 | 0002  | 8.0   | 20.8  |
|          | 11 19 | 0047  | 6.6   | 13.2  |
| 80/07/09 | 11 40 | 0002  | 8.3   | 21.6  |
|          | 11 40 | 0047  | 7.3   | 12.7  |
| 80/07/12 | 10 54 | 0002  | 8.4   | 21.4  |
|          | 10 54 | 0047  | 7.1   | 11.2  |
| 80/07/16 | 14 12 | 0002  | 8.1   | 22.6  |
|          | 14 12 | 0047  | 6.7   | 15.7  |
| 80/07/18 | 11 07 | 0002  | 8.0   | 20.5  |
|          | 11 07 | 0047  | 6.3   | 12.4  |
| 80/07/22 | 10 16 | 0002  | 8.0   | 22.3  |
|          | 10 16 | 0047  | 5.9   | 12.7  |
| 80/07/30 | 10 13 | 0002  | 7.8   | 23.1  |
|          | 10 13 | 0047  | 7.1   | 14.9  |
| 80/08/02 | 10 57 | 0002  | 9.2   | 24.1  |
|          | 10 57 | 0047  | 5.8   | 15.5  |
| 80/08/08 | 09 41 | 0002  | 7.8   | 25.2  |
|          | 09 41 | 0047  | 8.4   | 14.6  |
| 80/08/11 | 09 45 | 0002  | 7.4   | 24.6  |
|          | 09 45 | 0047  | 6.8   | 14.9  |
| 80/08/18 | 11 09 | 0002  | 8.1   | 21.0  |
|          | 11 09 | 0047  | 7.3   | 12.7  |
| 80/09/13 | 09 40 | 0002  | 7.5   |       |
|          | 09 40 | 0047  | 5.8   |       |
| 80/10/04 | 10 20 | 0002  | 7.5   | 17.3  |
|          | 10 20 | 0047  | 5.8   | 16.6  |

STCRET RETRIEVAL DATE 81/03/03

JC41E

40 03 00.0 074 01 00.0 2

ATLANTIC OCEAN - 1 NAUTICAL MILES OFF BAY HEAD

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CO    | WATER |
| TO       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/12 | 09 46 | 0002  | 8.6   | 12.7  |
|          | 09 46 | 0048  | 6.8   | 9.7   |
| 80/06/18 | 11 04 | 0002  | 9.3   | 16.3  |
|          | 11 04 | 0048  | 6.2   | 11.7  |
| 80/06/26 | 16 00 | 0002  | 8.1   | 19.4  |
|          | 16 00 | 0048  | 6.9   | 12.0  |
| 80/07/09 | 15 54 | 0002  | 7.6   | 21.8  |
|          | 15 54 | 0048  | 5.1   | 14.5  |
| 80/07/18 | 14 15 | 0002  | 8.2   | 19.5  |
|          | 14 15 | 0048  | 6.2   | 14.7  |
| 80/07/30 | 11 11 | 0002  | 9.5   | 22.6  |
|          | 11 11 | 0048  | 5.3   | 15.1  |
| 80/08/08 | 10 01 | 0002  | 8.5   | 25.0  |
|          | 10 01 | 0048  | 6.6   | 17.2  |
| 80/08/11 | 10 35 | 0002  | 9.5   | 24.6  |
|          | 10 35 | 0048  | 5.8   | 16.3  |
| 80/08/18 | 14 51 | 0002  | 8.3   | 21.7  |
|          | 14 51 | 0048  | 7.1   | 14.3  |
| 80/09/13 | 10 20 | 0002  | 7.8   |       |
|          | 10 20 | 0048  | 5.5   |       |
| 80/09/20 | 08 50 | 0002  | 8.0   | 20.6  |
|          | 08 50 | 0048  | 5.3   | 19.7  |

STCRET RETRIEVAL DATE 81/03/03  
 JC41G  
 40 03 00.0 073 58 20.0 2  
 ATLANTIC OCEAN - 3 NAUTICAL MILES OFF BAY HEAD  
 34025 NEW JERSEY MONMOUTH  
 NCRTHEAST 013400  
 NEW JERSEY COAST  
 1111H030 790630  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | 00    | WATER |
| TC       | CAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/12 | 09 41 | 0002  | 9.1   | 13.3  |
|          | 09 41 | 0066  | 6.7   | 9.8   |
| 80/06/18 | 11 00 | 0002  | 8.8   | 15.8  |
|          | 11 00 | 0066  | 8.0   | 11.9  |
| 80/06/26 | 15 54 | 0002  | 8.2   | 18.8  |
|          | 15 54 | 0066  | 7.2   | 11.4  |
| 80/07/09 | 15 48 | 0002  | 7.9   | 22.0  |
|          | 15 48 | 0066  | 5.9   | 13.1  |
| 80/07/18 | 14 18 | 0002  | 8.2   | 20.5  |
|          | 14 18 | 0066  | 6.1   | 13.9  |
| 80/07/30 | 11 08 | 0002  | 9.3   | 22.0  |
|          | 11 08 | 0066  | 5.3   | 14.5  |
| 80/08/08 | 10 06 | 0002  | 8.5   | 25.2  |
|          | 10 06 | 0066  | 5.9   | 15.6  |
| 80/08/11 | 10 31 | 0002  | 9.4   | 24.5  |
|          | 10 31 | 0066  | 10.4  | 14.9  |
| 80/08/18 | 14 54 | 0002  | 8.0   | 21.8  |
|          | 14 54 | 0066  | 7.8   | 14.1  |
| 80/09/13 | 10 24 | 0002  | 7.8   |       |
|          | 10 24 | 0066  | 5.0   |       |
| 80/09/20 | 08 53 | 0002  | 8.0   | 20.6  |
|          | 08 53 | 0066  | 2.7   | 17.4  |

SECRET RETRIEVAL DATE 81/03/03

JC411

40 03 00.0 073 55 40.0 2

ATLANTIC OCEAN - 5 NAUTICAL MILES OFF BAY HEAD

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|-------------|--------------------------------|
|                    |                   |               | MG/L        |                                |
| 80/06/12           | 09 36             | 0002          | 9.0         | 13.4                           |
|                    | 09 36             | 0066          | 7.4         | 8.9                            |
| 80/06/18           | 10 56             | 0002          | 8.8         | 16.2                           |
|                    | 10 56             | 0066          | 7.4         | 10.1                           |
| 80/06/26           | 15 41             | 0002          | 8.3         | 19.3                           |
|                    | 15 41             | 0066          | 7.2         | 12.0                           |
| 80/07/09           | 15 45             | 0002          | 7.8         | 21.7                           |
|                    | 15 45             | 0066          | 6.4         | 12.4                           |
| 80/07/18           | 14 23             | 0002          | 7.5         | 23.6                           |
|                    | 14 23             | 0066          | 6.2         | 13.9                           |
| 80/07/30           | 11 05             | 0002          | 9.8         | 22.0                           |
|                    | 11 05             | 0066          | 5.6         | 14.5                           |
| 80/08/08           | 10 09             | 0002          | 8.3         | 25.5                           |
|                    | 10 09             | 0066          | 5.9         | 15.4                           |
| 80/08/11           | 10 28             | 0002          | 8.1         | 24.7                           |
|                    | 10 28             | 0066          | 10.0        | 15.6                           |
| 80/08/18           | 14 58             | 0002          | 7.8         | 21.5                           |
|                    | 14 58             | 0066          | 7.8         | 14.5                           |
| 80/09/13           | 10 28             | 0002          | 7.8         |                                |
|                    | 10 28             | 0066          | 5.3         |                                |
| 80/09/20           | 08 57             | 0002          | 9.5         | 20.5                           |
|                    | 08 57             | 0066          | 6.8         | 17.9                           |



STCRET RETRIEVAL DATE 81/03/03  
 JC41K  
 40 03 00.0 073 53 00.0 2  
 ATLANTIC CCEAN - 7 NAUTICAL MILES OFF BAY HEAD  
 34025 NEW JERSEY MONMOUTH  
 NORTHEAST 013400  
 NEW JERSEY COAST  
 1111H030 790630  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CC<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/12           | 09 32             | 0002          | 8.9                 | 13.5                           |
|                    | 09 32             | 0078          | 7.6                 | 9.5                            |
| 80/06/18           | 10 52             | 0002          | 8.9                 | 16.0                           |
|                    | 10 52             | 0078          | 7.9                 | 11.4                           |
| 80/06/26           | 15 36             | 0002          | 8.4                 | 19.1                           |
|                    | 15 36             | 0078          | 7.7                 | 11.7                           |
| 80/07/09           | 15 41             | 0002          | 7.8                 | 21.9                           |
|                    | 15 41             | 0078          | 5.9                 | 13.3                           |
| 80/07/18           | 14 27             | 0002          | 7.9                 | 23.2                           |
|                    | 14 27             | 0078          | 6.5                 | 13.5                           |
| 80/07/30           | 10 59             | 0002          | 8.9                 | 22.6                           |
|                    | 10 59             | 0078          | 5.5                 | 14.3                           |
| 80/08/08           | 10 13             | 0002          | 7.5                 | 25.8                           |
|                    | 10 13             | 0078          | 7.0                 | 15.7                           |
| 80/08/11           | 10 25             | 0002          | 7.8                 | 24.6                           |
|                    | 10 25             | 0078          | 7.1                 | 15.9                           |
| 80/08/18           | 15 01             | 0002          | 7.9                 | 20.9                           |
|                    | 15 01             | 0078          | 7.6                 | 13.0                           |
| 80/09/13           | 10 32             | 0002          | 7.6                 |                                |
|                    | 10 32             | 0078          | 5.4                 |                                |
| 80/09/20           | 09 01             | 0002          | 7.3                 | 20.6                           |
|                    | 09 01             | 0078          | 4.7                 | 17.4                           |

STCRET RETRIEVAL DATE 81/03/03

JC41M

40 03 00.0 073 50 20.0 2

ATLANTIC OCEAN - 9 NAUTICAL MILES OFF BAY HEAD

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY CGAST

1111H030 790630

/TYP A/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300 | 00010        |
|--------------------|-------------------|---------------|-------|--------------|
|                    |                   |               | CO    | WATER        |
|                    |                   |               | MG/L  | TEMP<br>CENT |
| 80/06/12           | 09 28             | 0002          | 9.0   | 13.6         |
|                    | 09 28             | 0078          | 7.8   | 9.2          |
| 80/06/18           | 10 48             | 0002          | 8.8   | 15.9         |
|                    | 10 48             | 0078          | 7.8   | 11.1         |
| 80/06/26           | 15 30             | 0002          | 8.3   | 19.0         |
|                    | 15 30             | 0078          | 7.0   | 11.4         |
| 80/07/09           | 15 37             | 0002          | 7.8   | 22.5         |
|                    | 15 37             | 0078          | 5.9   | 12.5         |
| 80/07/18           | 14 32             | 0002          | 7.3   | 22.8         |
|                    | 14 32             | 0078          | 6.4   | 13.1         |
| 80/07/30           | 10 55             | 0002          | 8.3   | 22.7         |
|                    | 10 55             | 0078          | 5.4   | 14.8         |
| 80/08/08           | 10 16             | 0002          | 13.8  | 25.5         |
|                    | 10 16             | 0078          | 7.0   | 15.5         |
| 80/08/11           | 10 22             | 0002          | 7.9   | 24.6         |
|                    | 10 22             | 0078          | 6.6   | 13.8         |
| 80/08/18           | 15 03             | 0002          | 8.1   | 20.9         |
|                    | 15 03             | 0078          | 7.0   |              |
| 80/09/13           | 10 37             | 0002          | 7.5   |              |
|                    | 10 37             | 0078          | 5.2   |              |
| 80/09/20           | 09 05             | 0002          | 7.4   | 20.5         |
|                    | 09 05             | 0078          | 4.6   | 17.1         |

STCRET RETRIEVAL DATE 81/03/03

JC53E

39 55 00.0 074 03 40.0 2

ATLANTIC OCEAN - 1 NAUTICAL MILES OFF SEASIDE

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | C0300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/12           | 09 00             | 0002          | 8.9                 | 14.1                           |
|                    | 09 00             | 0048          | 6.5                 | 9.4                            |
| 80/06/18           | 10 25             | 0002          | 8.5                 | 15.9                           |
|                    | 10 25             | 0048          | 6.5                 | 10.0                           |
| 80/06/26           | 15 07             | 0002          | 8.9                 | 17.6                           |
|                    | 15 07             | 0048          | 7.7                 | 11.2                           |
| 80/07/09           | 16 00             | 0002          | 7.8                 | 21.6                           |
|                    | 16 00             | 0048          | 4.5                 | 14.8                           |
| 80/07/18           | 14 56             | 0002          | 5.7                 | 17.0                           |
|                    | 14 56             | 0048          | 4.9                 | 13.2                           |
| 80/07/31           | 14 09             | 0002          | 9.5                 | 23.1                           |
|                    | 14 09             | 0048          | 5.0                 | 17.1                           |
| 80/08/08           | 10 38             | 0002          | 7.6                 | 24.8                           |
|                    | 10 38             | 0048          | 4.3                 | 16.9                           |
| 80/08/11           | 10 44             | 0002          | 8.0                 | 24.6                           |
|                    | 10 44             | 0048          | 6.1                 | 17.3                           |
| 80/08/18           | 15 25             | 0002          | 7.6                 | 21.2                           |
|                    | 15 25             | 0048          | 5.3                 | 14.9                           |
| 80/09/13           | 10 58             | 0002          | 7.3                 |                                |
|                    | 10 58             | 0048          | 2.8                 |                                |
| 80/09/17           | 10 56             | 0002          | 7.5                 | 20.3                           |
|                    | 10 56             | 0048          | 7.3                 | 20.1                           |
| 80/09/20           | 09 27             | 0002          | 7.6                 | 20.5                           |
|                    | 09 27             | 0048          | 5.3                 | 20.1                           |

SECRET RETRIEVAL DATE 81/03/03  
 JC53G  
 39 55 00.0 074 01 00.0 2  
 ATLANTIC OCEAN - 3 NAUTICAL MILES OFF SEASIDE  
 34025 NEW JERSEY MGNMOUTH  
 NORTHEAST 013400  
 NEW JERSEY COAST  
 1111H030 790630  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FRCM     | OF    |       | CO    | WATER |
| TD       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/12 | 09 05 | 0002  | 8.7   | 13.4  |
|          | 09 05 | 0048  | 9.4   | 9.4   |
| 80/06/18 | 10 29 | 0002  | 8.5   | 15.8  |
|          | 10 29 | 0048  | 6.6   | 9.8   |
| 80/06/26 | 15 10 | 0002  | 8.9   | 18.0  |
|          | 15 10 | 0048  | 6.8   | 11.5  |
| 80/07/09 | 16 05 | 0002  | 7.9   | 21.7  |
|          | 16 05 | 0048  | 4.9   | 13.0  |
| 80/07/18 | 14 53 | 0002  | 6.4   | 17.3  |
|          | 14 53 | 0048  | 5.8   | 13.3  |
| 80/07/31 | 14 11 | 0002  | 11.8  | 23.2  |
|          | 14 11 | 0048  | 5.4   | 15.5  |
| 80/08/08 | 10 35 | 0002  | 8.3   | 25.0  |
|          | 10 35 | 0048  | 5.3   | 16.4  |
| 80/08/11 | 10 46 | 0002  | 8.4   | 24.6  |
|          | 10 46 | 0048  | 8.3   | 16.3  |
| 80/08/18 | 15 22 | 0002  | 8.6   | 21.2  |
|          | 15 22 | 0048  | 6.5   | 14.3  |
| 80/09/13 | 10 53 | 0002  | 7.5   |       |
|          | 10 53 | 0048  | 4.2   |       |
| 80/09/17 | 11 00 | 0002  | 7.5   | 20.4  |
|          | 11 00 | 0048  | 4.8   | 16.4  |
| 80/09/20 | 09 24 | 0002  | 7.6   | 20.6  |
|          | 09 24 | 0048  | 3.4   | 18.9  |

SECRET RETRIEVAL DATE 81/03/03

JC53I

39 55 00.0 073 58 20.0 2

ATLANTIC OCEAN - 5 NAUTICAL MILES OFF SEASIDE

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYP/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CO    | WATER |
| TC       | CAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/12 | 09 09 | 0002  | 8.9   | 13.4  |
|          | 09 09 | 0060  | 8.1   | 8.5   |
| 80/06/18 | 10 33 | 0002  | 8.7   | 15.9  |
|          | 10 33 | 0060  | 7.3   | 9.7   |
| 80/06/26 | 15 13 | 0002  | 7.2   | 19.3  |
|          | 15 13 | 0060  | 6.8   | 12.6  |
| 80/07/09 | 16 10 | 0002  | 7.9   | 21.5  |
|          | 16 10 | 0060  | 5.8   | 14.8  |
| 80/07/18 | 14 50 | 0002  | 7.9   | 18.0  |
|          | 14 50 | 0060  | 5.6   | 13.0  |
| 80/07/31 | 14 14 | 0002  | 9.6   | 21.8  |
|          | 14 14 | 0060  | 5.8   | 14.5  |
| 80/08/08 | 10 31 | 0002  | 7.3   | 25.2  |
|          | 10 31 | 0060  | 5.8   | 15.3  |
| 80/08/11 | 10 50 | 0002  | 8.3   | 24.9  |
|          | 10 50 | 0060  | 7.1   | 16.2  |
| 80/08/18 | 15 19 | 0002  | 8.1   | 21.3  |
|          | 15 19 | 0060  | 7.6   | 14.2  |
| 80/09/13 | 10 48 | 0002  | 7.4   |       |
|          | 10 48 | 0060  | 4.8   |       |
| 80/09/17 | 11 05 | 0002  | 7.6   | 20.7  |
|          | 11 05 | 0060  | 3.0   | 17.4  |
| 80/09/20 | 09 21 | 0002  | 7.5   | 20.5  |
|          | 09 21 | 0060  | 3.5   | 17.7  |

STCRET RETRIEVAL DATE 81/03/03

JC53K

39 55 00.0 073 55 40.0 2

ATLANTIC OCEAN - 7 NAUTICAL MILES OFF SEASIDE

34025 NEW JERSEY MGNMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYP/AMNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/12           | 09 14             | 0002          | 8.8                 | 13.6                           |
|                    | 09 14             | 0072          | 8.9                 | 8.6                            |
| 80/06/18           | 10 36             | 0002          | 8.8                 | 15.9                           |
|                    | 10 36             | 0072          | 7.9                 | 10.6                           |
| 80/06/26           | 15 17             | 0002          | 8.2                 | 19.0                           |
|                    | 15 17             | 0072          | 6.7                 | 11.8                           |
| 80/07/09           | 16 13             | 0002          | 8.0                 | 21.7                           |
|                    | 16 13             | 0072          | 5.8                 | 12.6                           |
| 80/07/18           | 14 46             | 0002          | 8.0                 | 18.6                           |
|                    | 14 46             | 0072          | 5.9                 | 13.2                           |
| 80/07/31           | 14 18             | 0002          | 9.8                 | 23.5                           |
|                    | 14 18             | 0072          | 6.3                 | 14.1                           |
| 80/08/08           | 10 29             | 0002          | 7.5                 | 25.1                           |
|                    | 10 29             | 0072          | 4.8                 | 15.3                           |
| 80/08/11           | 10 53             | 0002          | 8.1                 | 25.0                           |
|                    | 10 53             | 0072          | 8.2                 | 17.1                           |
| 80/08/18           | 15 15             | 0002          | 7.8                 | 21.5                           |
|                    | 15 15             | 0072          | 7.8                 | 12.4                           |
| 80/09/13           | 10 44             | 0002          | 7.8                 |                                |
|                    | 10 44             | 0072          | 5.5                 |                                |
| 80/09/17           | 11 08             | 0002          | 7.5                 | 20.9                           |
|                    | 11 08             | 0072          | 3.9                 | 17.6                           |
| 80/09/20           | 09 17             | 0002          | 7.5                 | 20.4                           |
|                    | 09 17             | 0072          | 4.5                 | 16.2                           |

STCRET RETRIEVAL DATE 81/03/03

JC53P

39 55 00.0 073 53 00.0 2

ATLANTIC OCEAN - 9 NAUTICAL MILES OFF SEASIDE

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111HG30 790630

0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/12           | 09 17             | 0002          | 8.9                 | 13.6                           |
|                    | 09 17             | 0078          | 9.0                 | 9.7                            |
| 80/06/18           | 10 40             | 0002          | 8.7                 | 15.8                           |
|                    | 10 40             | 0078          | 7.9                 | 10.3                           |
| 80/06/26           | 15 22             | 0002          | 8.1                 | 19.4                           |
|                    | 15 22             | 0078          | 7.1                 | 11.8                           |
| 80/07/09           | 16 17             | 0002          | 8.0                 | 21.5                           |
|                    | 16 17             | 0078          | 6.1                 | 12.7                           |
| 80/07/18           | 14 39             | 0002          | 7.5                 | 22.4                           |
|                    | 14 39             | 0078          | 5.9                 | 13.7                           |
| 80/07/31           | 14 20             | 0002          | 8.3                 | 23.0                           |
|                    | 14 20             | 0078          | 11.3                | 18.5                           |
| 80/08/08           | 10 26             | 0002          | 8.8                 | 25.0                           |
|                    | 10 26             | 0078          | 4.8                 | 14.8                           |
| 80/08/11           | 10 56             | 0002          | 7.6                 | 24.8                           |
|                    | 10 56             | 0078          | 6.9                 | 16.1                           |
| 80/08/18           | 15 10             | 0002          | 8.0                 | 20.5                           |
|                    | 15 10             | 0078          | 7.3                 | 7.3                            |
| 80/09/13           | 10 40             | 0002          | 7.4                 |                                |
|                    | 10 40             | 0078          | 5.8                 |                                |
| 80/09/17           | 11 12             | 0002          | 7.5                 | 21.3                           |
|                    | 11 12             | 0078          | 4.2                 | 17.1                           |
| 80/09/20           | 09 14             | 0002          | 7.3                 | 20.4                           |
|                    | 09 14             | 0078          | 5.8                 | 16.0                           |

STCRET RETRIEVAL DATE 81/03/03

JC61E

39 45 00.0 074 05 50.0 2

ATLANTIC OCEAN - 1 NAUTICAL MILES OFF BARNEGAT

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300 | 00010        |
|--------------------|-------------------|---------------|-------|--------------|
|                    |                   |               | CO    | WATER        |
|                    |                   |               | MG/L  | TEMP<br>CENT |
| 80/06/13           | 12 48             | 0002          | 8.4   | 14.5         |
|                    | 12 48             | 0048          | 7.1   | 11.7         |
| 80/06/25           | 10 25             | 0002          | 7.6   | 14.5         |
|                    | 10 25             | 0048          | 6.9   | 12.9         |
| 80/07/14           | 11 25             | 0002          | 8.1   | 22.4         |
|                    | 11 25             | 0048          | 5.9   | 17.0         |
| 80/07/31           | 14 40             | 0002          | 9.5   | 23.3         |
|                    | 14 40             | 0048          | 7.4   | 19.9         |
| 80/08/08           | 10 45             | 0002          | 7.5   | 23.8         |
|                    | 10 45             | 0048          | 6.1   | 18.9         |
| 80/08/16           | 10 40             | 0002          | 8.1   | 17.4         |
|                    | 10 40             | 0048          | 7.3   | 15.2         |
| 80/08/23           | 11 07             | 0002          | 7.0   | 20.4         |
|                    | 11 07             | 0048          | 6.6   | 20.2         |
| 80/09/13           | 11 04             | 0002          | 7.3   |              |
|                    | 11 04             | 0048          | 2.5   |              |
| 80/09/18           | 16 00             | 0002          | 7.6   | 21.3         |
|                    | 16 00             | 0048          | 6.9   | 21.1         |
| 80/09/20           | 09 33             | 0002          | 7.1   | 20.1         |
|                    | 09 33             | 0048          | 6.8   | 20.3         |
| 80/10/03           | 13 45             | 0002          | 6.7   | 18.5         |
|                    | 13 45             | 0048          | 6.5   | 18.2         |



STCRET RETRIEVAL DATE 81/03/03

JC61G

39 45 00.0 074 03 10.0 2

ATLANTIC OCEAN - 3 NAUTICAL MILES OFF BARNEGAT

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

0000 FEET DEPTH CLASS 00

/TYP/AM8NT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | 00    | WATER |
| TO       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/12 | 12 45 | 0002  | 8.6   | 14.7  |
|          | 12 45 | 0048  | 8.0   | 11.0  |
| 80/06/25 | 10 30 | 0002  | 7.4   | 15.8  |
|          | 10 30 | 0048  | 5.9   | 12.2  |
| 80/07/14 | 11 20 | 0002  | 8.1   | 22.0  |
|          | 11 20 | 0048  | 6.5   | 16.0  |
| 80/07/31 | 14 37 | 0002  | 9.4   | 23.5  |
|          | 14 37 | 0048  | 5.7   | 16.9  |
| 80/08/08 | 10 50 | 0002  | 8.0   | 24.5  |
|          | 10 50 | 0048  | 5.5   | 18.4  |
| 80/08/16 | 10 36 | 0002  | 8.5   | 16.9  |
|          | 10 36 | 0048  | 8.0   | 14.7  |
| 80/08/23 | 11 03 | 0002  | 7.4   | 20.5  |
|          | 11 03 | 0048  | 7.0   | 20.2  |
| 80/09/13 | 11 09 | 0002  | 7.6   |       |
|          | 11 09 | 0048  | 3.3   |       |
| 80/09/18 | 15 58 | 0002  | 7.9   | 21.1  |
|          | 15 58 | 0048  | 3.0   | 20.8  |
| 80/09/20 | 09 35 | 0002  | 7.4   | 20.5  |
|          | 09 35 | 0048  | 7.0   | 20.4  |
| 80/10/03 | 13 49 | 0002  | 6.9   | 18.1  |
|          | 13 49 | 0048  | 6.9   | 18.3  |

STCRET RETRIEVAL DATE 81/03/03  
 JC61I  
 39 45 00.0 074 00 30.0 2  
 ATLANTIC OCEAN - 5 NAUTICAL MILES OFF BARNEGAT  
 34025 NEW JERSEY MONMOUTH  
 NORTHEAST 013400  
 NEW JERSEY COAST  
 1111H030 790630  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300 | 00010        |
|--------------------|-------------------|---------------|-------|--------------|
|                    |                   |               | CO    | WATER        |
|                    |                   |               | MG/L  | TEMP<br>CENT |
| 80/06/13           | 12 42             | 0002          | 8.7   | 15.4         |
|                    | 12 42             | 0066          | 8.0   | 10.5         |
| 80/06/25           | 10 34             | 0002          | 9.2   | 17.5         |
|                    | 10 34             | 0066          | 6.8   | 11.8         |
| 80/07/14           | 11 15             | 0002          | 8.1   | 22.2         |
|                    | 11 15             | 0066          | 5.9   | 14.9         |
| 80/07/31           | 14 35             | 0002          | 8.5   | 23.5         |
|                    | 14 35             | 0066          | 7.1   | 14.7         |
| 80/08/08           | 10 54             | 0002          | 7.9   | 25.3         |
|                    | 10 54             | 0066          | 6.1   | 16.7         |
| 80/08/16           | 10 33             | 0002          | 8.1   | 18.9         |
|                    | 10 33             | 0066          | 7.2   | 12.9         |
| 80/08/23           | 10 59             | 0002          | 7.4   | 20.3         |
|                    | 10 59             | 0066          | 7.0   | 20.2         |
| 80/09/13           | 11 14             | 0002          | 7.9   |              |
|                    | 11 14             | 0066          | 4.3   |              |
| 80/09/18           | 15 54             | 0002          | 8.0   | 21.3         |
|                    | 15 54             | 0066          | 6.1   | 19.4         |
| 80/09/20           | 09 38             | 0002          | 7.5   | 20.2         |
|                    | 09 38             | 0066          | 2.3   | 18.1         |
| 80/10/03           | 13 54             | 0002          | 7.0   | 18.0         |
|                    | 13 54             | 0066          | 7.0   | 17.1         |

SECRET RETRIEVAL DATE 81/03/03

JC61K

39 45 00.0 073 57 50.0 2

ATLANTIC OCEAN - 7 NAUTICAL MILES OFF BARNEGAT

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FRCM     | OF    |       | DO    | WATER |
| TC       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/13 | 12 38 | 0002  | 8.6   | 15.4  |
|          | 12 38 | 0072  | 8.7   | 10.4  |
| 80/06/25 | 10 38 | 0002  | 8.3   | 18.5  |
|          | 10 38 | 0072  | 7.4   | 12.0  |
| 80/07/14 | 11 10 | 0002  | 8.0   | 22.0  |
|          | 11 10 | 0072  | 7.3   | 13.8  |
| 80/07/31 | 14 32 | 0002  | 8.3   | 23.1  |
|          | 14 32 | 0072  | 7.3   | 14.0  |
| 80/08/08 | 10 58 | 0002  | 7.7   | 25.6  |
|          | 10 58 | 0072  | 5.8   | 15.4  |
| 80/08/16 | 10 30 | 0002  | 8.0   | 20.0  |
|          | 10 30 | 0072  | 4.9   | 11.8  |
| 80/08/23 | 10 55 | 0002  | 7.5   | 20.4  |
|          | 10 55 | 0072  | 7.3   | 20.3  |
| 80/09/13 | 11 17 | 0002  | 7.8   |       |
|          | 11 17 | 0072  | 5.3   |       |
| 80/09/18 | 15 50 | 0002  | 7.8   | 21.2  |
|          | 15 50 | 0072  | 3.3   | 17.7  |
| 80/09/20 | 09 40 | 0002  | 7.5   | 20.3  |
|          | 09 40 | 0072  | 2.8   | 16.9  |
| 80/10/03 | 14 00 | 0002  | 6.9   | 18.1  |
|          | 14 00 | 0072  | 7.0   | 18.2  |

STCRET RETRIEVAL DATE 81/03/03

JC61M

39 45 00.0 073 55 10.0 2

ATLANTIC OCEAN - 9 NAUTICAL MILES OFF BARNEGAT

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYP/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300 | 00010        |
|--------------------|-------------------|---------------|-------|--------------|
|                    |                   |               | CO    | WATER        |
|                    |                   |               | MG/L  | TEMP<br>CENT |
| 80/06/13           | 12 34             | 0002          | 8.5   | 15.4         |
|                    | 12 34             | 0078          | 8.5   | 9.9          |
| 80/06/25           | 10 42             | 0002          | 8.2   | 19.0         |
|                    | 10 42             | 0078          | 8.9   | 12.7         |
| 80/07/14           | 11 05             | 0002          | 7.6   | 21.9         |
|                    | 11 05             | 0078          | 6.1   | 12.3         |
| 80/07/31           | 14 25             | 0002          | 8.5   | 22.8         |
|                    | 14 25             | 0078          | 6.7   | 13.5         |
| 80/08/08           | 11 01             | 0002          | 7.8   | 25.1         |
|                    | 11 01             | 0078          | 5.6   | 15.3         |
| 80/08/16           | 10 26             | 0002          | 8.1   | 19.9         |
|                    | 10 26             | 0078          | 5.6   | 13.3         |
| 80/08/23           | 10 52             | 0002          | 7.5   | 20.4         |
|                    | 10 52             | 0078          | 7.4   | 19.9         |
| 80/09/13           | 11 20             | 0002          | 7.8   |              |
|                    | 11 20             | 0078          | 5.6   |              |
| 80/09/18           | 15 47             | 0002          | 7.5   | 21.7         |
|                    | 15 47             | 0078          | 3.9   | 16.6         |
| 80/09/20           | 09 44             | 0002          | 7.3   | 20.4         |
|                    | 09 44             | 0078          | 3.3   | 16.8         |
| 80/10/03           | 14 02             | 0002          | 7.0   | 18.0         |
|                    | 14 02             | 0078          | 7.1   | 18.1         |

SECRET RETRIEVAL DATE 81/03/03

JC69E

39 32 20.0 074 14 40.0 2

ATLANTIC OCEAN - 1 NAUTICAL MI.OFF BEACH HAVEN

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | CF    |       | CO    | WATER |
| TC       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/13 | 12 03 | 0002  | 8.5   | 14.6  |
|          | 12 03 | 0030  | 7.8   | 12.5  |
| 80/06/25 | 11 12 | 0002  | 8.0   | 14.3  |
|          | 11 12 | 0030  | 7.7   | 12.6  |
| 80/07/14 | 10 35 | 0002  | 8.1   | 21.1  |
|          | 10 35 | 0030  | 5.9   | 18.3  |
| 80/07/31 | 14 55 | 0002  | 8.8   | 23.3  |
|          | 14 55 | 0030  | 7.3   | 18.9  |
| 80/08/08 | 11 24 | 0002  | 8.5   | 23.2  |
|          | 11 24 | 0030  | 5.0   | 16.9  |
| 80/08/16 | 10 00 | 0002  | 6.6   | 16.0  |
|          | 10 00 | 0030  | 5.1   | 14.9  |
| 80/08/23 | 10 26 | 0002  | 6.8   | 20.4  |
|          | 10 26 | 0030  | 6.6   | 20.3  |
| 80/09/18 | 15 24 | 0002  | 6.8   | 21.2  |
|          | 15 24 | 0030  | 6.1   | 20.9  |
| 80/09/20 | 10 08 | 0002  | 6.8   | 20.3  |
|          | 10 08 | 0030  | 6.4   | 20.2  |

SECRET RETRIEVAL DATE 81/03/03

JC69G

39 32 20.0 074 12 00.0 2

ATLANTIC OCEAN - 3 NAUTICAL MI.OFF BEACH HAVEN

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111HC30 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>00 | 00010<br>WATER |
|--------------------|-------------------|---------------|-------------|----------------|
|                    |                   |               | MG/L        | TEMP<br>CENT   |
| 80/06/13           | 12 08             | 0002          | 8.8         | 15.3           |
|                    | 12 08             | 0048          | 8.1         | 11.6           |
| 80/06/25           | 11 08             | 0002          | 8.7         | 16.0           |
|                    | 11 08             | 0048          | 8.1         | 12.8           |
| 80/07/14           | 10 40             | 0002          | 8.0         | 21.7           |
|                    | 10 40             | 0048          | 3.9         | 14.6           |
| 80/07/31           | 14 57             | 0002          | 8.9         | 23.2           |
|                    | 14 57             | 0048          | 5.0         | 16.6           |
| 80/08/08           | 11 21             | 0002          | 8.3         | 23.7           |
|                    | 11 21             | 0048          | 5.7         | 16.6           |
| 80/08/16           | 10 03             | 0002          | 7.8         | 16.4           |
|                    | 10 03             | 0048          | 5.8         | 13.8           |
| 80/08/23           | 10 30             | 0002          | 6.8         | 20.4           |
|                    | 10 30             | 0048          | 6.7         | 20.1           |
| 80/09/18           | 15 26             | 0002          | 7.6         | 21.4           |
|                    | 15 26             | 0048          | 5.9         | 20.8           |
| 80/09/20           | 10 04             | 0002          | 7.1         | 20.6           |
|                    | 10 04             | 0048          | 5.4         | 20.0           |

STCRET RETRIEVAL DATE 81/03/03

JC69I

39 32 20.0 074 09 20.0 2

ATLANTIC OCEAN - 5 NAUTICAL MI.OFF BEACH HAVEN

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300 | 00010        |
|--------------------|-------------------|---------------|-------|--------------|
|                    |                   |               | 00    | WATER        |
|                    |                   |               | MG/L  | TEMP<br>CENT |
| 80/06/13           | 12 12             | 0002          | 8.2   | 15.8         |
|                    | 12 12             | 0054          | 8.7   | 11.2         |
| 80/06/25           | 11 03             | 0002          | 8.2   | 17.5         |
|                    | 11 03             | 0054          | 8.7   | 12.7         |
| 80/07/14           | 10 45             | 0002          | 7.8   | 22.1         |
|                    | 10 45             | 0054          | 4.4   | 13.6         |
| 80/07/31           | 15 00             | 0002          | 9.3   | 23.0         |
|                    | 15 00             | 0054          | 3.8   | 14.4         |
| 80/08/08           | 11 18             | 0002          | 8.4   | 23.7         |
|                    | 11 18             | 0054          | 5.6   | 14.0         |
| 80/08/16           | 10 07             | 0002          | 8.3   | 18.9         |
|                    | 10 07             | 0054          | 6.1   | 14.5         |
| 80/08/23           | 10 34             | 0002          | 7.2   | 20.1         |
|                    | 10 34             | 0054          | 7.0   | 19.4         |
| 80/09/18           | 15 29             | 0002          | 7.5   | 21.8         |
|                    | 15 29             | 0054          | 4.5   | 19.9         |
| 80/09/20           | 10 01             | 0002          | 7.3   | 20.7         |
|                    | 10 01             | 0054          | 2.8   | 18.7         |

STCRET RETRIEVAL DATE 81/03/03

JC69K

39 32 20.0 074 06 40.0 2

ATLANTIC OCEAN - 7 NAUTICAL MI.OFF BEACH HAVEN

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYP/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FRGM     | OF    |       | CC    | WATER |
| TO       | CAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/13 | 12 15 | 0002  | 8.7   | 15.3  |
|          | 12 15 | 0054  | 8.9   | 10.3  |
| 80/06/25 | 10 58 | 0002  | 8.4   | 18.3  |
|          | 10 58 | 0054  | 9.0   | 13.1  |
| 80/07/14 | 10 50 | 0002  | 7.7   | 22.1  |
|          | 10 50 | 0054  | 4.6   | 13.2  |
| 80/07/31 | 15 06 | 0002  | 9.1   | 22.8  |
|          | 15 06 | 0054  | 4.8   | 14.6  |
| 80/08/08 | 11 15 | 0002  | 8.1   | 24.1  |
|          | 11 15 | 0054  | 7.0   | 14.7  |
| 80/08/16 | 10 11 | 0002  | 8.2   | 20.3  |
|          | 10 11 | 0054  | 5.0   | 12.7  |
| 80/08/23 | 10 37 | 0002  | 7.7   | 19.7  |
|          | 10 37 | 0054  | 7.2   | 19.5  |
| 80/09/18 | 15 31 | 0002  | 7.4   | 21.8  |
|          | 15 31 | 0054  | 3.1   | 18.5  |
| 80/09/20 | 09 58 | 0002  | 7.3   | 20.6  |
|          | 09 58 | 0054  | 3.0   | 18.6  |



STCRET RETRIEVAL DATE 81/03/03

JC69M

39 32 20.0 074 04 00.0 2

ATLANTIC OCEAN - 9 NAUTICAL MI.OFF BEACH HAVEN

34025 NEW JERSEY MONMOUTH

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | 00    | WATER |
| TO       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/13 | 12 22 | 0002  | 8.8   | 16.2  |
|          | 12 22 | 0072  | 9.2   | 10.9  |
| 80/06/25 | 10 54 | 0002  | 8.2   | 18.6  |
|          | 10 54 | 0072  | 9.2   | 12.7  |
| 80/07/14 | 10 55 | 0002  | 7.5   | 22.3  |
|          | 10 55 | 0072  | 4.8   | 13.4  |
| 80/07/31 | 15 09 | 0002  | 8.9   | 22.4  |
|          | 15 09 | 0072  | 4.8   | 14.8  |
| 80/08/08 | 11 11 | 0002  | 7.8   | 24.5  |
|          | 11 11 | 0072  | 6.1   | 15.2  |
| 80/08/16 | 10 15 | 0002  | 7.9   | 20.1  |
|          | 10 15 | 0072  | 5.3   |       |
| 80/08/23 | 10 41 | 0002  | 7.8   | 19.8  |
|          | 10 41 | 0072  | 7.1   | 19.6  |
| 80/09/18 | 15 35 | 0002  | 7.4   | 22.0  |
|          | 15 35 | 0072  | 3.0   | 18.2  |
| 80/09/20 | 09 55 | 0002  | 7.3   | 21.0  |
|          | 09 55 | 0072  | 2.0   | 17.5  |
| 80/10/03 | 14 11 | 0002  | 6.9   | 18.1  |
|          | 14 11 | 0072  | 6.9   | 18.3  |

SECRET RETRIEVAL DATE 81/03/03

JC75E

39 21 00.0 074 26 10.0 2

ATLANTIC OCEAN - 1 NAUTICAL MI.OFF ATLANTIC CITY

34001 NEW JERSEY ATLANTIC

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/13           | 11 15             | 0002          | 7.6                 | 15.4                           |
|                    | 11 15             | 0018          | 8.0                 | 13.3                           |
| 80/06/25           | 11 25             | 0002          | 8.5                 | 17.7                           |
|                    | 11 25             | 0018          | 8.9                 | 13.8                           |
| 80/07/14           | 10 25             | 0002          | 7.8                 | 21.5                           |
|                    | 10 25             | 0018          | 5.9                 | 15.4                           |
| 80/08/09           | 11 36             | 0002          | 4.3                 | 20.7                           |
|                    | 11 36             | 0018          | 2.9                 | 15.3                           |
| 80/08/16           | 09 51             | 0002          | 6.3                 | 17.5                           |
|                    | 09 51             | 0018          | 2.6                 | 14.4                           |
| 80/08/23           | 10 17             | 0002          | 6.8                 | 20.4                           |
|                    | 10 17             | 0018          | 6.8                 | 20.5                           |
| 80/09/18           | 15 12             | 0002          | 7.7                 | 21.9                           |
|                    | 15 12             | 0018          | 6.6                 | 21.6                           |
| 80/09/20           | 10 21             | 0002          | 7.2                 | 20.9                           |
|                    | 10 21             | 0018          | 6.9                 | 21.0                           |

STCRET RETRIEVAL DATE 81/03/03

JC75G

39 21 00.G 074 23 30.0 2

ATLANTIC OCEAN - 3 NAUTICAL MI.OFF ATLANTIC CITY

34001 NEW JERSEY ATLANTIC

NCRTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CC<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/13           | 11 07             | 0002          | 8.6                 | 16.0                           |
|                    | 11 07             | 0024          | 7.9                 | 13.2                           |
| 80/06/25           | 11 30             | 0002          | 8.9                 | 18.0                           |
|                    | 11 30             | 0024          | 8.8                 |                                |
| 80/07/14           | 10 20             | 0002          | 7.7                 | 21.4                           |
|                    | 10 20             | 0024          | 5.9                 | 15.3                           |
| 80/08/09           | 11 32             | 0002          | 7.3                 | 20.7                           |
|                    | 11 32             | 0024          | 3.9                 | 16.0                           |
| 80/08/16           | 09 47             | 0002          | 6.1                 | 17.4                           |
|                    | 09 47             | 0024          | 2.5                 | 13.6                           |
| 80/08/23           | 10 13             | 0002          | 6.8                 | 20.5                           |
|                    | 10 13             | 0024          | 6.6                 | 20.2                           |
| 80/09/18           | 15 08             | 0002          | 7.5                 | 21.9                           |
|                    | 15 08             | 0024          | 6.3                 | 21.6                           |
| 80/09/20           | 10 24             | 0002          | 6.9                 | 20.9                           |
|                    | 10 24             | 0024          | 6.6                 | 21.0                           |

SECRET RETRIEVAL DATE 81/03/03

JC75I

39 21 00.0 074 20 50.0 2

ATLANTIC OCEAN - 5 NAUTICAL MI. OFF ATLANTIC CITY

34001 NEW JERSEY ATLANTIC

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYP A/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CO    | WATER |
| TC       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/13 | 11 00 | 0002  | 8.7   | 15.3  |
|          | 11 00 | 0042  | 8.2   | 12.2  |
| 80/06/25 | 11 34 | 0002  | 7.9   | 18.3  |
|          | 11 34 | 0042  | 8.9   | 14.0  |
| 80/07/14 | 10 15 | 0002  | 7.9   | 21.6  |
|          | 10 15 | 0042  | 7.7   | 15.6  |
| 80/08/09 | 11 29 | 0002  | 7.5   | 21.3  |
|          | 11 29 | 0042  | 3.8   | 16.7  |
| 80/08/16 | 09 43 | 0002  | 7.0   | 18.4  |
|          | 09 43 | 0042  | 3.1   | 13.3  |
| 80/08/23 | 10 09 | 0002  | 7.0   | 20.3  |
|          | 10 09 | 0042  | 6.9   | 20.3  |
| 80/09/18 | 15 04 | 0002  | 7.5   | 21.9  |
|          | 15 04 | 0042  | 6.5   | 21.0  |
| 80/09/20 | 10 27 | 0002  | 7.2   | 20.8  |
|          | 10 27 | 0042  | 5.9   | 20.3  |

SECRET RETRIEVAL DATE 81/03/03

JC75K

39 21 00.0 074 18 10.0 2

ATLANTIC OCEAN - 7 NAUTICAL MI.OFF ATLANTIC CITY

34001 NEW JERSEY ATLANTIC

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/13           | 10 58             | 0002          | 7.7                 | 15.3                           |
|                    | 10 58             | 0048          | 7.0                 | 11.9                           |
| 80/06/25           | 11 38             | 0002          | 8.8                 | 18.5                           |
|                    | 11 38             | 0048          | 8.8                 | 13.9                           |
| 80/07/14           | 10 10             | 0002          | 7.8                 | 21.5                           |
|                    | 10 10             | 0048          | 7.8                 | 14.4                           |
| 80/08/09           | 11 25             | 0002          | 7.3                 | 22.7                           |
|                    | 11 25             | 0048          | 3.8                 | 15.8                           |
| 80/08/16           | 09 40             | 0002          | 7.8                 | 18.7                           |
|                    | 09 40             | 0048          |                     | 14.5                           |
| 80/08/23           | 10 05             | 0002          | 6.9                 | 20.2                           |
|                    | 10 05             | 0048          | 7.9                 | 20.2                           |
| 80/09/18           | 15 00             | 0002          | 7.5                 | 22.0                           |
|                    | 15 00             | 0048          | 3.9                 | 19.5                           |
| 80/09/20           | 10 30             | 0002          | 7.3                 | 20.8                           |
|                    | 10 30             | 0048          | 3.6                 | 19.5                           |

SECRET RETRIEVAL DATE 81/03/03

JC75M

39 21 00.0 074 15 30.0 2

ATLANTIC OCEAN - 9 NAUTICAL MI.OFF ATLANTIC CITY

34001 NEW JERSEY ATLANTIC

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYP/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| CATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/13           | 10 55             | 0002          | 11.1                | 15.7                           |
|                    | 10 55             | 0048          | 9.2                 | 11.4                           |
| 80/06/25           | 11 43             | 0002          | 8.1                 | 18.7                           |
|                    | 11 43             | 0048          | 9.0                 | 12.1                           |
| 80/07/14           | 10 05             | 0002          | 7.9                 | 21.7                           |
|                    | 10 05             | 0048          | 8.7                 | 14.6                           |
| 80/08/09           | 11 21             | 0002          | 7.8                 | 23.5                           |
|                    | 11 21             | 0048          | 6.0                 | 15.5                           |
| 80/08/16           | 09 36             | 0002          | 8.1                 | 19.5                           |
|                    | 09 36             | 0048          | 3.3                 | 13.7                           |
| 80/08/23           | 10 00             | 0002          | 7.1                 | 20.1                           |
|                    | 10 00             | 0048          | 7.1                 | 20.2                           |
| 80/09/18           | 14 55             | 0002          | 7.4                 | 22.0                           |
|                    | 14 55             | 0048          | 3.3                 | 18.8                           |
| 80/09/20           | 10 33             | 0002          | 7.9                 | 21.3                           |
|                    | 10 33             | 0048          | 1.8                 | 21.0                           |

STCRET RETRIEVAL DATE 81/03/03

JC85E

39 12 00.0 074 38 00.0 2

ATLANTIC OCEAN - 1 NAUTICAL MILES OFF STRATHMERE

34009 NEW JERSEY CAPE MAY

NCRTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CO    | WATER |
| TO       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/13 | 10 25 | 0002  | 8.1   | 15.3  |
|          | 10 25 | 0030  | 7.3   | 13.5  |
| 80/06/25 | 12 12 | 0002  | 8.5   | 16.0  |
|          | 12 12 | 0030  | 7.6   | 13.3  |
| 80/07/14 | 09 35 | 0002  | 7.9   | 21.5  |
|          | 09 35 | 0030  | 8.1   | 21.0  |
| 80/08/09 | 10 57 | 0002  | 7.5   | 21.7  |
|          | 10 57 | 0030  | 6.6   | 16.8  |
| 80/08/16 | 09 10 | 0002  | 6.8   | 19.1  |
|          | 09 10 | 0030  | 3.6   | 14.8  |
| 80/08/23 | 09 32 | 0002  | 7.1   | 20.4  |
|          | 09 32 | 0030  | 6.5   | 19.7  |
| 80/09/18 | 14 27 | 0002  | 8.5   | 22.8  |
|          | 14 27 | 0030  | 6.5   | 22.1  |

SECRET RETRIEVAL DATE 81/03/03

JC856

39 12 00.0 074 35 20.0 2

ATLANTIC OCEAN - 3 NAUTICAL MILES OFF STRATHMERE

34009 NEW JERSEY CAPE MAY

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/13           | 10 30             | 0002          | 8.3                 | 15.9                           |
|                    | 10 30             | 0045          | 7.9                 | 13.3                           |
| 80/06/25           | 12 08             | 0002          | 8.6                 | 17.4                           |
|                    | 12 08             | 0045          | 8.5                 |                                |
| 80/07/14           | 09 40             | 0002          | 8.3                 | 21.5                           |
|                    | 09 40             | 0045          | 8.8                 | 21.0                           |
| 80/08/09           | 11 00             | 0002          | 9.0                 | 21.8                           |
|                    | 11 00             | 0045          | 7.1                 | 14.5                           |
| 80/08/16           | 09 14             | 0002          | 6.5                 | 18.2                           |
|                    | 09 14             | 0045          | 6.0                 | 14.0                           |
| 80/08/23           | 09 37             | 0002          | 7.1                 | 20.1                           |
| 80/09/18           | 14 32             | 0002          | 8.3                 | 22.6                           |
|                    | 14 32             | 0045          | 7.8                 | 21.9                           |



SECRET RETRIEVAL DATE 81/03/03

JC85I

39 12 00.0 074 32 40.0 2

ATLANTIC OCEAN - 5 NAUTICAL MILES OFF STRATHMERE

34009 NEW JERSEY CAPE MAY

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>00<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/13           | 10 33             | 0002          | 8.7                 | 15.8                           |
|                    | 10 33             | 0048          | 8.7                 | 12.6                           |
| 80/06/25           | 12 04             | 0002          | 8.1                 | 17.9                           |
|                    | 12 04             | 0048          | 9.5                 | 14.5                           |
| 80/07/14           | 09 45             | 0002          | 8.0                 | 21.5                           |
|                    | 09 45             | 0048          | 7.5                 | 15.0                           |
| 80/08/09           | 11 04             | 0002          | 8.3                 | 22.5                           |
|                    | 11 04             | 0048          | 7.6                 | 14.4                           |
| 80/08/16           | 09 17             | 0002          | 6.9                 | 19.4                           |
|                    | 09 17             | 0048          | 7.2                 | 14.1                           |
| 80/08/23           | 09 42             | 0002          | 7.1                 | 19.8                           |
|                    | 09 42             | 0048          | 7.0                 | 19.5                           |
| 80/09/18           | 14 36             | 0002          | 8.0                 | 22.5                           |
|                    | 14 36             | 0048          | 5.0                 | 21.1                           |

STCRET RETRIEVAL DATE 81/03/03

JC85K

39 12 00.0 074 30 00.0 2

ATLANTIC CCEAN - 7 NAUTICAL MILES OFF STRATHMERE

34009 NEW JERSEY CAPE MAY

NORTHEAST 013400

NEW JERSEY CCAST

1111H030 790630

/TYP/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300 | 00010        |
|--------------------|-------------------|---------------|-------|--------------|
|                    |                   |               | CO    | WATER        |
|                    |                   |               | MG/L  | TEMP<br>CENT |
| 80/06/13           | 10 38             | 0002          | 8.7   | 16.1         |
|                    | 10 38             | 0054          | 9.1   | 12.8         |
| 80/06/25           | 12 00             | 0002          | 8.2   | 18.1         |
|                    | 12 00             | 0054          | 9.7   | 13.1         |
| 80/07/14           | 09 50             | 0002          | 7.9   | 21.9         |
|                    | 09 50             | 0054          | 7.5   | 15.0         |
| 80/08/09           | 11 07             | 0002          | 8.1   | 23.3         |
| 80/08/16           | 09 20             | 0002          | 7.6   | 20.4         |
|                    | 09 20             | 0054          | 7.5   | 15.1         |
| 80/08/23           | 09 46             | 0002          | 7.2   | 20.2         |
|                    | 09 46             | 0054          | 7.0   | 20.0         |
| 80/09/18           | 14 39             | 0002          | 7.9   | 22.5         |
|                    | 14 39             | 0054          | 4.3   | 20.8         |

STCRET RETRIEVAL DATE 81/03/03

JC85P

39 12 00.0 074 27 20.0 2

ATLANTIC OCEAN - 9 NAUTICAL MILES OFF STRATHMERE

34C09 NEW JERSEY CAPE MAY

NORTHEAST 013400

NEW JERSEY COAST

1111H030 790630

/TYPA/AM8NT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300 | 00010        |
|--------------------|-------------------|---------------|-------|--------------|
|                    |                   |               | CO    | WATER        |
|                    |                   |               | MG/L  | TEMP<br>CENT |
| 80/06/13           | 10 42             | 0002          | 8.7   | 16.6         |
|                    |                   | 0054          | 9.2   | 11.9         |
| 80/06/25           | 11 55             | 0002          | 8.3   | 18.3         |
|                    |                   | 0054          | 9.1   | 12.5         |
| 80/07/14           | 09 55             | 0002          | 7.7   | 21.9         |
|                    |                   | 0054          | 8.4   | 15.1         |
| 80/08/09           | 11 11             | 0002          | 8.0   | 23.4         |
|                    |                   | 0054          | 8.3   | 14.9         |
| 80/08/16           | 09 23             | 0002          | 7.6   | 20.4         |
|                    |                   | 0054          | 6.9   | 14.7         |
| 80/08/23           | 09 50             | 0002          | 8.1   | 20.2         |
|                    |                   | 0054          | 7.0   | 20.3         |
| 80/09/18           | 14 42             | 0002          | 7.5   | 22.2         |
|                    |                   | 0054          | 5.2   | 21.0         |

STCRET RETRIEVAL DATE 81/03/03  
 LIC02P  
 40 31 20.0 073 52 00.0 2  
 ATLANTIC CCEAN - 3 MILE PARALLEL  
 36081 NEW YORK  
 ATLANTIC CCEAN. 013319  
 THREE MILES SOUTH CF STATION LIC02  
 1111H030 770811  
 0042 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| CATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/10           | 15 54             | 0002          | 8.7                 |                                |
|                    | 15 54             | 0038          | 9.0                 |                                |
| 80/06/27           | 10 16             | 0002          | 10.1                | 18.3                           |
|                    | 10 16             | 0038          | 8.0                 | 14.7                           |
| 80/07/14           | 13 05             | 0002          | 8.8                 | 22.1                           |
|                    | 13 05             | 0038          | 6.3                 | 16.9                           |
| 80/08/01           | 12 30             | 0002          | 8.3                 | 23.5                           |
|                    | 12 30             | 0038          | 7.8                 | 22.2                           |
| 80/08/04           | 14 21             | 0002          | 8.0                 | 25.1                           |
|                    | 14 21             | 0038          | 7.8                 | 20.3                           |

STCRET RETRIEVAL DATE 81/03/03  
 LICO2A  
 40 29 00.0 073 51 42.0 2  
 ATLANTIC OCEAN - LONG IS COAST  
 36059 NEW YORK  
 SOUTH OF ROCKAWAY BEACH 013318  
 5.8 MI. SO EAST OF ROCKAWAY CG STATION  
 1111H030 770812  
 0048 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CC<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/10           | 15 57             | 0002          | 8.1                 |                                |
|                    | 15 57             | 0046          | 8.1                 |                                |
| 80/06/27           | 10 19             | 0002          | 9.7                 | 18.0                           |
|                    | 10 19             | 0046          | 7.6                 | 13.3                           |
| 80/07/14           | 13 08             | 0002          | 7.7                 | 22.8                           |
|                    | 13 08             | 0046          | 6.8                 | 16.5                           |
| 80/08/01           | 12 33             | 0002          | 7.9                 | 23.5                           |
|                    | 12 33             | 0046          | 8.3                 | 17.9                           |
| 80/08/04           | 14 25             | 0002          | 8.3                 | 25.1                           |
|                    | 14 25             | 0046          | 8.3                 | 18.2                           |

STCRET RETRIEVAL DATE 81/03/03  
 LIC02B LIC2B LIC-2B  
 40 33 33.0 073 51 48.0 2  
 400YDS OFF SHORE AND STA LIC02  
 36081 NEW YORK  
 ATLANTIC OCEAN 013391  
 CFF L I BEACHES AT FT TILDEN  
 1111H030  
 0019 FEET DEPTH CLASS 00

LIC-02B

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CO    | WATER |
| TO       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/10 | 16 01 | 0002  | 8.5   |       |
|          | 16 01 | 0046  | 7.6   |       |
| 80/06/27 | 10 23 | 0002  | 9.6   | 18.6  |
|          | 10 23 | 0046  | 7.5   | 12.3  |
| 80/07/14 | 13 12 | 0002  | 9.4   | 22.6  |
|          | 13 12 | 0046  | 6.5   | 15.7  |
| 80/08/01 | 12 37 | 0002  | 8.1   | 23.9  |
|          | 12 37 | 0046  | 7.0   | 16.0  |
| 80/08/04 | 14 27 | 0002  | 8.0   | 24.8  |
|          | 14 27 | 0046  | 8.2   | 17.9  |

STCRET RETRIEVAL DATE 81/03/03  
 LIC02C  
 40 24 32.0 073 51 42.0 2  
 ATLANTIC OCEAN - LONG IS COAST  
 36059 NEW YORK  
 SCUTH OF ROCKAWAY BEACH 013318  
 11 MI. SE EAST OF ROCKAWAY CG STATION  
 1111H030 770812  
 0048 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300 ~<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|-----------------------|--------------------------------|
| 80/06/10           | 16 05             | 0002          | 9.5                   |                                |
|                    | 16 05             | 0076          | 7.8                   |                                |
| 80/06/27           | 10 26             | 0002          | 9.5                   | 17.9                           |
|                    | 10 26             | 0076          | 6.8                   | 12.3                           |
| 80/07/14           | 13 15             | 0002          | 9.0                   | 22.5                           |
|                    | 13 15             | 0076          | 6.5                   | 15.1                           |
| 80/08/01           | 12 41             | 0002          | 7.9                   | 24.0                           |
|                    | 12 41             | 0076          | 7.9                   | 16.8                           |
| 80/08/04           | 14 31             | 0002          | 7.7                   | 24.8                           |
|                    | 14 31             | 0076          | 7.8                   | 17.6                           |

STCRET RETRIEVAL DATE 81/03/03  
 LIC09P  
 40 32 45.0 073 38 20.0 2  
 ATLANTIC OCEAN - 3 MILE PARALLEL  
 36059 NEW YORK  
 ATLANTIC OCEAN 013318  
 THREE MILES SOUTH OF STATION LIC09  
 1111H030 770811  
 0048 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/10           | 15 42             | 0002          | 9.4                 |                                |
|                    | 15 42             | 0044          | 9.0                 |                                |
| 80/06/14           | 12 08             | 0002          | 9.6                 | 16.4                           |
|                    | 12 08             | 0044          | 8.7                 | 12.6                           |
| 80/06/24           | 14 55             | 0002          | 9.5                 | 19.9                           |
|                    | 14 55             | 0044          | 9.4                 | 15.5                           |
| 80/06/27           | 09 59             | 0002          | 8.7                 | 19.3                           |
|                    | 09 59             | 0044          | 7.5                 | 14.4                           |
| 80/07/05           | 08 44             | 0002          | 7.9                 | 20.9                           |
|                    | 08 44             | 0044          | 7.6                 | 18.3                           |
| 80/07/09           | 09 53             | 0002          | 8.3                 | 20.0                           |
|                    | 09 53             | 0044          | 7.2                 | 17.4                           |
| 80/07/12           | 09 45             | 0002          | 8.4                 | 21.4                           |
|                    | 09 45             | 0040          | 6.7                 | 16.3                           |
| 80/07/14           | 14 58             | 0002          | 8.8                 | 23.3                           |
|                    | 14 58             | 0044          | 6.7                 | 16.7                           |
| 80/08/01           | 12 17             | 0002          | 7.8                 | 23.8                           |
|                    | 12 17             | 0044          | 7.9                 | 20.8                           |
| 80/08/02           | 09 32             | 0002          | 7.5                 | 23.1                           |
|                    | 09 32             | 0044          | 7.8                 | 20.3                           |
| 80/08/04           | 14 08             | 0002          | 9.7                 | 24.9                           |
|                    | 14 08             | 0044          | 7.6                 | 20.0                           |
| 80/08/09           | 09 14             | 0002          | 8.0                 | 21.7                           |
|                    | 09 14             | 0044          | 7.3                 | 18.1                           |
| 80/09/15           | 15 37             | 0002          | 8.1                 | 20.2                           |
|                    | 15 37             | 0044          | 4.6                 | 18.6                           |



STCRET RETRIEVAL DATE 81/03/03  
 LIC09A  
 40 29 10.0 073 38 07.0 2  
 ATLANTIC OCEAN - LONG IS COAST  
 36059 NEW YORK  
 SO WEST OF JONES INLET 013318  
 6.4 MILES SOUTH OF LONG BEACH  
 1111H030 770812  
 0060 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/10           | 15 37             | 0002          | 9.7                 |                                |
|                    | 15 37             | 0058          | 8.8                 |                                |
| 80/06/14           | 12 04             | 0002          | 10.6                | 16.5                           |
|                    | 12 04             | 0058          | 8.2                 | 10.4                           |
| 80/06/24           | 14 50             | 0002          | 9.3                 | 19.5                           |
|                    | 14 50             | 0058          | 7.5                 | 13.7                           |
| 80/06/27           | 09 54             | 0002          | 9.0                 | 19.9                           |
|                    | 09 54             | 0058          | 7.5                 | 13.9                           |
| 80/07/05           | 08 39             | 0002          | 8.0                 | 20.8                           |
|                    | 08 39             | 0058          | 7.6                 | 17.4                           |
| 80/07/09           | 09 48             | 0002          | 8.3                 | 20.3                           |
|                    | 09 48             | 0058          | 7.1                 | 15.4                           |
| 80/07/12           | 09 42             | 0002          | 8.3                 | 21.3                           |
|                    | 09 42             | 0060          | 7.3                 | 15.5                           |
| 80/07/14           | 14 50             | 0002          | 8.1                 | 24.2                           |
|                    | 14 50             | 0064          | 7.0                 | 14.8                           |
|                    | 14 55             | 0002          | 8.8                 | 23.9                           |
|                    | 14 55             | 0058          | 7.1                 | 15.1                           |
| 80/08/01           | 12 14             | 0002          | 7.8                 | 23.5                           |
|                    | 12 14             | 0058          | 8.4                 | 18.3                           |
| 80/08/02           | 09 28             | 0058          | 7.6                 | 18.6                           |
| 80/08/04           | 14 03             | 0002          | 9.3                 | 25.2                           |
|                    | 14 03             | 0058          | 8.0                 | 19.3                           |
| 80/08/09           | 09 11             | 0002          | 8.3                 | 22.1                           |
|                    | 09 11             | 0058          | 7.4                 | 16.0                           |
| 80/09/15           | 15 33             | 0002          | 8.9                 | 20.4                           |
|                    | 15 33             | 0058          | 4.8                 | 17.4                           |

STCRET RETRIEVAL DATE 81/03/03  
 LIC098 LIC-098 LIC98  
 40 34 50.0 073 38 28.0 2  
 400YDS OFF SHORE AND STA LIC09  
 36059 NEW YORK  
 ATLANTIC OCEAN 013391  
 OFF L I BEACHES AT LONG BEACH  
 1111H030  
 0014 FEET DEPTH CLASS 00

LIC-98

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | GOC10 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | 00    | WATER |
| TC       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/10 | 15 33 | 0002  | 9.6   |       |
|          | 15 33 | 0064  | 8.8   |       |
| 80/06/14 | 11 58 | 0002  | 10.6  | 16.3  |
|          | 11 58 | 0064  | 8.0   | 10.6  |
| 80/06/24 | 14 45 | 0002  | 8.5   | 19.2  |
|          | 14 45 | 0064  | 7.3   | 13.3  |
| 80/06/27 | 09 50 | 0002  | 9.1   | 20.5  |
|          | 09 50 | 0064  | 7.7   | 12.9  |
| 80/07/05 | 08 34 | 0002  | 8.0   | 20.8  |
|          | 08 34 | 0064  | 7.2   | 15.8  |
| 80/07/09 | 09 44 | 0002  | 9.2   | 20.1  |
|          | 09 44 | 0064  | 7.3   | 15.2  |
| 80/07/12 | 09 38 | 0002  | 8.4   | 21.4  |
|          | 09 38 | 0066  | 7.1   | 15.0  |
| 80/08/01 | 12 10 | 0002  | 7.7   | 24.1  |
|          | 12 10 | 0064  | 8.5   | 17.4  |
| 80/08/02 | 09 24 | 0002  | 7.6   | 23.0  |
|          | 09 24 | 0064  | 9.7   | 17.3  |
| 80/08/04 | 14 00 | 0002  | 7.7   | 25.5  |
|          | 14 00 | 0064  | 8.5   | 17.6  |
| 80/08/09 | 09 07 | 0002  | 7.7   | 23.9  |
|          | 09 07 | 0064  | 8.6   | 15.6  |
| 80/09/15 | 15 29 | 0002  | 7.0   | 20.6  |
|          | 15 29 | 0064  | 5.7   | 17.4  |

STCRET RETRIEVAL DATE 81/03/03  
 LIC09C  
 40 24 21.0 073 38 07.0 2  
 ATLANTIC OCEAN - LONG IS COAST  
 36059 NEW YORK  
 SO WEST OF JONES INLET 013318  
 12.5 MILES SOUTH OF LONG BEACH  
 1111H030 770812  
 0072 FEET . DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/10           | 15 27             | 0002          | 9.4                 |                                |
|                    | 15 27             | 0070          | 9.0                 |                                |
| 80/06/14           | 11 53             | 0002          | 10.5                | 15.9                           |
|                    | 11 53             | 0070          | 8.1                 | 10.3                           |
| 80/06/24           | 14 41             | 0002          | 9.0                 | 19.4                           |
|                    | 14 41             | 0070          | 7.1                 | 12.4                           |
| 80/06/27           | 09 44             | 0002          | 8.3                 | 19.4                           |
|                    | 09 44             | 0070          | 7.9                 | 13.1                           |
| 80/07/05           | 08 29             | 0002          | 7.8                 |                                |
|                    | 08 29             | 0070          |                     | 13.6                           |
| 80/07/09           | 09 40             | 0002          | 6.8                 | 20.2                           |
|                    | 09 40             | 0070          | 8.0                 | 14.7                           |
| 80/07/12           | 09 34             | 0002          | 9.0                 | 21.5                           |
|                    | 09 34             | 0072          | 7.0                 | 14.7                           |
| 80/07/14           | 14 45             | 0002          | 8.3                 | 24.0                           |
|                    | 14 45             | 0070          | 7.5                 | 14.9                           |
| 80/08/01           | 12 06             | 0002          | 7.8                 | 24.1                           |
|                    | 12 06             | 0070          | 9.1                 | 16.8                           |
| 80/08/02           | 09 20             | 0002          | 7.6                 | 23.2                           |
|                    | 09 20             | 0070          | 8.5                 | 15.6                           |
|                    | 13 55             | 0002          | 7.6                 | 25.4                           |
| 80/08/04           | 13 55             | 0070          | 9.3                 | 15.8                           |
|                    | 14 37             | 0041          | 8.5                 | 20.0                           |
| 80/08/09           | 09 04             | 0002          | 7.0                 | 24.3                           |
|                    | 09 04             | 0070          | 7.8                 | 16.3                           |
| 80/09/15           | 15 29             | 0002          | 7.5                 | 20.4                           |
|                    | 15 29             | 0070          | 5.8                 | 17.5                           |

SECRET RETRIEVAL DATE 81/03/03  
 LIC14P  
 40 33 30.0 073 28 00.0 2  
 ATLANTIC OCEAN - 3 MILE PARALLEL  
 36103 NEW YORK  
 ATLANTIC OCEAN 013318  
 THREE MILES SOUTH OF STATION LIC14  
 1111H030 770811  
 0045 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CC<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/10           | 15 02             | 0002          | 9.5                 |                                |
|                    | 15 02             | 0038          | 9.0                 |                                |
| 80/06/14           | 11 32             | 0002          | 9.4                 | 16.1                           |
|                    | 11 32             | 0041          | 9.1                 | 12.8                           |
| 80/06/24           | 14 21             | 0002          | 9.0                 | 19.2                           |
|                    | 14 21             | 0041          | 7.9                 | 14.3                           |
| 80/06/27           | 09 23             | 0002          | 9.5                 | 20.3                           |
|                    | 09 23             | 0041          | 7.9                 | 14.8                           |
| 80/07/05           | 08 10             | 0002          | 8.0                 | 20.1                           |
|                    | 08 10             | 0041          | 7.6                 |                                |
| 80/07/09           | 09 17             | 0002          | 8.3                 | 18.8                           |
|                    | 09 17             | 0041          | 7.1                 | 17.1                           |
| 80/07/12           | 09 15             | 0002          | 8.2                 | 21.7                           |
|                    | 09 15             | 0041          | 6.8                 | 15.9                           |
| 80/07/14           | 14 25             | 0002          | 8.9                 | 23.0                           |
|                    | 14 25             | 0041          | 7.2                 | 16.5                           |
| 80/08/01           | 11 45             | 0002          | 7.7                 | 24.4                           |
|                    | 11 45             | 0041          | 7.8                 | 21.2                           |
| 80/08/02           | 09 02             | 0002          | 7.7                 | 23.4                           |
|                    | 09 02             | 0041          | 7.9                 | 18.6                           |
| 80/08/04           | 14 37             | 0070          | 8.8                 | 24.5                           |
| 80/08/09           | 08 46             | 0002          | 7.9                 | 21.0                           |
|                    | 08 46             | 0041          | 7.0                 | 17.8                           |
| 80/09/15           | 15 04             | 0002          | 7.7                 | 20.1                           |
|                    | 15 04             | 0041          | 3.8                 | 18.3                           |

STCRET RETRIEVAL DATE 81/03/03  
 LIC14A  
 40 30 55.0 073 28 00.0 2  
 ATLANTIC OCEAN - LONG IS COAST  
 36059 NEW YORK  
 OFF NASSAU COUNTY CCAST 013318  
 6.0 MILES SOUTH OF JONES BEACH MONUMENT  
 1111HC30 770812  
 0060 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/10           | 15 06             | 0002          | 9.1                 |                                |
|                    | 15 06             | 0046          | 8.8                 |                                |
| 80/06/14           | 11 37             | 0002          | 9.6                 | 16.1                           |
|                    | 11 37             | 0058          | 8.5                 | 11.6                           |
| 80/06/24           | 14 25             | 0002          | 9.1                 | 19.1                           |
|                    | 14 25             | 0058          | 7.9                 | 13.4                           |
| 80/06/27           | 09 27             | 0002          | 8.9                 | 20.0                           |
|                    | 09 27             | 0058          | 7.4                 | 14.3                           |
| 80/07/05           | 08 13             | 0002          | 8.1                 | 19.7                           |
|                    | 08 13             | 0058          | 7.6                 |                                |
| 80/07/09           | 09 22             | 0002          | 8.3                 | 19.7                           |
|                    | 09 22             | 0058          | 7.9                 | 15.6                           |
| 80/07/12           | 09 18             | 0002          | 8.2                 | 21.9                           |
|                    | 09 18             | 0058          | 7.5                 | 15.9                           |
| 80/07/14           | 14 30             | 0002          | 8.4                 | 24.1                           |
|                    | 14 30             | 0058          | 6.8                 | 15.5                           |
| 80/08/01           | 11 50             | 0002          | 7.9                 | 23.7                           |
|                    | 11 50             | 0058          | 8.3                 | 19.6                           |
| 80/08/02           | 09 06             | 0002          | 8.2                 | 23.1                           |
|                    | 09 06             | 0058          | 8.0                 | 18.2                           |
| 80/08/04           | 14 42             | 0002          | 8.0                 | 25.0                           |
|                    | 14 42             | 0058          | 8.4                 | 17.4                           |
| 80/08/09           | 08 49             | 0002          | 8.6                 | 21.5                           |
|                    | 08 49             | 0058          | 7.0                 | 16.9                           |
| 80/09/15           | 15 08             | 0002          | 8.8                 | 20.7                           |
|                    | 15 08             | 0058          | 4.0                 | 18.0                           |

STCRET RETRIEVAL DATE 81/03/03  
 LIC148 LIC1488  
 40 28 15.0 073 28 00.0 2  
 ATLANTIC OCEAN - LONG IS COAST  
 36103 NEW YORK  
 OFF NASSAU COUNTY COAST 013318  
 8.7 MILES SOUTH OF JONES BEACH MONUMENT  
 1111HC30 770518  
 0072 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 |
|----------|-------|-------|-------|-------|
| FROM     | OF    |       | CO    | WATER |
| TC       | DAY   | FEET  | MG/L  | TEMP  |
|          |       |       |       | CENT  |
| 80/06/10 | 15 12 | 0002  | 9.3   |       |
|          | 15 12 | 0046  | 9.1   |       |
| 80/06/14 | 11 41 | 0002  | 9.9   | 15.3  |
|          | 11 41 | 0070  | 8.3   | 11.4  |
| 80/06/24 | 14 29 | 0002  | 9.3   | 19.3  |
|          | 14 29 | 0070  | 7.9   | 12.9  |
| 80/06/27 | 09 31 | 0002  | 8.5   | 20.4  |
|          | 09 31 | 0070  | 6.8   | 13.2  |
| 80/07/05 | 08 16 | 0002  | 7.9   | 20.5  |
|          | 08 16 | 0070  | 7.9   | 17.8  |
| 80/07/09 | 09 27 | 0002  | 8.0   | 19.9  |
|          | 09 27 | 0070  | 8.4   | 15.5  |
| 80/07/12 | 09 21 | 0002  | 7.9   | 21.2  |
|          | 09 21 | 0070  | 9.0   | 17.5  |
| 80/07/14 | 14 35 | 0002  | 8.0   | 23.6  |
|          | 14 35 | 0070  | 7.3   | 14.7  |
| 80/08/01 | 11 55 | 0002  | 7.5   | 24.2  |
|          | 11 55 | 0070  | 8.4   | 16.1  |
| 80/08/02 | 09 10 | 0002  | 7.8   | 23.1  |
|          | 09 10 | 0070  | 8.6   | 15.0  |
| 80/08/04 | 14 45 | 0002  | 8.1   | 25.2  |
|          | 14 45 | 0070  | 8.5   | 17.4  |
| 80/08/09 | 08 53 | 0002  | 7.9   | 22.4  |
|          | 08 53 | 0070  | 7.4   | 15.8  |
| 80/09/15 | 15 12 | 0002  | 8.3   | 20.7  |
|          | 15 12 | 0070  | 5.3   | 17.7  |

STCRET RETRIEVAL DATE 81/03/03  
 LIC14C  
 40 26 00.0 073 28 00.0 2  
 ATLANTIC OCEAN - LONG IS COAST  
 36059 NEW YORK  
 OFF NASSAU COUNTY COAST 013318  
 11.6 MILES SOUTH OF JONES BEACH MONUMENT  
 1111HQ30 770812  
 0078 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>00<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT |
|--------------------|-------------------|---------------|---------------------|--------------------------------|
| 80/06/10           | 15 17             | 0002          | 9.4                 |                                |
|                    | 15 17             | 0076          | 9.2                 |                                |
| 80/06/14           | 11 46             | 0002          | 10.5                | 16.1                           |
|                    | 11 46             | 0076          | 8.4                 | 11.3                           |
| 80/06/24           | 14 33             | 0002          | 0.00                | 19.4                           |
|                    | 14 33             | 0076          | 8.4                 | 11.0                           |
| 80/06/27           | 09 35             | 0002          | 8.4                 | 20.0                           |
|                    | 09 35             | 0076          | 7.5                 | 12.8                           |
| 80/07/05           | 08 20             | 0002          | 8.0                 | 20.6                           |
|                    | 08 20             | 0076          | 7.0                 | 15.3                           |
| 80/07/09           | 09 33             | 0002          | 8.1                 | 20.0                           |
|                    | 09 33             | 0076          | 8.3                 | 16.1                           |
| 80/07/12           | 09 26             | 0002          | 8.0                 | 20.8                           |
|                    | 09 26             | 0076          | 7.5                 | 13.8                           |
| 80/07/14           | 14 40             | 0002          | 8.3                 | 23.1                           |
|                    | 14 40             | 0076          | 8.0                 | 14.4                           |
| 80/08/01           | 11 59             | 0002          |                     | 23.8                           |
|                    | 11 59             | 0076          | 8.7                 | 15.7                           |
| 80/08/02           | 09 14             | 0002          | 7.8                 | 23.2                           |
|                    | 09 14             | 0076          | 8.2                 | 14.9                           |
| 80/08/04           | 14 49             | 0002          | 8.1                 | 25.4                           |
|                    | 14 49             | 0076          | 9.1                 | 16.3                           |
| 80/08/09           | 08 57             | 0002          | 7.5                 | 23.3                           |
|                    | 08 57             | 0076          | 8.3                 | 14.7                           |
| 80/09/15           | 15 16             | 0002          | 7.7                 | 20.7                           |
|                    | 15 16             | 0076          | 6.0                 | 18.1                           |

APPENDIX D

Bacteriological Water Quality Data, New Jersey, Staten Island,

Coney Island and Long Island Beach Stations

Summer 1980



SECRET RETRIEVAL DATE 81/03/03

LIC1 LIC1 LIC-1

MI PT G.C

40 32 52.0 073 56 05.0 2

LONG ISLAND BEACHES

36081 NEW YORK

ATLANTIC OCEAN 013319

LONG ISLAND COAST-ROCKAWAY POINT

1111H030

/TYP/AMBNT/OCEAN

CCCC FEET DEPTH CLASS CC

| DATE     | TIME | DEPTH | TGT CCL1 | FEC CCL1 |
|----------|------|-------|----------|----------|
| FROM     | CF   |       | MFIMENCC | M-FCAGAR |
| TC       | CAY  | FEET  | /100ML   | /100ML   |
| 80/05/31 | 08   | 16    | 0002     | C        |
| 80/06/04 | 12   | 09    | 0002     | C        |
| 80/06/09 | 11   | 32    | 0002     | C        |
| 80/06/19 | 11   | 42    | 0002     | 1        |
| 80/06/30 | 11   | 55    | 0002     | 17       |
| 80/07/10 | 15   | 32    | 0002     | 0        |
| 80/07/17 | 14   | 19    | 0002     | 0        |
| 80/07/31 | 11   | 38    | 0002     | 408      |
| 80/08/06 | 16   | 00    | 0002     | 3        |
| 80/08/12 | 10   | 55    | 0002     | 88       |
| 80/08/21 | 09   | 08    | 0002     | C        |
| 80/09/03 | 14   | 16    | 0002     | 1        |
| 80/09/10 | 09   | 25    | 0002     | C        |
| 80/09/16 | 14   | 08    | 0002     | 1        |

SECRET RETRIEVAL DATE 81/03/03

LIC02 LIC2 LIC-2

MI PT C.C

40 33 43.0 073 51 48.0 2

LONG ISLAND BEACHES

36081 NEW YORK

ATLANTIC OCEAN 013319

LONG ISLAND COAST-FCRT TILDEN

1111H030

/TYPA/AM8NT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | TCT      | CCLI | FEC      | CCLI |
|----------|-------|-------|----------|------|----------|------|
| FROM     | CF    |       | MFIPENCE |      | M-FCAGAR |      |
| TC       | CAY   | FEET  | /100ML   |      | /100ML   |      |
| 80/05/31 | 08 20 | 0002  |          | 9    |          | 3    |
| 80/06/04 | 12 05 | 0002  |          | 1    |          | 1    |
| 80/06/09 | 11 30 | 0002  |          | 6    |          | C    |
| 80/06/19 | 11 40 | 0002  |          | 2    |          | C    |
| 80/06/26 | 11 33 | 0002  |          | 3    |          | 3    |
| 80/06/30 | 09 00 | 0002  |          | 14   |          | 4    |
| 80/07/10 | 15 35 | 0002  |          | 1    |          | C    |
| 80/07/17 | 14 17 | 0002  |          | 0    |          | G    |
| 80/07/31 | 11 35 | 0002  |          | 1    |          | 1    |
| 80/08/06 | 15 58 | 0002  |          | 7    |          | 1    |
| 80/08/12 | 10 52 | 0002  |          | 248  |          | 128  |
| 80/08/21 | 09 10 | 0002  |          | 6    |          | 5    |
| 80/09/03 | 14 14 | 0002  |          | 1    |          | C    |
| 80/09/10 | 09 28 | 0002  |          | 3    |          | 1    |
| 80/09/16 | 14 11 | 0002  |          | 0    |          | C    |

SECRET RETRIEVAL DATE 81/03/03

LIC03 LIC3 LIC-3

MI PT 0.0

40 34 24.0 073 50 47.0 2

LONG ISLAND BEACHES

36081 NEW YORK

ATLANTIC OCEAN 013319

LONG ISLAND COAST-ROCKAWAY BEACH

1111H030

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME | DEPTH | TCT CCLI | 31501    | 31613  |
|----------|------|-------|----------|----------|--------|
| FROM     | CF   |       | MFIMENCC | FEC CCLI |        |
| TC       | CAY  | FEET  | /100ML   | M-FCAGAR | /100ML |
| 80/05/31 | 08   | 24    | 0002     | 8        | 2      |
| 80/06/04 | 12   | 03    | 0002     | 2        | 1      |
| 80/06/09 | 11   | 28    | 0002     | 7        | 0      |
| 80/06/19 | 11   | 38    | 0002     | 0        | 0      |
| 80/06/26 | 11   | 29    | 0002     | 3        | 1      |
| 80/06/30 | 09   | 02    | 0002     | 18       | 12     |
| 80/07/10 | 15   | 37    | 0002     | 0        | 0      |
| 80/07/17 | 14   | 15    | 0002     | 0        | 0      |
| 80/07/31 | 11   | 33    | 0002     | 1        | 0      |
| 80/08/06 | 15   | 56    | 0002     | 4        | 2      |
| 80/08/12 | 10   | 50    | 0002     | 7        | 0      |
| 80/08/21 | 09   | 13    | 0002     | 2        | 2      |
| 80/09/03 | 14   | 12    | 0002     | 0        | 0      |
| 80/09/10 | 09   | 30    | 0002     | 0        | 0      |
| 80/09/16 | 14   | 13    | 0002     | 0        | 0      |

SECRET RETRIEVAL DATE 81/03/03

LIC04

LIC4

LIC-4

MI PT C.C

40 34 58.0 073 48 50.0 2

LONG ISLAND BEACHES

36081 NEW YORK

ATLANTIC OCEAN 013319

LONG ISLAND COAST-HOLLAND AREA

1111HC30

/TYPA/AM8NT/OCEAN

CCCC FEET DEPTH CLASS 00

| DATE     | TIME | DEPTH | TOT COLI | 31501  | 31613    |
|----------|------|-------|----------|--------|----------|
| FROM     | CF   |       | MFIPENCC |        | M-FCAGAR |
| TC       | CAY  | FEET  | /100ML   | /100ML | /100ML   |
| 80/05/31 | 08   | 26    | 0002     | 6      | 3        |
| 80/06/04 | 12   | 00    | 0002     | 1      | C        |
| 80/06/09 | 11   | 26    | 0002     | 3      | C        |
| 80/06/19 | 11   | 35    | 0002     | 2      | C        |
| 80/06/26 | 11   | 26    | 0002     | 9      | 5        |
| 80/06/30 | 09   | 06    | 0002     | 21     | 18       |
| 80/07/10 | 15   | 38    | 0002     | 6      | 4        |
| 80/07/17 | 14   | 12    | 0002     | 0      | 0        |
| 80/07/31 | 11   | 31    | 0002     | 88     | 4        |
| 80/08/06 | 15   | 54    | 0002     | 6      | 2        |
| 80/08/12 | 10   | 48    | 0002     | 48     | 1        |
| 80/08/21 | 09   | 15    | 0002     | 9      | 4        |
| 80/09/03 | 14   | 09    | 0002     | 3      | 2        |
| 80/09/10 | 09   | 32    | 0002     | 0      | 1        |
| 80/09/16 | 14   | 15    | 0002     | 8      | 2        |

SECRET RETRIEVAL DATE 81/03/03

LIC05 LIC5 LIC-5

MI PT 0.0

40 35 28.0 073 46 19.0 2

LCNG ISLAND BEACHES

36081 NEW YORK

ATLANTIC OCEAN 013319

LCNG ISLAND CCAST-EDGEWATER

1111H030

/TYPA/AMBNT/OCEAN

CCCC FEET DEPTH CLASS 00

| DATE     | TIME | DEPTH | 31501    | 31613    |
|----------|------|-------|----------|----------|
| FROM     | OF   |       | TOT CCLI | FEC CCLI |
| TC       | DAY  | FEET  | MFIMENCO | M-FCAGAR |
|          |      |       | /100ML   | /100ML   |
| 80/05/31 | 08   | 28    | 0002     | 11       |
| 80/06/04 | 11   | 57    | 0002     | 5        |
| 80/06/09 | 11   | 24    | 0002     | 17       |
| 80/06/19 | 11   | 33    | 0002     | 0        |
| 80/06/26 | 11   | 23    | 0002     | 2        |
| 80/06/30 | 09   | 10    | 0002     | 648      |
| 80/07/10 | 10   | 38    | 0002     | 3        |
| 80/07/17 | 14   | 09    | 0002     | 2        |
| 80/07/31 | 11   | 29    | 0002     | 0        |
| 80/08/06 | 15   | 53    | 0002     | 208      |
| 80/08/12 | 10   | 46    | 0002     | 288      |
| 80/08/21 | 09   | 17    | 0002     | 2        |
| 80/09/03 | 14   | 07    | 0002     | 1        |
| 80/09/10 | 09   | 34    | 0002     | 5        |
| 80/09/16 | 14   | 16    | 0002     | 0        |

SECRET RETRIEVAL DATE 81/03/03

LIC07 LIC7 LIC-7

MI PT 0.0

40 35 07.0 073 45 05.0 2

LCNG ISLAND BEACHES

36059 NEW YORK

ATLANTIC OCEAN 013318

LCNG ISLAND COAST-ATLANTIC BEACH

1111H030

/TYP/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | TOT CCL  | FEC CCL  |
|----------|-------|-------|----------|----------|
| FROM     | OF    |       | MFIMENCG | M-FCAGAR |
| TC       | CAY   | FEET  | /100ML   | /100ML   |
| 80/05/31 | 08 30 | 0002  | 1        | C        |
| 80/06/04 | 11 55 | 0002  | 0        | C        |
| 80/06/09 | 11 21 | 0002  | 0        | C        |
| 80/06/19 | 11 30 | 0002  | 0        | C        |
| 80/06/26 | 11 22 | 0002  | 0        | C        |
| 80/06/30 | 09 14 | 0002  | 202      | 4        |
| 80/07/10 | 10 36 | 0002  | 1        | 0        |
| 80/07/17 | 14 07 | 0002  | 2        | 1        |
| 80/07/31 | 11 27 | 0002  | 1        | 0        |
| 80/08/06 | 15 51 | 0002  | 322      | 2C       |
| 80/08/12 | 10 45 | 0002  | 2        | 1        |
| 80/08/21 | 09 19 | 0002  | 82       | 2        |
| 80/09/03 | 14 05 | 0002  | 0        | C        |
| 80/09/10 | 09 36 | 0002  | 0        | C        |
| 80/09/16 | 14 19 | 0002  | 0        | C        |

STCRET RETRIEVAL DATE 81/03/03  
 LIC08 LIC08 LIC-8  
 40 35 00.0 073 41 05.0 2  
 LONG ISLAND BEACHES  
 36059 NEW YORK  
 ATLANTIC OCEAN 013318  
 LONG ISLAND COAST-LONG BEACH  
 1111H030  
 0000 FEET DEPTH CLASS 00

MI PT G.C

/TYPA/AMBT/OCEAN

| DATE     | TIME  | DEPTH    | TOT CCL1 | FEC CCL1 |
|----------|-------|----------|----------|----------|
| FROM     | CF    | MFIMENCE | M-FCAGAR |          |
| TC       | CAY   | FEET     | /100ML   | /100ML   |
| 80/05/31 | 08 34 | 0002     | 4        | 1        |
| 80/06/04 | 11 51 | 0002     | 2        | 0        |
| 80/06/09 | 11 18 | 0002     | 5        | 0        |
| 80/06/19 | 11 25 | 0002     | 1        | 0        |
| 80/06/26 | 11 18 | 0002     | 6        | 0        |
| 80/06/30 | 09 17 | 0002     | 488      | 16       |
| 80/07/10 | 10 33 | 0002     | 4        | 1        |
| 80/07/17 | 14 04 | 0002     | 1        | 1        |
| 80/07/31 | 11 24 | 0002     | 14       | 1        |
| 80/08/06 | 15 48 | 0002     | 0        | 0        |
| 80/08/12 | 10 42 | 0002     | 2        | 0        |
| 80/08/21 | 09 22 | 0002     | 6        | 6        |
| 80/09/03 | 14 02 | 0002     | 3        | 1        |
| 80/09/10 | 09 39 | 0002     | 1        | 1        |
| 80/09/16 | 14 21 | 0002     | 13       | 1        |

SECRET RETRIEVAL DATE 81/03/03

LIC09 LIC9 LIC-9

MI PT 0.0

40 35 00.0 073 38 28.0 2

LCNG ISLAND BEACHES

36C59 NEW YCRK

ATLANTIC OCEAN 012218

LCNG ISLAND COAST-LCNG BEACH

1111H030

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 31501    |          | 31613    |          |
|----------|-------|-------|----------|----------|----------|----------|
|          |       |       | TOT COLI | FEC COLI | TOT COLI | FEC COLI |
|          |       |       | PFIMENCC | M-FCAGAR | PFIMENCC | M-FCAGAR |
| TC       | CAY   | FEET  | /100ML   | /100ML   | /100ML   | /100ML   |
| 80/05/31 | 08 37 | 0002  | 248      |          | 88       |          |
| 80/06/04 | 11 49 | 0002  | 728      |          | 1        |          |
| 80/06/09 | 11 15 | 0002  | 8        |          | 0        |          |
| 80/06/19 | 11 20 | 0002  | 0        |          | 0        |          |
| 80/06/26 | 11 15 | 0002  | 4        |          | 0        |          |
| 80/06/30 | 09 20 | 0002  | 328      |          | 13       |          |
| 80/07/10 | 10 30 | 0002  | 1        |          | 1        |          |
| 80/07/16 | 14 01 | 0002  | 0        |          | 2        |          |
| 80/07/31 | 11 20 | 0002  | 2008     |          | 6        |          |
| 80/08/06 | 15 46 | 0002  | 2        |          | 0        |          |
| 80/08/12 | 10 40 | 0002  | 168      |          | 1        |          |
| 80/08/21 | 09 25 | 0002  | 3        |          | 2        |          |
| 80/09/03 | 14 00 | 0002  | 2        |          | 1        |          |
| 80/09/10 | 09 41 | 0002  | 0        |          | 3        |          |
| 80/09/16 | 14 24 | 0002  | 3        |          | 0        |          |



STCRET RETRIEVAL DATE 81/03/03  
 LIC10 LIC-10  
 40 35 07.0 073 35 16.0 2  
 LCAG ISLAND BEACHES  
 36C59 NEW YORK  
 ATLANTIC OCEAN 013318  
 LCAG ISLAND CCAST-PCINT LOOKCUT  
 1111H030  
 CCCC FEET DEPTH CLASS 00

MI PT 0.0

/TYPA/AMBNT/OCEAN

| DATE     | TIME | DEPTH | 31501    | 31613    |
|----------|------|-------|----------|----------|
| FROM     | OF   |       | TCT COLI | FEC COLI |
| TC       | CAY  | FEET  | MFIMENCO | M-FCAGAR |
|          |      |       | /100ML   | /100ML   |
| 80/05/31 | 08   | 40    | 0002     | 8 2      |
| 80/06/04 | 11   | 46    | 0002     | 488 4    |
| 80/06/09 | 11   | 13    | 0002     | 41 4     |
| 80/06/19 | 11   | 17    | 0002     | 4 1      |
| 80/06/26 | 11   | 11    | 0002     | 11 0     |
| 80/06/30 | 09   | 24    | 0002     | 328 208  |
| 80/07/10 | 10   | 27    | 0002     | 5 2      |
| 80/07/17 | 13   | 58    | 0002     | 4 3      |
| 80/07/31 | 11   | 17    | 0002     | 3 1      |
| 80/08/06 | 15   | 44    | 0002     | 10 9     |
| 80/08/12 | 10   | 38    | 0002     | 36 10    |
| 80/08/21 | 09   | 27    | 0002     | 328 4    |
| 80/09/03 | 13   | 58    | 0002     | 13 7     |
| 80/09/10 | 09   | 43    | 0002     | 88 2     |
| 80/09/16 | 14   | 27    | 0002     | 0 0      |

STCRET RETRIEVAL DATE 81/03/03  
 LIC12 LIC-12  
 40 34 50.0 073 33 52.0 2  
 LCNG ISLAND BEACHES  
 36059 NEW YORK  
 ATLANTIC OCEAN 013318  
 LCNG ISLAND CCAST-SHCRT BEACH  
 1111H030  
 CC00 FEET DEPTH CLASS 00

MI PT 0.0

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>CF<br>DAY | DEPTH<br>FEET | 31501<br>TOT CCLI<br>MFIMENDG<br>/1CCML | 31613<br>FEC CCLI<br>M-FCAGAR<br>/1CCML |
|--------------------|-------------------|---------------|-----------------------------------------|-----------------------------------------|
|                    |                   |               |                                         |                                         |
|                    |                   |               |                                         |                                         |
| 80/05/31           | 08 43             | 0002          | 0                                       | 0                                       |
| 80/06/04           | 11 44             | 0002          | 0                                       | 0                                       |
| 80/06/09           | 11 10             | 0002          | 0                                       | 0                                       |
| 80/06/19           | 11 15             | 0002          | 0                                       | 0                                       |
| 80/06/26           | 11 09             | 0002          | 0                                       | 0                                       |
| 80/06/30           | 09 26             | 0002          | 4                                       | 1                                       |
| 80/07/10           | 10 24             | 0002          | 0                                       | 0                                       |
| 80/07/17           | 13 55             | 0002          | 0                                       | 0                                       |
| 80/07/31           | 11 15             | 0002          | 2                                       | 0                                       |
| 80/08/06           | 15 42             | 0002          | 0                                       | 0                                       |
| 80/08/12           | 10 36             | 0002          | 0                                       | 0                                       |
| 80/08/21           | 09 30             | 0002          | 0                                       | 0                                       |
| 80/09/03           | 13 56             | 0002          | 0                                       | 0                                       |
| 80/09/10           | 09 48             | 0002          | 48                                      | 0                                       |
| 80/09/16           | 14 28             | 0002          | 0                                       | 0                                       |

STCRET RETRIEVAL CATE 81/03/C3  
 LIC13  
 40 36 07.0 073 31 CC.0 3  
 LCNG ISLAND BEACHES  
 36103 NEW YCRK  
 ATLANTIC CCEAN 013318  
 JCKES BEACH STATE PARK  
 1111H030 770428  
 CCCC FEET CEPTH CLASS C0

/TYP/AMBNT/CCEAN

| DATE     | TIME | DEPTH | 31501    |          | 31613 |      |
|----------|------|-------|----------|----------|-------|------|
|          |      |       | TGT      | CCLI     | FEC   | CCLI |
|          |      |       | MFIMENCE | M-FCAGAR |       |      |
| TC       | CAY  | FEET  | /100ML   | /100ML   |       |      |
| 8C/05/31 | 08   | 45    | 0002     | 2        |       | C    |
| 8C/06/04 | 11   | 41    | 0002     | 0        |       | C    |
| 8C/06/09 | 11   | 07    | 0002     | 4        |       | C    |
| 8C/06/19 | 11   | 10    | 0002     | 0        |       | C    |
| 8C/06/26 | 11   | 05    | 0002     | 1        |       | C    |
| 8C/06/30 | 09   | 30    | 0002     | 5        |       | 3    |
| 8C/07/10 | 10   | 20    | 0002     | 1        |       | C    |
| 8C/07/17 | 13   | 52    | 0002     | 1        |       | 1    |
| 8C/07/31 | 11   | 12    | 0002     | 1        |       | C    |
| 8C/08/06 | 15   | 39    | 0002     | 1        |       | C    |
| 8C/08/12 | 10   | 34    | 0002     | 6        |       | 2    |
| 8C/08/21 | 09   | 32    | 0002     | 88       |       | 4    |
| 8C/09/03 | 13   | 54    | 0002     | 0        |       | C    |
| 8C/09/10 | 09   | 50    | 0002     | 88       |       | 1    |
| 8C/09/16 | 14   | 31    | 0002     | 0        |       | C    |

STCRET RETRIEVAL DATE 81/03/03  
 LIC14  
 40 36 50.C 073 28 31.0 3  
 LONG ISLAND BEACHES  
 36103 NEW YORK  
 ATLANTIC OCEAN 013218  
 EAST OVERLOOK JONES BEACH PARK-LONG IS.  
 1111MC30 770428  
 CCCC FEET DEPTH CLASS 00

/TYP/AMONT/OCEAN

| DATE     | TIME  | DEPTH    | TCT CCLI | FEC CCLI |
|----------|-------|----------|----------|----------|
| FROM     | OF    | MFIMENCC | M-FCAGAR |          |
| TC       | CAY   | FEET     | /100ML   | /100ML   |
| 80/05/31 | 08 48 | 0002     | 1        | C        |
| 80/06/04 | 11 38 | 0002     | 3        | C        |
| 80/06/09 | 11 05 | 0002     | 1        | C        |
| 80/06/19 | 11 06 | 0002     | 0        | 0        |
| 80/06/26 | 11 02 | 0002     | 3        | C        |
| 80/06/30 | 09 32 | 0002     | 3        | 1        |
| 80/07/17 | 13 49 | 0002     | 88       | 4        |
| 80/07/31 | 11 10 | 0002     | 0        | C        |
| 80/08/06 | 15 37 | 0002     | 3        | 2        |
| 80/08/12 | 10 31 | 0002     | 2        | 0        |
| 80/08/21 | 09 35 | 0002     | 0        | C        |
| 80/09/03 | 13 50 | 0002     | 0        | C        |
| 80/09/10 | 09 53 | 0002     | 0        | 2        |
| 80/09/16 | 14 33 | 0002     | 0        | 0        |

STCRET RETRIEVAL DATE 81/03/C3  
 LIC15  
 40 37 05.0 073 23 09.0 3  
 LONG ISLAND BEACHES  
 36103 NEW YORK  
 ATLANTIC OCEAN 013318  
 GILGC BEACH  
 1111H030 770429  
 C000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

|          |       |       |          | 31501    | 31613 |
|----------|-------|-------|----------|----------|-------|
| DATE     | TIME  | DEPTH | TOT CCLI | FEC CCLI |       |
| FROM     | OF    |       | MFIMENCE | M-FCAGAR |       |
| TC       | DAY   | FEET  | /100ML   | /100ML   |       |
| 80/05/31 | 11 16 | C002  | 0        | 0        | 0     |
| 80/06/04 | 11 35 | C002  | 0        | 0        | 0     |
| 80/06/09 | 11 00 | C002  | 0        | 0        | 0     |
| 80/06/19 | 11 00 | C002  | 1        | 1        | 0     |
| 80/06/26 | 10 58 | C002  | 2        | 2        | 0     |
| 80/06/30 | 09 36 | C002  | 2        | 2        | 0     |
| 80/07/17 | 13 45 | C002  | 2        | 2        | 1     |
| 80/07/31 | 11 06 | C002  | 0        | 0        | 0     |
| 80/08/06 | 15 34 | C002  | 0        | 0        | 0     |
| 80/08/12 | 10 27 | C002  | 408      | 408      | 6     |
| 80/08/21 | 09 38 | C002  | 408      | 408      | 0     |
| 80/09/03 | 13 46 | C002  | 1        | 1        | 0     |
| 80/09/10 | 09 56 | C002  | 3        | 3        | 6     |
| 80/09/16 | 14 35 | C002  | 9        | 9        | 5     |

SECRET RETRIEVAL DATE 81/03/03  
 LIC16  
 40 37 38.C 073 20 27.0 3  
 LONG ISLAND BEACHES  
 36103 NEW YORK  
 ATLANTIC OCEAN 013318  
 CEDAR ISLAND BEACH  
 1111H030 770428  
 C000 FEET DEPTH CLASS 00

/TYP A/AMBNT/OCEAN

| DATE       | TIME      | DEPTH | 315C1<br>TOT CCLI<br>MFIMENCO<br>/100ML | 31613<br>FEC CCLI<br>M-FCAGAR<br>/100ML |
|------------|-----------|-------|-----------------------------------------|-----------------------------------------|
| FRCP<br>TC | GF<br>CAY | FEET  |                                         |                                         |
| 80/05/31   | 11 12     | C002  | 2                                       | C                                       |
| 80/06/04   | 11 32     | C002  | 3                                       | 0                                       |
| 80/06/09   | 10 57     | C002  | 4                                       | 2                                       |
| 80/06/19   | 10 55     | C002  | 2                                       | 1                                       |
| 80/06/26   | 10 55     | C002  | 3                                       | 3                                       |
| 80/06/30   | 09 40     | C002  | 4                                       | 2                                       |
| 80/07/17   | 13 42     | C002  | 3                                       | 1                                       |
| 80/07/31   | 11 03     | C002  | 2                                       | 1                                       |
| 80/08/06   | 15 31     | C002  | 1                                       | C                                       |
| 80/08/12   | 10 25     | C002  | 1                                       | 0                                       |
| 80/08/21   | 09 41     | C002  | 2                                       | 8                                       |
| 80/09/03   | 13 43     | C002  | 0                                       | 1                                       |
| 80/09/10   | 10 00     | C002  | 8E                                      | 1                                       |
| 80/09/16   | 14 38     | C002  | 5                                       | 3                                       |

SECRET RETRIEVAL DATE 81/03/03  
 LIC17  
 40 37 10.0 073 16 55.0 3  
 LONG ISLAND BEACHES  
 36103 NEW YORK  
 ATLANTIC OCEAN 013318  
 ROBERT MCSEES STATE PARK-FIRE ISLAND  
 1111HC30 770428  
 CCCC FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE       | TIME      | DEPTH | 31501<br>TOT COLI<br>PFIMENCC<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|------------|-----------|-------|-----------------------------------------|-----------------------------------------|
| FROM<br>TC | CF<br>DAY | FEET  |                                         |                                         |
| 80/05/31   | 11 08     | 0002  | 3                                       | 1                                       |
| 80/06/04   | 11 28     | 0002  | 0                                       | C                                       |
| 80/06/09   | 10 54     | 0002  |                                         | C                                       |
| 80/06/19   | 10 50     | 0002  | 1                                       | 0                                       |
| 80/06/26   | 10 50     | 0002  | 1                                       | 1                                       |
| 80/06/30   | 09 45     | 0002  | 3                                       | C                                       |
| 80/07/17   | 13 38     | 0002  | 1                                       | C                                       |
| 80/07/31   | 10 58     | 0002  | 1                                       | 1                                       |
| 80/08/06   | 15 28     | 0002  | 4                                       | 2                                       |
| 80/08/12   | 10 21     | 0002  | 1                                       | C                                       |
| 80/08/21   | 09 44     | 0002  | 0                                       | C                                       |
| 80/09/03   | 13 40     | 0002  | 0                                       | 1                                       |
| 80/09/10   | 11 10     | 0002  | 5                                       | 168                                     |
| 80/09/16   | 14 41     | 0002  | 48                                      | C                                       |

STCRET RETRIEVAL DATE 81/03/03  
 LIC18  
 40 38 00.0 073 11 29.0 3  
 LONG ISLAND BEACHES  
 36103 NEW YORK  
 ATLANTIC OCEAN 013318  
 GREAT SOUTH BEACH  
 1111030 770428  
 0000 FEET DEPTH CLASS 00

/TYP/AMBT/OCEAN

| DATE     | TIME  | DEPTH | TOT CCLI | 31501    | 31613 |
|----------|-------|-------|----------|----------|-------|
| FROM     | CF    |       | MFIMENCC | FEC CCLI |       |
| TC       | CAY   | FEET  | /100ML   | /100ML   |       |
| 80/05/31 | 11 04 | 0002  |          | 9        | C     |
| 80/06/04 | 11 24 | 0002  |          | 1        | C     |
| 80/06/09 | 10 48 | 0002  |          | 88       | C     |
| 80/06/19 | 10 45 | 0002  |          | 0        | C     |
| 80/06/26 | 10 43 | 0002  |          | 0        | C     |
| 80/06/30 | 09 48 | 0002  |          | 6        | 1     |
| 80/07/17 | 13 34 | 0002  |          | 0        | C     |
| 80/07/31 | 10 54 | 0002  |          | 4        | 1     |
| 80/08/06 | 15 23 | 0002  |          | 3        | C     |
| 80/08/12 | 10 16 | 0002  |          | 6        | 1     |
| 80/08/21 | 09 50 | 0002  |          | 3        | 1     |
| 80/09/03 | 13 35 | 0002  |          | 0        | C     |
| 80/09/10 | 10 04 | 0002  |          | 2        | C     |
| 80/09/16 | 14 46 | 0002  |          | 4        | C     |



STCRET RETRIEVAL DATE 81/03/03  
 LIC19  
 40 39 23.C 073 05 26.0 3  
 LONG ISLAND BEACHES  
 36103 NEW YCRK  
 ATLANTIC OCEAN 013318  
 CHERRY GROVE  
 1111H03C 770428  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | TCT COLI | FEC COLI |
|----------|-------|-------|----------|----------|
| FROM     | CF    |       | MFIMENCO | M-FCAGAR |
| TC       | CAY   | FEET  | /100ML   | /100ML   |
| 80/05/31 | 11 00 | 0002  | 4        | 1        |
| 80/06/04 | 11 20 | 0002  | 0        | C        |
| 80/06/09 | 10 44 | 0002  | 1        | C        |
| 80/06/19 | 10 38 | 0002  | 0        | 0        |
| 80/06/26 | 10 40 | 0002  | 0        | C        |
| 80/06/30 | 09 54 | 0002  | 4        | 2        |
| 80/07/17 | 13 30 | 0002  | 1        | 1        |
| 80/07/31 | 10 50 | 0002  | 1        | C        |
| 80/08/06 | 15 21 | 0002  | 4        | C        |
| 80/08/12 | 10 14 | 0002  | 12B      | 1        |
| 80/08/21 | 09 54 | 0002  | 0        | 2        |
| 80/09/03 | 13 31 | 0002  | C        | C        |
| 80/09/10 | 10 07 | 0002  | 0        | C        |

SECRET RETRIEVAL DATE 81/03/03  
 LIC20  
 40 40 22.0 073 01 45.0 3  
 LONG ISLAND BEACHES  
 36103 NEW YORK  
 ATLANTIC OCEAN 013318  
 WATER ISLAND  
 1111HC30 770428  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE       | TIME      | DEPTH | 31501<br>TCT CCL1<br>M-FIPENDC<br>/100ML | 31613<br>FEC CCL1<br>M-FCAGAR<br>/100ML |    |
|------------|-----------|-------|------------------------------------------|-----------------------------------------|----|
| FRCP<br>TC | CF<br>DAY | FEET  |                                          |                                         |    |
| 80/05/31   | 10        | 55    | 0002                                     | 1                                       | C  |
| 80/06/04   | 11        | 16    | 0002                                     | 0                                       | 0  |
| 80/06/09   | 10        | 40    | 0002                                     | 1                                       | 1  |
| 80/06/19   | 10        | 33    | 0002                                     | 0                                       | C  |
| 80/06/26   | 10        | 29    | 0002                                     | 1                                       | C  |
| 80/06/30   | 11        | 25    | 0002                                     | 7                                       | 7  |
| 80/07/17   | 13        | 25    | 0002                                     | 0                                       | 1  |
| 80/07/31   | 10        | 47    | 0002                                     | 0                                       | C  |
| 80/08/06   | 15        | 18    | 0002                                     | 20                                      | 7  |
| 80/08/12   | 10        | 10    | 0002                                     | 128                                     | 48 |
| 80/08/21   | 09        | 59    | 0002                                     | C                                       | C  |
| 80/09/03   | 13        | 28    | 0002                                     | 0                                       | C  |
| 80/09/10   | 10        | 11    | 0002                                     | 48                                      | 1  |

STCRET RETRIEVAL DATE 81/03/03  
 LIC21  
 40 42 34.0 072 55 41.0 3  
 LCNG ISLAND BEACHES  
 36103 NEW YCRK  
 ATLANTIC CCEAN 013318  
 BELLPCRT BEACH  
 1111HC30 770428  
 C000 FEET DEPTH CLASS 00

/TYPA/AM8NT/OCEAN

| DATE     | TIME | DEPTH | TCT CCLI | 31501    | 31613  |
|----------|------|-------|----------|----------|--------|
| FROM     | OF   |       | MFIMENCE | FEC CCLI |        |
| TC       | CAY  | FEET  | /100ML   | M-FCAGAR | /100ML |
| 80/05/31 | 10   | 50    | 0002     | 0        | 0      |
| 80/06/04 | 11   | 12    | 0002     | 0        | 0      |
| 80/06/19 | 10   | 28    | 0002     | 0        | 0      |
| 80/06/26 | 10   | 25    | 0002     | 1        | 1      |
| 80/06/30 | 11   | 21    | 0002     | 2        | 0      |
| 80/07/17 | 13   | 20    | 0002     | 3        | 2      |
| 80/07/31 | 10   | 43    | 0002     | 0        | 0      |
| 80/08/06 | 15   | 14    | 0002     | 0        | 0      |
| 80/08/12 | 10   | 06    | 0002     | 2        | 0      |
| 80/08/21 | 10   | 02    | 0002     | 0        | 1      |
| 80/09/03 | 13   | 25    | 0002     | 0        | 0      |
| 80/09/10 | 10   | 14    | 0002     | 4E       | 3      |

STCRET RETRIEVAL DATE 81/03/03  
 LIC22  
 40 43 50.0 072 51 41.0 3  
 LCNG ISLAND BEACHES  
 36103 NEW YCRK  
 ATLANTIC CCEAN 013318  
 NARRCH BAY-FIRE ISLAND  
 1111H030 770428  
 0000 FEET DEPTH CLASS 00

/TYP A/AM BNT/OCEAN

| DATE     | TIME | DEPTH | 31501    | 31613    |    |
|----------|------|-------|----------|----------|----|
| FRCM     | CF   |       | TOT CCLI | FEC CCLI |    |
| TC       | CAY  | FEET  | MFIPENCC | M-FCAGAR |    |
|          |      |       | /100ML   | /100ML   |    |
| 80/05/31 | 10   | 46    | 0002     | 3        | 0  |
| 80/06/04 | 11   | 08    | 0002     | 1        | C  |
| 80/06/09 | 10   | 33    | 0002     | 0        | C  |
| 80/06/19 | 10   | 25    | 0002     | 1        | C  |
| 80/06/26 | 10   | 20    | 0002     | 1        | 0  |
| 80/06/30 | 11   | 18    | 0002     | 2        | C  |
| 80/07/17 | 13   | 16    | 0002     | 2        | 1  |
| 80/07/31 | 10   | 39    | 0002     | 120      | 1  |
| 80/08/06 | 15   | 12    | 0002     | 0        | C  |
| 80/08/12 | 10   | 01    | 0002     | 80       | 1  |
| 80/08/21 | 10   | 05    | 0002     | 40       | 3  |
| 80/09/03 | 13   | 21    | 0002     | 0        | C  |
| 80/09/10 | 10   | 21    | 0002     | 120      | 11 |

SECRET RETRIEVAL DATE 81/03/03  
 LIC23  
 40 45 30.0 072 46 22.0 3  
 LONG ISLAND BEACHES  
 36103 NEW YCRK  
 ATLANTIC OCEAN 013318  
 MCRICHES INLET WEST  
 1111MC30 770428  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 31501    | 31613    |
|----------|-------|-------|----------|----------|
| FROM     | CF    |       | TCT COLI | FEC COLI |
| TC       | DAY   | FEET  | PFIMENCO | M-FCAGAR |
|          |       |       | /100ML   | /100ML   |
| 80/05/31 | 10 42 | 0002  | 1        | C        |
| 80/06/04 | 11 04 | 0002  | 9        | C        |
| 80/06/09 | 10 26 | 0002  | 13       | 1        |
| 80/06/19 | 10 19 | 0002  | 8        | 2        |
| 80/06/26 | 10 15 | 0002  | 1        | 1        |
| 80/06/30 | 11 12 | 0002  | 1        | 1        |
| 80/07/17 | 13 12 | 0002  | 2        | 2        |
| 80/07/31 | 10 35 | 0002  | 2        | 1        |
| 80/08/06 | 15 07 | 0002  | 1        | C        |
| 80/08/12 | 09 58 | 0002  | 3        | C        |
| 80/08/21 | 10 10 | 0002  | 8        | 1        |
| 80/09/03 | 13 17 | 0002  | 0        | C        |
| 80/09/10 | 10 24 | 0002  | 3        | 1        |

STCRET RETRIEVAL DATE 81/03/03  
 LIC24  
 4C 46 04.0 072 44 00.0 3  
 LONG ISLAND BEACHES  
 36103 NEW YORK  
 ATLANTIC OCEAN 013318  
 MGRICHES INLET EAST  
 1111H030 770428  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME | DEPTH | 31501    | 31613    |   |
|----------|------|-------|----------|----------|---|
| FROM     | CF   |       | TCT CCLI | FEC CCLI |   |
| TC       | CAY  | FEET  | MFIMENCC | M-FCAGAR |   |
|          |      |       | /100ML   | /100ML   |   |
| 8C/05/31 | 10   | 40    | 0002     | 0        | 0 |
| 8C/06/04 | 11   | 02    | 0002     | 0        | 0 |
| 8C/06/09 | 10   | 26    | 0002     | 4        | 2 |
| 8C/06/19 | 10   | 18    | 0002     | 0        | 0 |
| 8C/06/26 | 10   | 12    | 0002     | 0        | 0 |
| 8C/06/30 | 11   | 11    | 0002     | 0        | 0 |
| 8C/07/17 | 13   | 10    | 0002     | 0        | 0 |
| 8C/07/31 | 10   | 33    | 0002     | 0        | 0 |
| 8C/08/06 | 15   | 06    | 0002     | 0        | 0 |
| 8C/08/12 | 09   | 56    | 0002     | 1        | 1 |
| 8C/08/21 | 10   | 12    | 0002     | 208      | 0 |
| 8C/09/03 | 13   | 15    | 0002     | 0        | 0 |
| 8C/09/10 | 10   | 25    | 0002     | 3        | 1 |

SECRET RETRIEVAL DATE 81/03/03  
LIC25

40 47 13.0 070 39 48.0 3

LCNG ISLAND BEACHES

36103 NEW YCRK

ATLANTIC OCEAN 013318

WESTHAMPTON BEACH

1111H030 770428

0000 FEET DEPTH CLASS 00

/TYPA/AM8NT/OCEAN

| DATE     | TIME  | DEPTH | TOT COLI | FEC COLI |
|----------|-------|-------|----------|----------|
| FROM     | OF    |       | MFIPENCE | M-FCAGAR |
| TC       | DAY   | FEET  | /100ML   | /100ML   |
| 80/05/31 | 10 35 | 0002  | 1        | 0        |
| 80/06/04 | 10 58 | 0002  | 0        | C        |
| 80/06/09 | 10 24 | 0002  | 0        | C        |
| 80/06/19 | 10 13 | 0002  | 0        | C        |
| 80/06/26 | 10 08 | 0002  | 0        | 0        |
| 80/06/30 | 11 04 | 0002  | 0        | C        |
| 80/07/17 | 13 06 | 0002  | 48       | C        |
| 80/07/31 | 10 29 | 0002  | 1        | 1        |
| 80/08/06 | 15 03 | 0002  | 0        | 0        |
| 80/08/12 | 09 51 | 0002  | 162      | C        |
| 80/08/21 | 10 16 | 0002  | 0        | C        |
| 80/09/03 | 13 10 | 0002  | 0        | C        |
| 80/09/10 | 10 30 | 0002  | 12       | 5        |

SECRET RETRIEVAL DATE 81/03/C3  
 LIC26  
 40 49 23.0 072 31 58.0 3  
 LCNG ISLAND BEACHES  
 361C3 NEW YCRK  
 ATLANTIC OCEAN 013318  
 TIANA BEACH  
 1111H030 770428  
 CCCC FEET DEPTH CLASS 00

/TYPA/AM8NT/OCEAN

| DATE       | TIME      | DEPTH | 21501<br>TOT COLI<br>MFIMENCC<br>/100ML | 21613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|------------|-----------|-------|-----------------------------------------|-----------------------------------------|
| FROM<br>TC | CF<br>DAY | FEET  |                                         |                                         |
| 80/05/31   | 10 31     | 0002  | 0                                       | C                                       |
| 80/06/04   | 10 52     | 0002  | 5                                       | C                                       |
| 80/06/09   | 10 18     | 0002  | 0                                       | C                                       |
| 80/06/19   | 10 09     | 0002  | 0                                       | 0                                       |
| 80/06/26   | 10 02     | 0002  | 0                                       | 0                                       |
| 80/07/17   | 13 01     | 0002  | 0                                       | C                                       |
| 80/07/31   | 10 25     | 0002  | 2                                       | 1                                       |
| 80/08/06   | 14 59     | 0002  | 0                                       | 0                                       |
| 80/08/12   | 09 48     | 0002  | 0                                       | C                                       |
| 80/08/21   | 10 20     | 0002  | 5                                       | 6                                       |
| 80/09/03   | 13 06     | 0002  | 0                                       | C                                       |
| 80/09/10   | 10 34     | 0002  | 2                                       | C                                       |



STCRET RETRIEVAL CATE 81/03/03  
 LIC27  
 40 50 12.C 072 29 14.0 3  
 LONG ISLAND BEACHES  
 36103 NEW YCRK  
 ATLANTIC CCEAN 013318  
 SHINNECCCK INLET WEST  
 1111HC30 770428  
 CC00 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME | DEPTH | 31501    | 31613    |    |
|----------|------|-------|----------|----------|----|
| FROM     | CF   |       | TCT CGLI | FEC CGLI |    |
| TC       | CAY  | FEET  | MFIMENCC | M-FCAGAR |    |
|          |      |       | /100ML   | /100ML   |    |
| 80/05/31 | 10   | 27    | 0002     | 1        | C  |
| 80/06/04 | 10   | 48    | 0002     | 0        | C  |
| 80/06/09 | 10   | 15    | 0002     | 5        | C  |
| 80/06/19 | 10   | 04    | 0002     | 2        | 2  |
| 80/06/26 | 09   | 59    | 0002     | 2        | 1  |
| 80/06/30 | 10   | 56    | 0002     | 2        | 2  |
| 80/07/17 | 12   | 58    | 0002     | 1        | C  |
| 80/07/31 | 10   | 22    | 0002     | 0        | 0  |
| 80/08/06 | 14   | 55    | 0002     | 0        | C  |
| 80/08/12 | 09   | 45    | 0002     | 1        | 1  |
| 80/08/21 | 10   | 25    | 0002     | 11       | 10 |
| 80/09/03 | 13   | 03    | 0002     | 1        | C  |
| 80/09/10 | 10   | 37    | 0002     | 2        | C  |

STCRET RETRIEVAL CATE 81/03/03  
 LIC28  
 40 50 38.0 072 27 48.0 3  
 LONG ISLAND BEACHES  
 36103 NEW YCRK  
 ATLANTIC OCEAN 013318  
 SHINNECCCK INLET EAST  
 1111HC30 770428  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME | DEPTH | 31501    | 31613    |
|----------|------|-------|----------|----------|
| FROM     | OF   |       | TCT CELI | FEC CELI |
| TC       | CAY  | FEET  | MFIMENCE | M-FCAGAR |
|          |      |       | /100ML   | /100ML   |
| 80/05/31 | 10   | 25    | 0002     | 0        |
| 80/06/04 | 10   | 45    | 0002     | 0        |
| 80/06/09 | 10   | 12    | 0002     | 1        |
| 80/06/19 | 10   | 03    | 0002     | 3        |
| 80/06/26 | 09   | 57    | 0002     | 0        |
| 80/06/30 | 10   | 55    | 0002     | 2        |
| 80/07/17 | 12   | 55    | 0002     | 0        |
| 80/07/31 | 10   | 20    | 0002     | 0        |
| 80/08/06 | 14   | 54    | 0002     | 0        |
| 80/08/12 | 09   | 43    | 0002     | 0        |
| 80/08/21 | 10   | 27    | 0002     | 0        |
| 80/09/03 | 13   | 02    | 0002     | 0        |
| 80/09/10 | 10   | 38    | 0002     | 0        |

SECRET RETRIEVAL DATE 81/03/03

JCC1A JC1A

MI PT C.C

40 28 05.0 073 59 50.0 2

NEW JERSEY BEACHES

34C25 NEW JERSEY

ATLANTIC OCEAN 013408

JERSEY CCAST-SANDY HCCX PARKING AREA

1111HC30

/TYP/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME | DEPTH | 31501    | 31613    |   |
|----------|------|-------|----------|----------|---|
| FROM     | CF   |       | TCT CCLI | FEC CCLI |   |
| TC       | CAY  | FEET  | PFINENCC | M-FCAGAR |   |
|          |      |       | /100ML   | /100ML   |   |
| 80/06/03 | 14   | 39    | 0002     | 4        | 0 |
| 80/06/11 | 14   | 20    | 0002     | 5        | 0 |
| 80/06/17 | 12   | 06    | 0002     | 3        | 1 |
| 80/06/25 | 14   | 35    | 0002     | 9        | 4 |
| 80/07/01 | 13   | 17    | 0002     | 8        | 1 |
| 80/07/08 | 09   | 35    | 0002     | 3        | C |
| 80/07/15 | 08   | 47    | 0002     | 0        | C |
| 80/07/31 | 14   | 04    | 0002     | 408      | 1 |
| 80/08/07 | 13   | 15    | 0002     | 0        | C |
| 80/08/14 | 12   | 42    | 0002     | 1        | C |
| 80/08/19 | 14   | 23    | 0002     | 2        | 2 |
| 80/08/25 | 12   | 10    | 0002     | 1        | C |
| 80/09/16 | 13   | 18    | 0002     | 2        | 2 |
| 80/09/30 | 13   | 16    | 0002     | 2        | 1 |

SECRET RETRIEVAL DATE 81/03/C3

JC02 JC2 JC-2

MI PT 0.0

40 27 05.0 073 59 10.0 2

NEW JERSEY BEACHES

34C25 NEW JERSEY

ATLANTIC OCEAN 013408

JERSEY COAST-SANCY HOOK EAST OF RACONE

1111H030

/TYP/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME | DEPTH | 31501    | 31613    |   |
|----------|------|-------|----------|----------|---|
| FROM     | OF   |       | TOT COLI | FEC COLI |   |
| TC       | DAY  | FEET  | MFIMENDC | M-FCAGAR |   |
|          |      |       | /100ML   | /100ML   |   |
| 80/06/03 | 14   | 35    | 0002     | 4        | C |
| 80/06/11 | 14   | 17    | 0002     | 11       | C |
| 80/06/17 | 12   | 04    | 0002     | 1        | C |
| 80/06/25 | 14   | 33    | 0002     | 1        | C |
| 80/07/01 | 13   | 15    | 0002     | 3        | C |
| 80/07/08 | 09   | 38    | 0002     | 3        | C |
| 80/07/15 | 08   | 49    | 0002     | 2        | 0 |
| 80/07/31 | 14   | 06    | 0002     | 16       | 2 |
| 80/08/07 | 13   | 12    | 0002     | 1        | 0 |
| 80/08/14 | 12   | 40    | 0002     | 2        | C |
| 80/08/19 | 14   | 21    | 0002     | 0        | 1 |
| 80/08/25 | 12   | 07    | 0002     | 0        | 0 |
| 80/09/16 | 13   | 20    | 0002     | 4        | 1 |
| 80/09/30 | 13   | 14    | 0002     | 0        | C |

STCRET RETRIEVAL DATE 81/03/03  
 JC03 JC3 JC-3  
 40 25 40.0 073 58 55.0 2  
 NEW JERSEY BEACHES  
 34025 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY COAST-SANDY HOOK STATE PARK BEACH  
 1111HC30  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME | DEPTH | 31501<br>TOT COLI<br>MFIMENCO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|----------|------|-------|-----------------------------------------|-----------------------------------------|
| FROM     | GF   |       |                                         |                                         |
| TC       | CAY  | FEET  |                                         |                                         |
| 80/06/03 | 14   | 32    | 0002                                    | 0                                       |
| 80/06/11 | 14   | 14    | 0002                                    | 1                                       |
| 80/06/17 | 12   | 02    | 0002                                    | 1                                       |
| 80/06/25 | 14   | 30    | 0002                                    | 3                                       |
| 80/07/01 | 13   | 13    | 0002                                    | 1                                       |
| 80/07/08 | 09   | 40    | 0002                                    | 1                                       |
| 80/07/15 | 08   | 52    | 0002                                    | 1                                       |
| 80/07/31 | 14   | 08    | 0002                                    | 4                                       |
| 80/08/07 | 13   | 10    | 0002                                    | 0                                       |
| 80/08/14 | 12   | 38    | 0002                                    | 0                                       |
| 80/08/19 | 14   | 19    | 0002                                    | 1                                       |
| 80/08/25 | 12   | 05    | 0002                                    | 2                                       |
| 80/09/16 | 13   | 21    | 0002                                    | 2                                       |
| 80/09/30 | 13   | 12    | 0002                                    | 1                                       |

STCRET RETRIEVAL DATE 81/03/03  
 JC05 JC5 JC-5  
 40 23 47.0 073 58 35.0 2  
 NEW JERSEY BEACHES  
 34025 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY COAST-HIGHLAND BEACH  
 1111H030  
 0000 FEET DEPTH CLASS 00

MI PT 0.0

/TYPA/AMBNT/OCEAN

|          |      |       |          | 31501    | 31613 |
|----------|------|-------|----------|----------|-------|
| DATE     | TIME | DEPTH | TCT      | CCLI     | FEC   |
| FROM     | OF   |       | MFIPENCC | M-FCAGAR |       |
| TC       | DAY  | FEET  | /100ML   | /100ML   |       |
| 80/06/03 | 14   | 29    | 0002     | 0        | C     |
| 80/06/11 | 13   | 57    | 0002     | 0        | C     |
| 80/06/17 | 12   | 00    | 0002     | 0        | 0     |
| 80/06/25 | 14   | 20    | 0002     | 2        | 1     |
| 80/07/01 | 13   | 05    | 0002     | 4        | 1     |
| 80/07/08 | 09   | 43    | 0002     | 0        | C     |
| 80/07/15 | 08   | 55    | 0002     | 1        | 0     |
| 80/07/31 | 14   | 11    | 0002     | 3        | 2     |
| 80/08/07 | 13   | 07    | 0002     | 0        | C     |
| 80/08/14 | 12   | 36    | 0002     | 0        | C     |
| 80/08/19 | 14   | 13    | 0002     | 0        | 0     |
| 80/08/25 | 12   | 03    | 0002     | 0        | C     |
| 80/09/16 | 13   | 24    | 0002     | 4        | 1     |
| 80/09/30 | 13   | 09    | 0002     | 5        | C     |

SECRET RETRIEVAL DATE 81/03/03  
 JC08 JC8 JC-8  
 40 21 50.0 073 58 25.0 2  
 NEW JERSEY BEACHES  
 34025 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY CCAST-SEA BRIGHT  
 1111H030  
 0000 FEET DEPTH CLASS 00

MI PT 0.0

/TYPA/AM0NT/OCEAN

| DATE     | TIME | DEPTH | TCT      | CCLI | FEC      | COLI |
|----------|------|-------|----------|------|----------|------|
| FROM     | OF   |       | MFIMENCO |      | M-FCAGAR |      |
| TC       | DAY  | FEET  | /100ML   |      | /100ML   |      |
| 80/06/03 | 14   | 25    | 0002     | 0    |          | 0    |
| 80/06/11 | 13   | 53    | 0002     | 0    |          | 0    |
| 80/06/17 | 11   | 58    | 0002     | 4    |          | 0    |
| 80/06/18 | 15   | 21    | 0002     | 0    |          | 0    |
| 80/06/25 | 14   | 16    | 0002     | 0    |          | 0    |
| 80/07/01 | 13   | 02    | 0002     | 8    |          | 1    |
| 80/07/08 | 09   | 58    | 0002     | 3    |          | 0    |
| 80/07/15 | 09   | 03    | 0002     | 1    |          | 0    |
| 80/07/31 | 14   | 13    | 0002     | 3    |          | 0    |
| 80/08/07 | 13   | 05    | 0002     | 1    |          | 0    |
| 80/08/14 | 12   | 34    | 0002     | 0    |          | 0    |
| 80/08/19 | 14   | 11    | 0002     | 0    |          | 0    |
| 80/08/25 | 12   | 00    | 0002     | 0    |          | 0    |
| 80/09/16 | 13   | 26    | 0002     | 4    |          | 1    |
| 80/09/30 | 13   | 06    | 0002     | 11   |          | 1    |

SECRET RETRIEVAL DATE 81/03/03

JC11 JC-11

MI PT 0.0

40 19 49.0 073 58 26.0 2

NEW JERSEY BEACHES

34025 NEW JERSEY

ATLANTIC OCEAN 013408

JERSEY CCAST-MCNMOUTH BEACH

1111HG30

/TYPA/AMBNT/OCEAN

0000 FEET DEPTH CLASS 00

| DATE     | TIME | DEPTH | TOT CCLI | 31501 | 31613    |
|----------|------|-------|----------|-------|----------|
| FROM     | GF   |       | MFIPENDC |       | FEC CCLI |
| TC       | CAY  | FEET  | /100ML   |       | /100ML   |
| 80/06/03 | 14   | 21    | 0002     | 156   | 3        |
| 80/06/11 | 13   | 49    | 0002     | 1     | 0        |
| 80/06/17 | 11   | 55    | 0002     | 1600L | 74C      |
| 80/06/18 | 15   | 30    | 0002     | 2     | C        |
| 80/06/25 | 14   | 14    | 0002     | 0     | C        |
| 80/07/01 | 12   | 59    | 0002     | 2     | C        |
| 80/07/08 | 10   | 00    | 0002     | 1     | C        |
| 80/07/15 | 09   | 06    | 0002     | 2     | 0        |
| 80/07/31 | 14   | 16    | 0002     | 4     | 0        |
| 80/08/07 | 13   | 02    | 0002     | 21    | C        |
| 80/08/14 | 12   | 37    | 0002     | 10    | C        |
| 80/08/19 | 14   | 09    | 0002     | 1     | C        |
| 80/08/25 | 11   | 57    | 0002     | 0     | 0        |
| 80/09/10 | 15   | 50    | 0002     | 2     | C        |
| 80/09/16 | 13   | 28    | 0002     | 45    | 9        |
| 80/09/30 | 13   | 03    | 0002     | 8     | 2        |



STCRET RETRIEVAL DATE 81/03/03  
 JC14 JC-14  
 40 17 28.0 073 58 55.0 2  
 NEW JERSEY BEACHES  
 34025 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY COAST-LONG BRANCH  
 1111HC30  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME | DEPTH | 31501    | 31613    |    |
|----------|------|-------|----------|----------|----|
| FROM     | OF   |       | TCT CCLI | FEC COLI |    |
| TC       | DAY  | FEET  | MFIMENCO | M-FCAGAR |    |
|          |      |       | /100ML   | /100ML   |    |
| 80/06/03 | 14   | 18    | 0002     | 1        | C  |
| 80/06/11 | 13   | 45    | 0002     | 4        | C  |
| 80/06/17 | 11   | 53    | 0002     | 3        | Q  |
| 80/06/18 | 15   | 26    | 0002     | 0        | Q  |
| 80/06/25 | 14   | 11    | 0002     | 1        | I  |
| 80/07/01 | 12   | 56    | 0002     | 1        | C  |
| 80/07/08 | 10   | 03    | 0002     | 3        | Q  |
| 80/07/15 | 09   | 09    | 0002     | 3        | 2  |
| 80/07/31 | 14   | 19    | 0002     | 3        | 1  |
| 80/08/07 | 13   | 00    | 0002     | 1        | C  |
| 80/08/14 | 12   | 28    | 0002     | 13       | C  |
| 80/08/19 | 14   | 06    | 0002     | 6        | 3  |
| 80/08/25 | 11   | 55    | 0002     | 48       | C  |
| 80/09/10 | 15   | 47    | 0002     | 0        | Q  |
| 80/09/16 | 13   | 30    | 0002     | 7        | 4  |
| 80/09/30 | 13   | 00    | 0002     | 808      | 18 |

STCRET RETRIEVAL CATE 81/03/03  
 JC21 JC-21  
 40 13 20.0 073 59 47.0 2  
 NEW JERSEY BEACHES  
 34025 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY CCAST-ASBURY PARK  
 1111H030  
 0000 FEET DEPTH CLASS 00

/TYPA/AM8NT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 31501    | 31613    |
|--------------------|-------------------|---------------|----------|----------|
|                    |                   |               | TCT CCLI | FEC CCLI |
|                    |                   |               | MFIMENCC | M-FCAGAR |
|                    |                   |               | /100ML   | /100ML   |
| 80/06/03           | 14 14             | 0002          | 10       | C        |
| 80/06/11           | 12 21             | 0002          | 2        | C        |
| 80/06/17           | 11 48             | 0002          | 2        | 0        |
| 80/06/25           | 14 06             | 0002          | 0        | 0        |
| 80/07/01           | 12 51             | 0002          | 6        | C        |
| 80/07/08           | 10 08             | 0002          | 6        | C        |
| 80/07/15           | 09 13             | 0002          | 8        | C        |
| 80/07/31           | 14 23             | 0002          | 21       | C        |
| 80/08/07           | 12 55             | 0002          | 4        | C        |
| 80/08/14           | 12 25             | 0002          | 22       | 0        |
| 80/08/19           | 14 03             | 0002          | 0        | C        |
| 80/08/25           | 11 53             | 0002          | 560      | 3408     |
| 80/08/28           | 12 35             | 0002          | 420      | 60       |
|                    | 12 50             | 0002          | 69       | 1        |
|                    | 13 02             | 0002          | 9        | 1        |
| 80/09/10           | 15 44             | 0002          | 0        | C        |
| 80/09/16           | 13 33             | 0002          | 10       | 5        |
| 80/09/30           | 12 56             | 0002          | 252      | 288      |

STCRET RETRIEVAL CATE 81/03/03  
 JC24 JC-24  
 40 12 05.0 074 00 24.0 2  
 NEW JERSEY BEACHES  
 34025 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY COAST-OCEAN GROVE  
 1111H030  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 31501              | 31613              |
|--------------------|-------------------|---------------|--------------------|--------------------|
|                    |                   |               | TCT CCL I          | FEC CCL I          |
|                    |                   |               | MFIMENCG<br>/100ML | M-FCAGAR<br>/100ML |
| 80/06/03           | 13 04             | 0002          | 2                  | C                  |
| 80/06/11           | 12 18             | 0002          | 1                  | C                  |
| 80/06/17           | 11 46             | 0002          | 12                 | C                  |
| 80/06/25           | 14 04             | 0002          | 0                  | 0                  |
| 80/07/01           | 12 48             | 0002          | 0                  | C                  |
| 80/07/08           | 10 11             | 0002          | 1                  | C                  |
| 80/07/15           | 09 16             | 0002          | 2                  | C                  |
| 80/07/31           | 14 26             | 0002          | 0                  | 0                  |
| 80/08/07           | 12 53             | 0002          | 0                  | C                  |
| 80/08/14           | 12 23             | 0002          | 4                  | C                  |
| 80/08/19           | 14 00             | 0002          | 48                 | 48                 |
| 80/08/25           | 11 52             | 0002          | 0                  | 0                  |
| 80/09/10           | 15 43             | 0002          | 0                  | C                  |
| 80/09/16           | 13 35             | 0002          | 3                  | C                  |
| 80/09/30           | 12 53             | 0002          | 272                | 27                 |

STCRET RETRIEVAL DATE 81/03/03  
 JC27 JC-27  
 4C 11 06.0 074 00 36.0 2  
 NEW JERSEY BEACHES  
 34025 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY CCAST-BELMAR  
 1111HC30  
 CC00 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

|          |      | 31501 |          | 31613    |   |
|----------|------|-------|----------|----------|---|
| DATE     | TIME | DEPTH | TCT CCLI | FEC COLI |   |
| FROM     | CF   |       | MFIMENCC | M-FCAGAR |   |
| TC       | CAY  | FEET  | /10CML   | /10CML   |   |
| 8C/C6/03 | 13   | 00    | 0002     | 4        | 1 |
| 8Q/06/11 | 12   | 15    | 0002     | 7        | C |
| 8Q/06/17 | 11   | 44    | 0002     | 1        | C |
| 8C/06/25 | 14   | 01    | 0002     | 2        | 1 |
| 8C/07/01 | 12   | 46    | 0002     | 2        | 2 |
| 8C/07/08 | 10   | 15    | 0002     | 1        | C |
| 8Q/07/15 | 09   | 18    | 0002     | 2        | C |
| 8C/C7/31 | 14   | 29    | 0002     | 7        | 2 |
| 8C/08/07 | 12   | 52    | 0002     | 2        | 0 |
| 8C/08/14 | 12   | 21    | 0002     | 1        | C |
| 8Q/08/19 | 13   | 02    | 0002     | 0        | 1 |
| 8Q/08/25 | 11   | 51    | 0002     | 5        | 4 |
| 8Q/09/10 | 15   | 40    | 0002     | 1        | 0 |
| 8Q/09/16 | 13   | 37    | 0002     | 4        | 3 |
| 8Q/09/30 | 12   | 50    | 0002     | 96       | 1 |

SECRET RETRIEVAL DATE 81/03/C3  
 JC30 JC-30  
 40 09 25.0 074 01 11.0 2  
 NEW JERSEY BEACHES  
 34025 NEW JERSEY  
 ATLANTIC OCEAN Q13408  
 JERSEY COAST-SPRING LAKE  
 1111H030  
 0000 FEET DEPTH CLASS 00

MI PT 0-C

/TYP/A/MBNT/OCEAN

| DATE     | TIME | DEPTH | 31501    | 31613    |
|----------|------|-------|----------|----------|
| FROM     | OF   |       | TCT CCLI | FEC CCLI |
| TC       | CAY  | FEET  | MFIMENDQ | M-FCAGAR |
|          |      |       | /100ML   | /100ML   |
| 80/06/03 | 12   | 56    | 0002     | 0        |
| 80/06/11 | 12   | 13    | 0002     | 1        |
| 80/06/17 | 11   | 42    | 0002     | 1        |
| 80/06/25 | 13   | 59    | 0002     | 0        |
| 80/07/01 | 12   | 43    | 0002     | 0        |
| 80/07/08 | 10   | 18    | 0002     | 1        |
| 80/07/15 | 09   | 20    | 0002     | 0        |
| 80/07/31 | 14   | 31    | 0002     | 1        |
| 80/08/07 | 12   | 50    | 0002     | 0        |
| 80/08/14 | 12   | 19    | 0002     | 0        |
| 80/08/19 | 12   | 59    | 0002     | 1        |
| 80/08/25 | 11   | 49    | 0002     | 1        |
| 80/09/10 | 15   | 38    | 0002     | 0        |
| 80/09/16 | 13   | 38    | 0002     | 3        |
| 80/09/30 | 11   | 36    | 0002     | 5        |

STCRET RETRIEVAL DATE 81/03/03  
 JC33 JC-33  
 40 08 03.0 074 01 39.0 2  
 NEW JERSEY BEACHES  
 34025 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY CCAST-SEA GIRT  
 1111H030  
 0000 FEET DEPTH CLASS 00

MI PT 0.0

/TYPA/AMBNT/OCEAN

| DATE     | TIME | DEPTH | TCT CCLI | 31501    | 31613  |
|----------|------|-------|----------|----------|--------|
| FROM     | CF   |       | PFIMENCC | FEC CCLI |        |
| TC       | CAY  | FEET  | /100ML   | M-FCAGAR | /100ML |
| 80/06/03 | 12   | 54    | 0002     | 1        | C      |
| 80/06/11 | 12   | 10    | 0002     | 1        | C      |
| 80/06/17 | 11   | 40    | 0002     | 4        | 0      |
| 80/06/25 | 13   | 57    | 0002     | 0        | C      |
| 80/07/01 | 12   | 40    | 0002     | 1        | 1      |
| 80/07/08 | 10   | 21    | 0002     | 1        | C      |
| 80/07/15 | 09   | 23    | 0002     | 0        | C      |
| 80/07/31 | 14   | 33    | 0002     | 0        | C      |
| 80/08/07 | 11   | 54    | 0002     | 0        | C      |
| 80/08/14 | 12   | 17    | 0002     | 1        | C      |
| 80/08/19 | 12   | 58    | 0002     | 0        | C      |
| 80/08/25 | 11   | 47    | 0002     | 0        | C      |
| 80/09/10 | 15   | 37    | 0002     | 0        | C      |
| 80/09/16 | 13   | 40    | 0002     | 2        | 1      |
| 80/09/30 | 11   | 33    | 0002     | 5        | 3      |

SECRET RETRIEVAL DATE 81/03/03  
 JC37 JC-37  
 40 05 57.0 074 02 03.0 2  
 NEW JERSEY BEACHES  
 34C29 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY CCAST-PCINT PLEASANT  
 1111H030  
 CCGO FEET DEPTH CLASS 00

MI PT 0.0

/TYP/AMBNT/OCEAN

| DATE       | TIME      | DEPTH | 31501<br>TOT CCLI<br>MFIMENCO<br>/100ML | 31613<br>FEC CCLI<br>M-FCAGAR<br>/100ML |   |
|------------|-----------|-------|-----------------------------------------|-----------------------------------------|---|
| FROM<br>TC | OF<br>DAY | FEET  |                                         |                                         |   |
| 80/06/03   | 12        | 50    | 0002                                    | 2                                       | C |
| 80/06/11   | 12        | 06    | 0002                                    | 12                                      | C |
| 80/06/17   | 11        | 38    | 0002                                    | 18                                      | C |
| 80/06/25   | 13        | 54    | 0002                                    | 0                                       | 0 |
| 80/07/01   | 12        | 36    | 0002                                    | 3                                       | 1 |
| 80/07/08   | 10        | 25    | 0002                                    | 17                                      | 3 |
| 80/07/15   | 09        | 26    | 0002                                    | 1                                       | C |
| 80/07/31   | 14        | 35    | 0002                                    | 8                                       | 0 |
| 80/08/07   | 11        | 51    | 0002                                    | 14                                      | 4 |
| 80/08/14   | 12        | 15    | 0002                                    | 0                                       | C |
| 80/08/19   | 12        | 56    | 0002                                    | 2                                       | 2 |
| 80/08/25   | 11        | 45    | 0002                                    | 28                                      | 1 |
| 80/09/10   | 15        | 35    | 0002                                    | 9                                       | 2 |
| 80/09/16   | 13        | 43    | 0002                                    | 1                                       | 1 |
| 80/09/30   | 11        | 30    | 0002                                    | 14                                      | 2 |

STCRET RETRIEVAL DATE 81/03/03  
 JC41 JC-41  
 40 03 45.0 074 02 38.0 2  
 NEW JERSEY BEACHES  
 34029 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY COAST-BAY HEAD  
 1111H030  
 0000 FEET DEPTH CLASS 00

MI PT 0.0

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | TOT COLI | 31501    | 31613  |
|----------|-------|-------|----------|----------|--------|
| FROM     | OF    |       | MFIMENCO | FEC COLI |        |
| TC       | CAY   | FEET  | /100ML   | M-FCAGAR | /100ML |
| 80/06/03 | 12 47 | 0002  |          | 5        | 1      |
| 80/06/11 | 12 03 | 0002  |          | 0        | 0      |
| 80/06/17 | 11 35 | 0002  |          | 0        | 0      |
| 80/06/25 | 13 52 | 0002  |          | 0        | 0      |
| 80/07/01 | 12 33 | 0002  |          | 1        | 1      |
| 80/07/08 | 10 27 | 0002  |          | 0        | 0      |
| 80/07/15 | 10 34 | 0002  |          | 0        | 0      |
| 80/07/31 | 14 37 | 0002  |          | 2        | 1      |
| 80/08/07 | 11 49 | 0002  |          | 0        | 0      |
| 80/08/14 | 12 12 | 0012  |          | 3        | 0      |
| 80/08/19 | 12 53 | 0002  |          | 0        | 0      |
| 80/08/25 | 11 43 | 0002  |          | 0        | 1      |
| 80/09/10 | 15 33 | 0002  |          | 0        | 0      |
| 80/09/16 | 13 45 | 0002  |          | 0        | 0      |
| 80/09/30 | 11 27 | 0002  |          | 5        | 0      |



STCRET RETRIEVAL DATE 81/03/03  
 JC44 JC-44  
 4G G1 42.C 074 03 55.0 2  
 NEW JERSEY BEACHES  
 34029 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY COAST-MANTICLOCKING BEACH  
 1111H030  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | TCT CCLI | 31501    | 31613 |
|----------|-------|-------|----------|----------|-------|
| FROM     | OF    |       | MFIPENCE | FEC CCLI |       |
| TC       | CAY   | FEET  | /100ML   | /100ML   |       |
| 80/06/03 | 12 44 | 0002  |          | 5        | C     |
| 80/06/11 | 12 01 | 0002  |          | 0        | 0     |
| 80/06/17 | 11 33 | 0002  |          | 0        | C     |
| 80/06/25 | 13 50 | 0002  |          | 0        | C     |
| 80/07/01 | 12 30 | 0002  |          | 1        | 1     |
| 80/07/08 | 10 30 | 0002  |          | 1        | 0     |
| 80/07/15 | 10 37 | 0002  |          | 2        | C     |
| 80/07/31 | 14 40 | 0002  |          | 7        | 1     |
| 80/08/07 | 11 47 | 0002  |          | 0        | C     |
| 80/08/14 | 12 10 | 0002  |          | 1        | 1     |
| 80/08/19 | 12 51 | 0002  |          | 0        | C     |
| 80/08/25 | 11 40 | 0002  |          | 4B       | C     |
| 80/09/10 | 15 31 | 0002  |          | 2        | C     |
| 80/09/16 | 13 46 | 0002  |          | 2        | 5     |
| 80/09/30 | 11 25 | 0002  |          | 0        | 3     |

SECRET RETRIEVAL DATE 81/03/03  
 JC47A JC-47A  
 39 59 42.0 074 03 36.0 2  
 NEW JERSEY BEACHES  
 34029 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY COAST-SILVER BEACH  
 1111H030  
 0000 FEET DEPTH CLASS 00

/TPA/AMNT/OCEAN

| DATE     | TIME  | DEPTH | 31501<br>TCT COLI | 31613<br>FEC COLI |
|----------|-------|-------|-------------------|-------------------|
| FROM     | CF    |       | MFIMENCE          | M-FCAGAR          |
| TC       | CAY   | FEET  | /100ML            | /100ML            |
| 80/06/03 | 12 41 | 0002  | 7                 | C                 |
| 80/06/11 | 11 58 | 0002  | 0                 | C                 |
| 80/06/17 | 11 32 | 0002  | 1                 | 0                 |
| 80/06/25 | 13 47 | 0002  | 0                 | C                 |
| 80/07/01 | 12 28 | 0002  | 0                 | C                 |
| 80/07/08 | 10 32 | 0002  | 0                 | C                 |
| 80/07/15 | 10 40 | 0002  | 0                 | C                 |
| 80/07/31 | 14 43 | 0002  | 10                | 1                 |
| 80/08/07 | 11 45 | 0002  | 0                 | C                 |
| 80/08/14 | 12 07 | 0002  | 0                 | C                 |
| 80/08/19 | 12 49 | 0002  | 0                 | 1                 |
| 80/08/25 | 11 39 | 0002  | 1                 | 1                 |
| 80/09/10 | 15 29 | 0002  | 0                 | 0                 |
| 80/09/16 | 13 49 | 0002  | 0                 | 1                 |
| 80/09/30 | 11 22 | 0002  | 0                 | C                 |

SECRET RETRIEVAL DATE 81/03/03  
 JC49 JC-49  
 39 57 08.0 074 03 57.0 2  
 NEW JERSEY BEACHES  
 34029 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY CCAST-LAVALLETTE  
 1111HC30  
 CCCC FEET DEPTH CLASS 00

MI PT 0.0

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | TOT CCLI | 31501    | 31613  |
|----------|-------|-------|----------|----------|--------|
| FROM     | OF    |       | PFIPENCE | FEC CCLI |        |
| TC       | DAY   | FEET  | /100ML   | M-FCAGAR | /100ML |
| 80/06/03 | 12 38 | 0002  | 2        |          | C      |
| 80/06/11 | 11 55 | 0002  | 2        |          | C      |
| 80/06/17 | 11 26 | 0002  | 0        |          | C      |
| 80/06/25 | 13 45 | 0002  | 0        |          | C      |
| 80/07/01 | 12 26 | 0002  | 0        |          | C      |
| 80/07/08 | 10 35 | 0002  | 13       |          | C      |
| 80/07/15 | 10 43 | 0002  | 0        |          | C      |
| 80/07/31 | 14 45 | 0002  | 1        |          | C      |
| 80/08/07 | 11 38 | 0002  | 0        |          | C      |
| 80/08/14 | 12 05 | 0002  | 0        |          | C      |
| 80/08/19 | 12 47 | 0002  | 2        |          | C      |
| 80/08/25 | 11 37 | 0002  | 0        |          | C      |
| 80/09/10 | 15 26 | 0002  | 0        |          | C      |
| 80/09/16 | 13 51 | 0002  | 0        |          | C      |
| 80/09/30 | 11 20 | 0002  | 0        |          | C      |

STCRET RETRIEVAL DATE 81/03/03  
 JC53 JC-53  
 39 55 14.0 074 04 32.0 2  
 NEW JERSEY BEACHES  
 34C29 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY COAST-SEASIDE PARK  
 1111H030  
 C000 FEET DEPTH CLASS 00

/TYPA/AM8NT/OCEAN

| DATE     | TIME | DEPTH | 31501    | 31613    |
|----------|------|-------|----------|----------|
| FROM     | OF   |       | TCT CCLI | FEC CCLI |
| TC       | DAY  | FEET  | MFIMENCO | M-FCAGAR |
|          |      |       | /100ML   | /100ML   |
| 80/06/03 | 12   | 36    | 0002     | 8        |
| 80/06/11 | 11   | 53    | 0002     | 1        |
| 80/06/17 | 11   | 23    | 0002     | 14       |
| 80/06/25 | 13   | 43    | 0002     | 0        |
| 80/07/01 | 12   | 23    | 0002     | 49       |
| 80/07/08 | 10   | 38    | 0002     | 8        |
| 80/07/15 | 10   | 46    | 0002     | 1        |
| 80/07/31 | 14   | 48    | 0002     | 34       |
| 80/08/07 | 11   | 36    | 0002     | 4        |
| 80/08/14 | 12   | 03    | 0002     | 19       |
| 80/08/19 | 12   | 45    | 0002     | 1        |
| 80/08/25 | 11   | 35    | 0002     | 0        |
| 80/09/10 | 15   | 25    | 0002     | 1        |
| 80/09/16 | 13   | 53    | 0002     | 9        |
| 80/09/30 | 11   | 17    | 0002     | 0        |

SECRET RETRIEVAL DATE 81/03/03  
 JC55 JC-55  
 39 53 45.0 074 04 48.0 2  
 NEW JERSEY BEACHES  
 34029 NEW JERSEY  
 ATLANTIC OCEAN 013408  
 JERSEY COAST-ISLAND BEACH STATE PARK  
 1111H030  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 31501    |          | 31613    |          |
|----------|-------|-------|----------|----------|----------|----------|
|          |       |       | TOT CCL  | FEC CCL  | TOT CCL  | FEC CCL  |
|          |       |       | PFIMENCE | M-FCAGAR | PFIMENCE | M-FCAGAR |
| FROM     | CF    |       |          |          |          |          |
| TC       | CAY   | FEET  | /100ML   | /100ML   | /100ML   | /100ML   |
| 80/06/03 | 12 32 | 0002  | 1        |          |          | C        |
| 80/06/11 | 11 50 | 0002  | C        |          |          | C        |
| 80/06/17 | 11 21 | 0002  | 0        |          |          | C        |
| 80/06/25 | 13 40 | 0002  | 0        |          |          | C        |
| 80/07/01 | 12 19 | 0002  | 0        |          |          | 0        |
| 80/07/08 | 10 41 | 0002  | 4        |          |          | 2        |
| 80/07/15 | 10 50 | 0002  | 1        |          |          | C        |
| 80/07/31 | 14 51 | 0002  | 0        |          |          | C        |
| 80/08/07 | 11 34 | 0002  | 0        |          |          | 0        |
| 80/08/14 | 12 00 | 0002  | 0        |          |          | C        |
| 80/08/19 | 12 43 | 0002  | 1        |          |          | C        |
| 80/08/25 | 11 34 | 0002  | 1        |          |          | C        |
| 80/09/10 | 15 22 | 0002  | 0        |          |          | 0        |
| 80/09/16 | 13 55 | 0002  | 2        |          |          | 1        |
| 80/09/30 | 11 14 | 0002  | 92       |          |          | 2C       |

STCRET RETRIEVAL DATE 81/03/03  
 JC57  
 39 50 00.C 074 05 CC.0 4  
 ATLANTIC CCEAN  
 34C29 NEW JERSEY  
 CCEAN CCUNTY  
 50 YOS CFF CENTER IS. BEACH STATE PARK  
 1111H030 780714  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE       | TIME      | DEPTH | 31501<br>TCT CCLI<br>PFIMEND0<br>/100ML | 31613<br>FEC CCLI<br>M-FCAGAR<br>/100ML |   |
|------------|-----------|-------|-----------------------------------------|-----------------------------------------|---|
| FRCM<br>TC | CF<br>DAY | FEET  |                                         |                                         |   |
| 80/06/03   | 12        | 29    | 0002                                    | 2                                       | C |
| 80/06/11   | 11        | 46    | 0002                                    | 0                                       | 0 |
| 80/06/17   | 11        | 18    | 0002                                    | 0                                       | C |
| 80/06/25   | 13        | 37    | 0002                                    | 0                                       | 0 |
| 80/07/01   | 12        | 15    | 0002                                    | 0                                       | C |
| 80/07/08   | 14        | 28    | 0002                                    | 2                                       | 0 |
| 80/07/15   | 10        | 53    | 0002                                    | 2                                       | 0 |
| 80/08/07   | 11        | 31    | 0002                                    | 0                                       | C |
| 80/08/14   | 11        | 58    | 0002                                    | 0                                       | 0 |
| 80/08/19   | 12        | 40    | 0002                                    | 0                                       | 0 |
| 80/08/25   | 11        | 33    | 0002                                    | 0                                       | C |
| 80/09/16   | 13        | 58    | 0002                                    | 6                                       | 3 |
| 80/09/30   | 11        | 11    | 0002                                    | 0                                       | C |

SECRET RETRIEVAL DATE 81/03/03

JC59

39 47 00.0 074 06 00.0 4

ATLANTIC OCEAN

34029 NEW JERSEY

OCEAN COUNTY

50 YCS CFF SC. ENC IS. BEACH STATE PARK

1111H030 780714

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH    | 31501    | 31613    |
|----------|-------|----------|----------|----------|
| FRCM     | CF    | TOT COLI | FEC COLI |          |
| TC       | DAY   | FEET     | MFIMENCE | M-FCAGAR |
|          |       |          | /100ML   | /100ML   |
| 80/06/03 | 12 25 | 0002     | 1        | 0        |
| 80/06/11 | 11 43 | 0002     | 0        | 0        |
| 80/06/17 | 11 15 | 0002     | 0        | 0        |
| 80/06/25 | 13 34 | 0002     | 0        | 0        |
| 80/07/01 | 12 11 | 0002     | 1        | 0        |
| 80/07/08 | 14 32 | 0002     | 0        | 0        |
| 80/07/15 | 10 56 | 0002     | 0        | 0        |
| 80/08/07 | 11 29 | 0002     | 0        | 0        |
| 80/08/14 | 11 55 | 0002     | 0        | 0        |
| 80/08/19 | 12 37 | 0002     | 0        | 0        |
| 80/08/25 | 11 28 | 0002     | 0        | 0        |
| 80/09/16 | 14 01 | 0002     | 1        | 0        |
| 80/09/30 | 11 08 | 0002     | 2        | 1        |

STCRET RETRIEVAL DATE 81/03/03

JC61

39 44 00.C 074 07 00.0 4

ATLANTIC CCEAN

34C29 NEW JERAEY

CCEAN CCUNTY

50 YCS CFF BARNEGAT LIGHT

1111HC30 780714

CC00 FEET DEPTH CLASS 00

/TYPA/AM0NT/OCEAN

| DATE     | TIME | DEPTH | TOT CCL1 | 31501    | 31613  |
|----------|------|-------|----------|----------|--------|
| FRCM     | OF   |       | MFIMENDC | FEC COLI |        |
| TC       | CAY  | FEET  | /100ML   | M-FCAGAR | /100ML |
| 80/06/03 | 12   | 22    | 0002     | 0        | C      |
| 80/06/11 | 11   | 40    | 0002     | 0        | C      |
| 80/06/17 | 11   | 11    | 0002     | 1        | C      |
| 80/06/25 | 13   | 31    | 0002     | 0        | 0      |
| 80/07/01 | 12   | 08    | 0002     | 0        | 1      |
| 80/07/08 | 14   | 35    | 0002     | 0        | C      |
| 80/07/15 | 11   | 00    | 0002     | 0        | C      |
| 80/08/07 | 11   | 26    | 0002     | 1        | 1      |
| 80/08/14 | 11   | 52    | 0002     | 4        | C      |
| 80/08/19 | 12   | 34    | 0002     | 0        | 3      |
| 80/08/25 | 11   | 22    | 0002     | 1        | C      |
| 80/09/16 | 14   | 04    | 0002     | 0        | 1      |



SECRET RETRIEVAL DATE 81/03/03

JC63

39 42 00.0 074 08 00.0 4

ATLANTIC OCEAN

34029 NEW JERSEY

OCEAN COUNTY

50 YCS OFF HARVEY CEDARS

1111HC30 780714

0000 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE       | TIME      | DEPTH | 31501<br>TOT COLI<br>PFIMENCO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |    |
|------------|-----------|-------|-----------------------------------------|-----------------------------------------|----|
| FROM<br>TC | CF<br>DAY | FEET  |                                         |                                         |    |
| 80/06/03   | 12        | 18    | 0002                                    | 4                                       | 2  |
| 80/06/11   | 11        | 35    | 0002                                    | 0                                       | 0  |
| 80/06/17   | 11        | 08    | 0002                                    | 1                                       | 0  |
| 80/06/25   | 13        | 26    | 0002                                    | 2                                       | 1  |
| 80/07/01   | 12        | 04    | 0002                                    | 0                                       | 0  |
| 80/07/08   | 14        | 39    | 0002                                    | 1                                       | 48 |
| 80/07/15   | 11        | 04    | 0002                                    | 1                                       | 1  |
| 80/08/07   | 11        | 23    | 0002                                    | 0                                       | 0  |
| 80/08/14   | 11        | 49    | 0002                                    | 1                                       | 0  |
| 80/08/19   | 12        | 31    | 0002                                    | 48                                      | 1  |
| 80/08/25   | 11        | 20    | 0002                                    | 0                                       | 0  |
| 80/09/16   | 14        | 07    | 0002                                    | 5                                       | 1  |
| 80/09/30   | 11        | 02    | 0002                                    | 1                                       | 1  |

STCRET RETRIEVAL DATE 81/03/03

JC65

39 38 00.0 074 11 00.0 4

ATLANTIC OCEAN

34029 NEW JERSEY

OCEAN COUNTY

50 YDS OFF SHIP BOTTOM

1111H030 780714

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 31501<br>TOT CCLI<br>M-FIMENDC<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|----------|-------|-------|------------------------------------------|-----------------------------------------|
| FROM     | GF    |       |                                          |                                         |
| TC       | CAY   | FEET  |                                          |                                         |
| 80/06/03 | 12 14 | 0002  | 1                                        | 0                                       |
| 80/06/11 | 11 30 | 0002  | 0                                        | 0                                       |
| 80/06/17 | 11 03 | 0002  | 0                                        | 0                                       |
| 80/06/25 | 13 23 | 0002  | 0                                        | 0                                       |
| 80/07/01 | 11 55 | 0002  | 0                                        | 0                                       |
| 80/07/08 | 14 44 | 0002  | 2                                        | 0                                       |
| 80/07/15 | 11 09 | 0002  | 1                                        | 0                                       |
| 80/08/07 | 11 19 | 0002  | 3                                        | 0                                       |
| 80/08/14 | 11 44 | 0002  | 0                                        | 0                                       |
| 80/08/19 | 12 27 | 0002  | 1                                        | 1                                       |
| 80/08/25 | 11 12 | 0002  | 0                                        | 0                                       |
| 80/09/16 | 14 11 | 0002  | 2                                        | 3                                       |
| 80/09/30 | 10 58 | 0002  | 0                                        | 0                                       |

STCRET RETRIEVAL DATE 81/03/03  
 JC67  
 39 34 00.C 074 13 00.0 4  
 ATLANTIC CCEAN  
 34029 NEW JERSEY  
 CCEAN CCUNTY  
 50 YCS CFF BEACH HAVEN TERRACE  
 1111H030 780714  
 CCCC FEET CEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE       | TIME      | CEPTH | 31501<br>TCT CCLI<br>PFIPENCO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |   |
|------------|-----------|-------|-----------------------------------------|-----------------------------------------|---|
| FROM<br>TC | OF<br>DAY | FEET  |                                         |                                         |   |
| 80/06/03   | 12        | 10    | 0002                                    | 3                                       | 0 |
| 80/06/11   | 11        | 43    | 0002                                    | 0                                       | C |
| 80/06/17   | 10        | 58    | 0002                                    | 0                                       | C |
| 80/06/25   | 13        | 20    | 0002                                    | 0                                       | C |
| 80/07/01   | 11        | 50    | 0002                                    | 0                                       | 0 |
| 80/07/08   | 14        | 49    | 0002                                    | 0                                       | C |
| 80/07/15   | 11        | 14    | 0002                                    | 0                                       | C |
| 80/08/07   | 11        | 14    | 0002                                    | 128                                     | C |
| 80/08/14   | 11        | 39    | 0002                                    | 0                                       | C |
| 80/08/19   | 12        | 24    | 0002                                    | 1                                       | C |
| 80/08/25   | 11        | 09    | 0002                                    | 0                                       | C |
| 80/09/16   | 14        | 15    | 0002                                    | 2                                       | 0 |
| 80/09/30   | 10        | 54    | 0002                                    | 0                                       | C |

STCRET RETRIEVAL DATE 81/03/03  
 JC69  
 39 31 00.0 074 16 00.0 4  
 ATLANTIC OCEAN  
 34C29 NEW JERSEY  
 OCEAN COUNTY  
 50 YCS CFF BEACH HAVEN HEIGHTS  
 1111HC30 780714  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH    | TOT COLI | FEC COLI |
|----------|-------|----------|----------|----------|
| FROM     | CF    | MFIMENDC | M-FCAGAR |          |
| TC       | DAY   | FEET     | /100ML   | /100ML   |
| 80/06/03 | 12 06 | 0002     | 6        | 3        |
| 80/06/11 | 11 23 | 0002     | 0        | C        |
| 80/06/17 | 10 55 | 0002     | 0        | C        |
| 80/06/25 | 13 16 | 0002     | 0        | C        |
| 80/07/01 | 11 45 | 0002     | 0        | C        |
| 80/07/08 | 14 52 | 0002     | 0        | 1        |
| 80/07/15 | 11 18 | 0002     | 0        | 0        |
| 80/08/07 | 11 10 | 0002     | 0        | 0        |
| 80/08/14 | 11 35 | 0002     | 0        | 0        |
| 80/08/19 | 12 21 | 0002     | 0        | C        |
| 80/08/25 | 11 05 | 0002     | 1        | 1        |
| 80/09/16 | 14 19 | 0002     | 3        | 2        |
| 80/09/30 | 10 49 | 0002     | 0        | 1        |

STCRET RETRIEVAL DATE 81/03/03  
 JC73  
 39 23 00.0 074 23 00.0 4  
 ATLANTIC OCEAN  
 34001 NEW JERSEY  
 ATLANTIC COUNTY  
 50 YCS CFF BRIGANTINE  
 1111MC3C 780714  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 31501<br>TCT CCLI | 31613<br>FEC CCLI |
|----------|-------|-------|-------------------|-------------------|
| FRCM     | CF    |       | MFIPENDC          | M-FCAGAR          |
| TC       | CAY   | FEET  | /100ML            | /100ML            |
| 80/06/03 | 12 00 | 0002  | 0                 | C                 |
| 80/06/11 | 11 15 | 0002  | 0                 | C                 |
| 80/06/17 | 10 46 | 0002  | 0                 | C                 |
| 80/06/25 | 13 10 | 0002  | 0                 | C                 |
| 80/07/01 | 11 39 | 0002  | 0                 | C                 |
| 80/07/08 | 15 04 | 0002  | 2                 | 4                 |
| 80/07/15 | 11 27 | 0002  | 0                 | C                 |
| 80/08/07 | 11 04 | 0002  | 0                 | C                 |
| 80/08/14 | 11 26 | 0002  | 0                 | C                 |
| 80/08/19 | 12 16 | 0002  | 0                 | 1                 |
| 80/08/25 | 11 00 | 0002  | 1                 | 1                 |
| 80/09/16 | 14 22 | 0002  | 1                 | C                 |
| 80/09/30 | 10 43 | 0002  | 2                 | 2                 |

STCRET RETRIEVAL DATE 81/03/03  
 JC75  
 39 21 00.0 074 26 00.0 4  
 ATLANTIC OCEAN  
 34001 NEW JERSEY  
 ATLANTIC COUNTY  
 50 YCS OFF ATLANTIC CITY  
 1111030 780714  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | TOT COLI | 31501    | 31613 |
|----------|-------|-------|----------|----------|-------|
| FRCM     | CF    |       | "PFIMEND | M-FCAGAR |       |
| TC       | CAY   | FEET  | /100ML   | /100ML   |       |
| 80/06/03 | 11 12 | 0002  | 10       | 1        |       |
| 80/06/11 | 11 11 | 0002  | 3        | 2        |       |
| 80/06/17 | 10 41 | 0002  | 8        | 0        |       |
| 80/06/25 | 13 07 | 0002  | 104      | 50       |       |
| 80/07/01 | 11 35 | 0002  | 10       | 6        |       |
| 80/07/08 | 15 09 | 0002  | 0        | 0        |       |
| 80/07/15 | 11 32 | 0002  | 3        | 1        |       |
| 80/08/07 | 11 00 | 0002  | 608      | 4        |       |
| 80/08/14 | 11 23 | 0002  | 4        | 1        |       |
| 80/08/19 | 12 13 | 0002  | 21       | 16       |       |
| 80/08/25 | 09 51 | 0002  | 0        | 0        |       |
| 80/09/16 | 14 30 | 0002  | 3        | 1        |       |
| 80/09/30 | 10 40 | 0002  | 128      | 3        |       |

STCRET RETRIEVAL DATE 81/03/03  
 JC77  
 39 20 00.0 074 29 00.0 4  
 ATLANTIC OCEAN  
 34001 NEW JERSEY  
 ATLANTIC COUNTY  
 50 YCS CFF VENTNCR CITY  
 11110030 780714  
 0000 FEET DEPTH CLASS 00

/TYPA/AM8NT/CCEAN

| DATE<br>FROM<br>TC | TIME<br>CF<br>DAY | DEPTH<br>FEET | 31501              | 31613              |
|--------------------|-------------------|---------------|--------------------|--------------------|
|                    |                   |               | TGT COLI           | FEC COLI           |
|                    |                   |               | MFIMENCE<br>/100ML | M-FCAGAR<br>/100ML |
| 80/06/03           | 11 09             | 0002          | 4                  | C                  |
| 80/06/11           | 11 08             | 0002          | C                  | C                  |
| 80/06/17           | 10 39             | 0002          | 2                  | C                  |
| 80/07/01           | 11 31             | 0002          | 0                  | C                  |
| 80/07/08           | 15 13             | 0002          | 1                  | C                  |
| 80/07/15           | 11 35             | 0002          | 2                  | 1                  |
| 80/08/07           | 10 56             | 0002          | 0                  | C                  |
| 80/08/14           | 11 20             | 0002          | 3                  | C                  |
| 80/08/19           | 12 10             | 0002          | 18                 | 7                  |
| 80/08/25           | 09 47             | 0002          | 10                 | 6                  |
| 80/09/18           | 10 08             | 0002          | 40                 | C                  |
| 80/09/30           | 10 37             | 0002          | C                  | C                  |

STCRET RETRIEVAL DATE 81/03/C3  
JC79

39 18 00.0 074 31 00.0 4

ATLANTIC OCEAN

34CC1 NEW JERSEY

ATLANTIC COUNTY

50 YDS OFF LONGPORT

1111HC30 780714

CCCC FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME | DEPTH | 31501<br>TOT COLI<br>MFIMENCC<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |    |
|----------|------|-------|-----------------------------------------|-----------------------------------------|----|
| FROM     | CF   |       |                                         |                                         |    |
| TC       | CAY  | FEET  |                                         |                                         |    |
| 80/06/03 | 11   | 05    | 0002                                    | 3                                       | 2  |
| 80/06/11 | 11   | 04    | 0002                                    | 0                                       | 0  |
| 80/06/17 | 10   | 36    | 0002                                    | 3                                       | 1  |
| 80/07/01 | 11   | 26    | 0002                                    | 0                                       | 0  |
| 80/07/08 | 15   | 16    | 0002                                    | 8                                       | 0  |
| 80/07/15 | 11   | 38    | 0002                                    | 1                                       | 1  |
| 80/08/07 | 10   | 53    | 0002                                    | 4E                                      | 0  |
| 80/08/14 | 11   | 17    | 0002                                    | 2                                       | 0  |
| 80/08/19 | 12   | 07    | 0002                                    | 4                                       | 0  |
| 80/08/25 | 09   | 44    | 0002                                    | 12E                                     | 1  |
| 80/09/18 | 10   | 11    | 0002                                    | 4E                                      | 2  |
| 80/09/30 | 10   | 34    | 0002                                    | 64E                                     | 8E |



SECRET RETRIEVAL DATE 81/03/03

JC81

39 16 00.0 074 34 00.0 4

ATLANTIC OCEAN

34009 NEW JERSEY

CAPE MAY COUNTY

50 YCSOFF OCEAN CITY

1111HC30 780714

0000 FEET DEPTH CLASS 00

/TYP/AMNT/OCEAN

| DATE     | TIME  | DEPTH | TOT COLI | FEC COLI |
|----------|-------|-------|----------|----------|
| FROM     | CF    |       | MFIMENDC | M-FCAGAR |
| TC       | CAY   | FEET  | /100ML   | /100ML   |
| 80/06/03 | 11 02 | 0002  | 2        | 2        |
| 80/06/11 | 11 01 | 0002  | 1        | 0        |
| 80/06/17 | 10 33 | 0002  | 12       | 0        |
| 80/07/01 | 11 23 | 0002  | 15       | 1        |
| 80/07/08 | 15 20 | 0002  | 00       | 00       |
| 80/07/15 | 11 42 | 0002  | 160      | 1        |
| 80/08/07 | 10 51 | 0002  | 1        | 0        |
| 80/08/14 | 11 14 | 0002  | 80       | 1        |
| 80/08/19 | 12 04 | 0002  | 4        | 2        |
| 80/08/25 | 09 41 | 0002  | 4        | 4        |
| 80/09/18 | 10 14 | 0002  | 144      | 24       |
| 80/09/30 | 10 31 | 0002  | 3        | 1        |

SECRET RETRIEVAL DATE 81/03/03  
 JC83  
 39 13 00.C 074 39 00.C 4  
 ATLANTIC OCEAN  
 34009 NEW JERSEY  
 CAPE MAY COUNTY 013408  
 50 YDS OFF PECK BEACH  
 1111HC30 780831  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 31501<br>TCT CCLI<br>FROM CF<br>TC | 31613<br>FEC CCLI<br>M-FCAGAR<br>/10CML |
|----------|-------|-------|------------------------------------|-----------------------------------------|
| 80/06/03 | 10 58 | 0002  | 4                                  | C                                       |
| 80/06/11 | 10 57 | 0002  | 0                                  | C                                       |
| 80/06/17 | 10 29 | 0002  | 9                                  | 0                                       |
| 80/07/01 | 11 18 | 0002  | 0                                  | C                                       |
| 80/07/08 | 15 25 | 0002  | 1                                  | 1                                       |
| 80/07/15 | 11 45 | 0002  | 0                                  | C                                       |
| 80/08/07 | 10 47 | 0002  | 0                                  | C                                       |
| 80/08/14 | 11 11 | 0002  | 0                                  | C                                       |
| 80/08/19 | 12 01 | 0002  | 3                                  | 5                                       |
| 80/08/25 | 09 38 | 0002  | 3                                  | 3                                       |
| 80/09/18 | 10 16 | 0002  | 40                                 | 5                                       |
| 80/09/30 | 10 27 | 0002  | 0                                  | 2                                       |

STCRET RETRIEVAL DATE 81/03/03  
 JC85  
 39 10 00.C 074 41 00.0 4  
 ATLANTIC OCEAN  
 34009 NEW JERSEY  
 CAPE MAY COUNTY  
 SC YCS CFF STRATHMERE  
 1111HQ30 780714  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBT/OCEAN

| DATE     | TIME  | DEPTH | 31501<br>TCT CCLI | 31613<br>FEC CCLI |
|----------|-------|-------|-------------------|-------------------|
| FROM     | CF    |       | MFIPENCE          | M-FCAGAR          |
| TC       | CAY   | FEET  | /100ML            | /100ML            |
| 80/06/03 | 10 55 | 0002  | 0                 | C                 |
| 80/06/11 | 10 54 | 0002  | 0                 | C                 |
| 80/06/17 | 10 24 | 0002  | 6                 | 0                 |
| 80/07/01 | 11 14 | 0002  | 29                | 26                |
| 80/07/08 | 15 29 | 0002  | 0                 | C                 |
| 80/07/15 | 11 49 | 0002  | 1                 | C                 |
| 80/08/07 | 10 45 | 0002  | 0                 | 0                 |
| 80/08/14 | 11 09 | 0002  | 0                 | C                 |
| 80/08/19 | 11 58 | 0002  | 0                 | C                 |
| 80/08/25 | 09 35 | 0002  | 1                 | C                 |
| 80/09/18 | 10 20 | 0002  | 0                 | C                 |
| 80/09/30 | 10 24 | 0002  | 0                 | C                 |

SECRET RETRIEVAL DATE 81/03/03

JC87

39 09 00.C 074 42 00.0 4

ATLANTIC OCEAN

34009 NEW JERSEY

CAPE MAY COUNTY

50 YCS CFF SEA ISLE CITY

1111H030 780714

0000 FEET DEPTH CLASS 00

/TYP/AMNT/OCEAN

| DATE       | TIME      | DEPTH | 31501<br>TCT COLI<br>PFIMENCC<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |   |
|------------|-----------|-------|-----------------------------------------|-----------------------------------------|---|
| FROM<br>TC | CF<br>DAY | FEET  |                                         |                                         |   |
| 8C/06/03   | 10        | 52    | 0002                                    | 3                                       | C |
| 8C/06/11   | 10        | 50    | 0002                                    | 0                                       | C |
| 8C/06/17   | 10        | 21    | 0002                                    | 3                                       | C |
| 8C/07/01   | 11        | 11    | 0002                                    | 0                                       | C |
| 8C/07/08   | 15        | 32    | 0002                                    | 48                                      | C |
| 8C/07/15   | 11        | 53    | 0002                                    | 0                                       | C |
| 8C/08/07   | 10        | 41    | 0002                                    | 4                                       | 3 |
| 8C/08/14   | 11        | 07    | 0002                                    | 0                                       | C |
| 8C/08/19   | 11        | 55    | 0002                                    | 0                                       | 1 |
| 8C/08/25   | 09        | 31    | 0002                                    | 0                                       | 1 |
| 8C/09/18   | 10        | 22    | 0002                                    | 2                                       | C |
| 8C/09/30   | 10        | 20    | 0002                                    | 0                                       | C |

STCRET RETRIEVAL DATE 81/G3/C3  
 JC89  
 39 05 00.0 074 43 00.0 4  
 ATLANTIC OCEAN  
 34009 NEW JERSEY  
 CAPE MAY COUNTY  
 50 YDS OFF AVALON  
 1111HC30 780719  
 0000 FEET DEPTH CLASS 00

A

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH    | TGT CCLI | FEC CCLI |
|----------|-------|----------|----------|----------|
| FROM     | CF    | MFIPENCE | M-FCAGAR |          |
| TC       | DAY   | FEET     | /100ML   | /100ML   |
| 80/06/03 | 10 49 | 0002     | 1        | 0        |
| 80/06/11 | 10 47 | 0002     | 0        | 0        |
| 80/06/17 | 10 17 | 0002     | 1        | 0        |
| 80/07/01 | 11 07 | 0002     | 0        | 0        |
| 80/07/08 | 15 35 | 0002     | 0        | 0        |
| 80/07/15 | 11 57 | 0002     | 0        | 0        |
| 80/08/07 | 10 38 | 0002     | 0        | 0        |
| 80/08/14 | 11 04 | 0002     | 1        | 0        |
| 80/08/19 | 11 50 | 0002     | 0        | 0        |
| 80/08/25 | 09 28 | 0002     | 0        | 0        |
| 80/09/18 | 10 26 | 0002     | 0        | 2        |
| 80/09/30 | 10 16 | 0002     | 1        | 1        |

SECRET RETRIEVAL DATE 81/03/03  
 JCS1  
 39 03 00.0 074 45 00.0 4  
 ATLANTIC OCEAN  
 34009 NEW JERSEY  
 CAPE MAY COUNTY  
 50 YCS CFF STONE HARBOR  
 1111H030 780714  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME | DEPTH | TCT      | COLI | FEC      | COLI |
|----------|------|-------|----------|------|----------|------|
| FROM     | OF   |       | MFIPENCC |      | M-FCAGAR |      |
| TC       | CAY  | FEET  | /100ML   |      | /100ML   |      |
| 80/06/03 | 10   | 45    | 0002     | 0    |          | 0    |
| 80/06/11 | 10   | 44    | 0002     | 0    |          | 0    |
| 80/06/17 | 10   | 14    | 0002     | 0    |          | 0    |
| 80/07/01 | 11   | 04    | 0002     | 1    |          | 0    |
| 80/07/08 | 15   | 40    | 0002     | 6    |          | 4    |
| 80/07/15 | 12   | 00    | 0002     | 0    |          | 0    |
| 80/08/07 | 10   | 35    | 0002     | 0    |          | 0    |
| 80/08/14 | 11   | 00    | 0002     | 0    |          | 0    |
| 80/08/25 | 09   | 25    | 0002     | 0    |          | 0    |
| 80/09/18 | 10   | 28    | 0002     | 1    |          | 3    |
| 80/09/30 | 10   | 13    | 0002     | 0    |          | 0    |

STCRET RETRIEVAL DATE 81/03/03

JC93

38 59 00.C 074 48 00.0 4

ATLANTIC OCEAN

34009 NEW JERSEY

CAPE MAY COUNTY

50 YCS OFF WILDMOOD

1111H030 780714

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME | DEPTH | 31501    | 31613    |
|----------|------|-------|----------|----------|
| FROM     | OF   |       | TCT CCLI | FEC CCLI |
| TC       | CAY  | FEET  | MFIMENDC | M-FCAGAR |
|          |      |       | /100ML   | /100ML   |
| 80/06/03 | 10   | 40    | 0002     | 0        |
| 80/06/11 | 10   | 39    | 0002     | 2608     |
| 80/06/17 | 10   | 10    | 0002     | 288      |
| 80/07/01 | 11   | 00    | 0002     | 21       |
| 80/07/08 | 15   | 44    | 0002     | 2        |
| 80/07/15 | 12   | 04    | 0002     | 208      |
| 80/08/07 | 10   | 31    | 0002     | 4        |
| 80/08/14 | 10   | 55    | 0002     | 11       |
| 80/08/25 | 09   | 20    | 0002     | 0        |
| 80/09/18 | 10   | 32    | 0002     | 48       |
| 80/09/30 | 10   | 11    | 0002     | 0        |

SECRET RETRIEVAL DATE 81/03/03  
 JC95  
 38 56 00.0 074 52 00.0 4  
 ATLANTIC OCEAN  
 34009 NEW JERSEY  
 CAPE MAY COUNTY  
 SC YCS CFF WILDMCCI CREST  
 1111HC30 780714  
 0000 FEET DEPTH CLASS 00

/TYP A/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | TCT      | COLI | FEC      | COLI |
|----------|-------|-------|----------|------|----------|------|
| FROM     | OF    |       | MFIMENDC |      | M-FCAGAR |      |
| TC       | CAY   | FEET  | /100ML   |      | /100ML   |      |
| 80/06/03 | 10 37 | 0002  |          | 0    |          | C    |
| 80/06/11 | 10 34 | 0002  |          | 2    |          | C    |
| 80/06/17 | 10 06 | 0002  |          | 3    |          | C    |
| 80/07/01 | 10 55 | 0002  |          | 3    |          | 3    |
| 80/07/08 | 15 48 | 0002  |          | 0    |          | C    |
| 80/07/15 | 12 09 | 0002  |          | 0    |          | C    |
| 80/08/07 | 10 27 | 0002  |          | 0    |          | C    |
| 80/08/14 | 10 42 | 0002  |          | 2    |          | C    |
| 80/08/25 | 09 16 | 0002  |          | 1    |          | C    |
| 80/09/18 | 10 35 | 0002  |          | 0    |          | C    |



SECRET RETRIEVAL DATE 81/03/03

JC97

38 55 00.0 074 57 00.0 4

ATLANTIC OCEAN

34CC9 NEW JERSEY

CAPE MAY COUNTY 013408

50 YCS OFF CAPE MAY

1111M030 780831

CCCC FEET DEPTH CLASS CO

/TYP/AMBNT/OCEAN

|          |       |       |          | 31501    | 31613 |
|----------|-------|-------|----------|----------|-------|
| DATE     | TIME  | DEPTH | TCT CCLI | FEC CCLI |       |
| FROM     | OF    |       | PFIMENCO | M-FCAGAR |       |
| TC       | CAY   | FEET  | /100ML   | /100ML   |       |
| 80/06/03 | 10 33 | 0002  | 4        |          | 1     |
| 80/06/11 | 10 28 | 0002  | 8E       |          | C     |
| 80/06/17 | 10 02 | 0002  | 120      |          | 1     |
| 80/07/01 | 10 50 | 0002  | 6        |          | 2     |
| 80/07/08 | 15 53 | 0002  | 4E       |          | 1     |
| 80/07/15 | 12 13 | 0002  | 2        |          | 1     |
| 80/08/07 | 10 23 | 0002  | 5        |          | 1     |
| 80/08/14 | 10 38 | 0002  | 8E       |          | 2     |
| 80/08/25 | 09 14 | 0002  | 40       |          | 20    |
| 80/09/18 | 10 40 | 0002  | 56E      |          | 39    |
| 80/09/30 | 10 03 | 0002  | 8E       |          | 2     |

SECRET RETRIEVAL DATE 81/03/03

JC99

38 56 00.0 074 59 00.0 4

ATLANTIC OCEAN

34009 NEW JERSEY

CAPE MAY COUNTY

50 YDS OFF CAPE MAY POINT

1111HC30 780714

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | TOT CGLI | 31501    | 31613  |
|----------|-------|-------|----------|----------|--------|
| FROM     | OF    |       | MFIMENCC | FEC CGLI |        |
| TC       | CAY   | FEET  | /100ML   | M-FCAGAR | /100ML |
| 80/06/03 | 10 30 | 0002  | 2        |          | 1      |
| 80/06/11 | 10 25 | 0002  | 202      |          | C      |
| 80/06/17 | 09 57 | 0002  | 224      |          | 3      |
| 80/07/01 | 10 45 | 0002  | 10       |          | 3      |
| 80/07/08 | 16 00 | 0002  | 48       |          | C      |
| 80/07/15 | 12 16 | 0002  | 3        |          | 1      |
| 80/08/07 | 10 21 | 0002  | 2        |          | 1      |
| 80/08/14 | 10 36 | 0002  | 2        |          | C      |
| 80/08/25 | 09 12 | 0002  | 4        |          | 3      |
| 80/09/18 | 10 39 | 0002  | 162      |          | 1      |
| 80/09/30 | 10 01 | 0002  | 82       |          | C      |

SI SB  
 40 35 22.0 074 03 42.0 2  
 SCUTH BEACH 100 FT CFF STATEN IS. SHORE

| DATE     | TIME | DEPTH | 31501    | 31613    |     |
|----------|------|-------|----------|----------|-----|
| FROM     | OF   |       | TOT COLI | FEC COLI |     |
| TC       | DAY  | FEET  | MFIMENDO | M-FCAGAR |     |
|          |      |       | /100ML   | /100ML   |     |
| 80/06/30 | 08   | 34    | 0002     | 3100     | 188 |
| 80/07/10 | 15   | 19    | 0002     | 420      | 59  |
| 80/07/17 | 14   | 35    | 0002     | 728      | 18  |
| 80/07/25 | 12   | 07    | 0002     | 32       | 5   |
| 80/08/06 | 10   | 50    | 0002     | 480      | 116 |
| 80/08/12 | 11   | 33    | 0002     | 116      | 48  |
| 80/08/21 | 11   | 30    | 0002     | 3700     | 164 |
| 80/09/03 | 14   | 30    | 0002     | 4500     | 798 |
| 80/09/10 | 11   | 31    | 0002     | 3200     | 208 |
| 80/09/16 | 13   | 57    | 0002     | 500      | 858 |
| 80/10/02 | 15   | 36    | 0002     | 1800     | 80  |

SI GB  
 40 34 36.0 074 04 33.0 2  
 GRAHAM BEACH 100 FT CFF STATEN IS SHORE

| DATE     | TIME | DEPTH | 31501    | 31613    |     |
|----------|------|-------|----------|----------|-----|
| FROM     | OF   |       | TOT COLI | FEC COLI |     |
| TC       | DAY  | FEET  | MFIMENDO | M-FCAGAR |     |
|          |      |       | /100ML   | /100ML   |     |
| 80/06/30 | 08   | 31    | 0002     | 900      | 136 |
| 80/07/10 | 15   | 16    | 0002     | 128      | 0   |
| 80/07/17 | 14   | 37    | 0002     | 168      | 3   |
| 80/07/25 | 12   | 09    | 0002     | 88       | 1   |
| 80/08/06 | 10   | 52    | 0002     | 80       | 29  |
| 80/08/12 | 11   | 35    | 0002     | 30       | 0   |
| 80/08/21 | 11   | 31    | 0002     | 44       | 19  |
| 80/09/03 | 14   | 32    | 0002     | 580      | 0   |
| 80/09/10 | 11   | 34    | 0002     | 488      | 11  |
| 80/09/16 | 13   | 55    | 0002     | 728      | 17  |
| 80/10/02 | 15   | 38    | 0002     | 568      | 0   |

SI ME  
40 34 01.0 074 05 15.0 2  
MIDLAND BEACH 100' CFF STATEN IS. SHORE

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 31501              | 31613              |
|--------------------|-------------------|---------------|--------------------|--------------------|
|                    |                   |               | TOT COLI           | FEC COLI           |
|                    |                   |               | MFIMENOC<br>/100ML | M-FCAGAR<br>/100ML |
| 80/06/30           | 08 29             | 0002          | 200                | 28                 |
| 80/07/10           | 15 17             | 0002          | 88                 | 0                  |
| 80/07/17           | 14 39             | 0002          | 42                 | 6                  |
| 80/07/25           | 12 11             | 0002          | 248                | 4                  |
| 80/08/06           | 10 54             | 0002          | 272                | 88                 |
| 80/08/12           | 11 36             | 0002          | 96                 | 5                  |
| 80/08/21           | 11 33             | 0002          | 720                | 128                |
| 80/09/03           | 14 34             | 0002          | 6                  | 3                  |
| 80/09/10           | 11 36             | 0002          | 168                | 88                 |
| 80/09/16           | 13 54             | 0002          | 52                 | 14                 |
| 80/10/02           | 15 40             | 0002          | 80                 | 0                  |

SI CE  
40 33 09.0 074 06 12.0 2  
CAKWOOD BEACH 100' CFF STATEN IS. SHORE

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 31501              | 31613              |
|--------------------|-------------------|---------------|--------------------|--------------------|
|                    |                   |               | TOT COLI           | FEC COLI           |
|                    |                   |               | MFIMENOC<br>/100ML | M-FCAGAR<br>/100ML |
| 80/06/30           | 08 25             | 0002          | 124                | 368                |
| 80/07/10           | 15 13             | 0002          | 48                 | 1                  |
| 80/07/17           | 14 41             | 0002          | 2                  | 0                  |
| 80/07/25           | 12 13             | 0002          | 128                | 1                  |
| 80/08/06           | 10 56             | 0002          | 2208               | 41                 |
| 80/08/12           | 11 38             | 0002          | 128                | 3                  |
| 80/08/21           | 11 35             | 0002          | 236                | 27                 |
| 80/09/03           | 14 36             | 0002          | 0                  | 128                |
| 80/09/10           | 11 37             | 0002          | 4                  | 3                  |
| 80/09/16           | 13 53             | 0002          | 132                | 22                 |
| 80/10/02           | 15 41             | 0002          | 208                | 0                  |

SI GK  
 40 32 13.0 074 07 40.0 2  
 GREAT KILLS BEACH 100 FT OFF STATEN IS. SHORE

| DATE       | TIME      | DEPTH | 31501<br>TOT COLI<br>MFIMENDC<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|------------|-----------|-------|-----------------------------------------|-----------------------------------------|
| FROM<br>TC | OF<br>DAY | FEET  |                                         |                                         |
| 80/06/30   | 08 21     | 0002  | 248                                     | 70                                      |
| 80/07/10   | 15 11     | 0002  | 248                                     | 4                                       |
| 80/07/17   | 14 43     | 0002  | 408                                     | 7                                       |
| 80/07/25   | 12 15     | 0002  | 1008                                    | 5                                       |
| 80/08/06   | 10 57     | 0002  | 608                                     | 168                                     |
| 80/08/12   | 11 40     | 0002  | 448                                     | 2                                       |
| 80/08/21   | 11 36     | 0002  | 2808                                    | 20                                      |
| 80/09/03   | 14 38     | 0002  | 5                                       | 4                                       |
| 80/09/10   | 11 38     | 0002  | 248                                     | 3                                       |
| 80/09/16   | 13 51     | 0002  | 80                                      | 17                                      |
| 80/10/02   | 15 42     | 0002  | 288                                     | 0                                       |

SI WP  
 40 31 10.0 074 10 28.0 2  
 WCLF POND PARK BEACH 100 FT OFF STATEN IS. SHORE

| DATE       | TIME      | DEPTH | 31501<br>TOT COLI<br>MFIMENDC<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|------------|-----------|-------|-----------------------------------------|-----------------------------------------|
| FROM<br>TC | OF<br>DAY | FEET  |                                         |                                         |
| 80/06/30   | 08 18     | 0002  | 168                                     | 5                                       |
| 80/07/10   | 15 05     | 0002  | 128                                     | 0                                       |
| 80/07/17   | 14 46     | 0002  | 12                                      | 4                                       |
| 80/07/25   | 12 18     | 0002  | 128                                     | 8                                       |
| 80/08/06   | 11 00     | 0002  | 88                                      | 24                                      |
| 80/08/12   | 11 42     | 0002  | 208                                     | 3                                       |
| 80/08/21   | 11 38     | 0002  | 328                                     | 8                                       |
| 80/09/03   | 14 40     | 0002  | 0                                       | 0                                       |
| 80/09/10   | 11 40     | 0002  | 21                                      | 14                                      |
| 80/09/16   | 13 49     | 0002  | 11                                      | 1                                       |
| 80/10/02   | 15 43     | 0002  | 120                                     | 16                                      |

NY MB  
 40 34 28.0 073 56 37.0 2  
 MANHATTAN BEACH 100 FT OFF CONEY ISLAND SHORE

| DATE     | TIME  | DEPTH | TOT COLI | FEC COLI |
|----------|-------|-------|----------|----------|
| FROM     | OF    |       | MFIMENDO | M-FCAGAR |
| TC       | DAY   | FEET  | /100ML   | /100ML   |
| 80/06/30 | 08 50 | 0002  | 520      | 116      |
| 80/07/10 | 15 30 | 0002  | 288      | 4        |
| 80/07/17 | 14 23 | 0002  | 728      | 8        |
| 80/07/25 | 11 54 | 0002  | 728      | 9        |
| 80/08/06 | 10 41 | 0002  | 1000     | 240      |
| 80/08/12 | 11 23 | 0002  | 124      | 128      |
| 80/08/21 | 11 08 | 0002  | 84       | 8        |
| 80/09/03 | 14 20 | 0002  | 100      | 11       |
| 80/09/10 | 11 22 | 0002  | 80       | 6        |
| 80/09/16 | 14 05 | 0002  | 30       | 5        |
| 80/10/02 | 15 29 | 0002  | 92       | 96       |

NY CP  
 40 34 16.0 073 58 12.0 2  
 CCEAN PARK BEACH 100 FT OFF CONEY ISLAND SHORE  
 CHER HUDSON - N.Y. METROPOLITAN AREA

| DATE     | TIME  | DEPTH | TOT COLI | FEC COLI |
|----------|-------|-------|----------|----------|
| FROM     | OF    |       | MFIMENDO | M-FCAGAR |
| TC       | DAY   | FEET  | /100ML   | /100ML   |
| 80/06/30 | 08 47 | 0002  | 1060     | 92       |
| 80/07/10 | 15 28 | 0002  | 104      | 7        |
| 80/07/17 | 14 25 | 0002  | 3        | 0        |
| 80/07/25 | 11 57 | 0002  | 23       | 1        |
| 80/08/06 | 10 43 | 0002  | 216      | 968      |
| 80/08/12 | 11 25 | 0002  | 34       | 1        |
| 80/08/21 | 11 10 | 0002  | 108      | 3        |
| 80/09/03 | 14 22 | 0002  | 80       | 4        |
| 80/09/10 | 11 23 | 0002  | 27       | 1        |
| 80/09/16 | 14 04 | 0002  | 26       | 0        |
| 80/10/02 | 15 30 | 0002  | 660      | 408      |

NY 8TH  
 40 34 15.0 073 58 36.0 2  
 CCNEY ISLAND - FCCT CF 8TH ST. 100 FT OFF SHORE

| DATE       | TIME      | DEPTH | 31501<br>TOT CCLI<br>M-FIMENDC<br>/100ML | 31613<br>FEC CCLI<br>M-FCAGAR<br>/100ML |
|------------|-----------|-------|------------------------------------------|-----------------------------------------|
| FROM<br>TC | OF<br>DAY | FEET  |                                          |                                         |
| 80/06/30   | 08 45     | 0002  | 1140                                     | 132                                     |
| 80/07/10   | 15 26     | 0002  | 80                                       | 7                                       |
| 80/07/17   | 14 27     | 0002  | 4                                        | 1                                       |
| 80/07/25   | 11 59     | 0002  | 320                                      | 42                                      |
| 80/08/06   | 10 44     | 0002  | 16208                                    | 440                                     |
| 80/08/12   | 11 26     | 0002  | 42                                       | 48                                      |
| 80/08/21   | 11 12     | 0002  | 4000                                     | 520                                     |
| 80/09/03   | 14 24     | 0002  | 108                                      | 6                                       |
| 80/09/10   | 11 25     | 0002  | 9                                        | 0                                       |
| 80/09/16   | 14 03     | 0002  | 6                                        | 0                                       |
| 80/10/02   | 15 31     | 0002  | 740                                      | 312                                     |

NY 20TH  
 40 34 09.0 073 59 18.0 2  
 CCNEY ISLAND - FCCT CF 20TH ST. 100 FT OFF SHORE

| DATE       | TIME      | DEPTH | 31501<br>TOT CCLI<br>M-FIMENDC<br>/100ML | 31613<br>FEC CCLI<br>M-FCAGAR<br>/100ML |
|------------|-----------|-------|------------------------------------------|-----------------------------------------|
| FROM<br>TC | OF<br>DAY | FEET  |                                          |                                         |
| 80/06/30   | 08 44     | 0002  | 2240                                     | 184                                     |
| 80/07/17   | 14 29     | 0002  | 164                                      | 28                                      |
| 80/07/25   | 12 01     | 0002  | 208                                      | 15                                      |
| 80/08/06   | 10 45     | 0002  | 4400                                     | 640                                     |
| 80/08/12   | 11 28     | 0002  | 63                                       | 1                                       |
| 80/08/21   | 11 13     | 0002  | 2900                                     | 172                                     |
| 80/09/03   | 14 25     | 0002  | 400                                      | 6                                       |
| 80/09/10   | 11 26     | 0002  | 4000                                     | 200                                     |
| 80/09/16   | 14 02     | 0002  | 17                                       | 0                                       |
| 80/10/02   | 15 32     | 0002  | 820                                      | 288                                     |

NY 29TH  
 40 34 08.0 073 59 51.0 2  
 CCNEY ISLAND - FCOT OF 29TH ST. 100 FT OFF SHORE

| DATE<br>FROM<br>TC | TIME<br>CF<br>DAY | DEPTH<br>FEET | 31501              | 31613              |
|--------------------|-------------------|---------------|--------------------|--------------------|
|                    |                   |               | TOT COLI           | FEC COLI           |
|                    |                   |               | MFIMENOC<br>/100ML | M-FCAGAR<br>/100ML |
| 80/06/30           | 08 40             | 0002          | 1730               | 220                |
| 80/07/10           | 15 24             | 0002          | 400                | 39                 |
| 80/07/17           | 14 30             | 0002          | 168                | 0                  |
| 80/07/25           | 12 03             | 0002          | 204                | 20                 |
| 80/08/06           | 10 46             | 0002          | 1400               | 420                |
| 80/08/12           | 11 30             | 0002          | 440                | 24                 |
| 80/08/21           | 11 14             | 0002          | 1440               | 148                |
| 80/09/03           | 14 26             | 0002          | 208                | 21                 |
| 80/09/10           | 11 27             | 0002          | 460                | 20                 |
| 80/09/16           | 14 01             | 0002          | 568                | 0                  |
| 80/10/02           | 15 33             | 0002          | 800                | 84                 |

NY 35  
 40 34 13.0 074 00 15.0 2  
 CCNEY ISLAND - FCOT OF 35TH ST. 100 FT OFF SHORE

| DATE<br>FROM<br>TC | TIME<br>CF<br>DAY | DEPTH<br>FEET | 31501              | 31613              |
|--------------------|-------------------|---------------|--------------------|--------------------|
|                    |                   |               | TOT COLI           | FEC COLI           |
|                    |                   |               | MFIMENOC<br>/100ML | M-FCAGAR<br>/100ML |
| 80/06/30           | 08 37             | 0002          | 4400               | 640                |
| 80/07/10           | 15 22             | 0002          | 760                | 52                 |
| 80/07/17           | 14 32             | 0002          | 284                | 50                 |
| 80/07/25           | 12 05             | 0002          | 216                | 13                 |
| 80/08/06           | 10 48             | 0002          | 2700               | 480                |
| 80/08/12           | 11 31             | 0002          | 400                | 408                |
| 80/08/21           | 11 15             | 0002          | 1000               | 116                |
| 80/09/03           | 14 28             | 0002          | 240                | 7                  |
| 80/09/10           | 11 28             | 0002          | 3528               | 10                 |
| 80/09/16           | 14 00             | 0002          | 60                 | 2                  |
| 80/10/02           | 15 34             | 0002          | 160                | 196                |



## INTRODUCTION

A comparative study of the density of several bacterial species was conducted as part of the annual monitoring of the near shore waters off the Long Island and New Jersey coast. Additional monitoring of Lower New York Bay along the Staten Island and Coney Island shore was also undertaken in 1980. Samples were collected from South Beach (SB) to Wolfs Pond (WP) and from NY 35 - Seagate to Manhattan Beach (MB), respectively. The above stations were selected based upon the high bacterial density<sup>1</sup> observed in previous years.

By determining the bacteriological water quality one can assess the potential health effects caused by the spread of sewage pollution. The densities of fecal coliform (FC) organisms in receiving waters has been the accepted method of measuring fecal pollution. Problems associated with the use of fecal coliform bacteria as the sole measure of fecal pollution has led to the use of other parameters, which together can more accurately estimate the degree of contamination.

The present study attempted to monitor the density of several bacterial species in marine water samples. Recoveries were calculated and plotted for each indicator organism system.

Indicator organisms investigated were:

1. Total Coliform
2. Fecal Coliform (FC)
3. Fecal Streptococci (FS)
4. Clostridium perfringens

A description of each bacterial group follows.

### Total Coliform

The total coliform group comprises all of the aerobic and facultative anaerobic, gram negative, non-sporeforming, rod-shaped bacteria. These bacteria ferment lactose with gas production within 48 hours at 35°C. Coliforms are discharged in high numbers in feces with each person shedding approximately  $2 \times 10^9$  coliforms/day. Coliforms may also originate from non-fecal sources. A member of this group, Enterobacter aerogenes is not confined to fecal sources. E. aerogenes can be isolated from nonpolluted soil, water, and vegetation. This obviously poses a problem when attempting to define pollution emanating from fecal sources.

<sup>1</sup> Bacterial density in this study is referred to as the number of bacteria belonging to a specific indicator group per 100ml of water.

### Fecal Coliform

Fecal coliforms comprise all the coliform bacteria that can ferment lactose at  $44.5 \pm 2^\circ\text{C}$ . This group reflects more accurately the presence of fecal material since their natural habitat is the intestine of man and warm-blooded animals.

### Fecal Streptococci (FS)

Fecal streptococci are gram-positive cocci, predominantly occurring in short chains in the feces of man and warm-blooded animals. Besides the usual indicator benefits, the organisms provide data which allow the tracing of waste discharges from original sources. Species origin make this possible. For example, S. bovis, S. equinus are never found in the feces of man. They are abundantly found in the gut of many quadruped warm-blooded animals. S. salivarius, on the other hand, is only associated with humans. Such information, along with FC/FS ratios, can indicate whether the pollution source is man or animal. It must be pointed out, however, that FC/FS ratios are of limited value under certain extreme conditions (low pH, extended time of travel from discharge point, salt water, etc.). Although the use of S. faecalis in pollution studies had its origin in 1950 (Mallman et al), numerous controversy prevails. There are problems with classification and nomenclature (fecal streptococci vs enterococci vs streptococcus group D), the detection of biotypes associated with vegetation and insects, productivity and selectivity of media, and interpretation of data. Significant progress has been made as new media and isolation techniques were developed. Serological tests such as the Precipitin Reaction and Fluorescent Antibody have aided in more accurate classification and identification of the group D streptococci. In this study, the ME technique was used to enumerate the fecal streptococci. Primary organisms detected in this procedure were of the enterococcus group; consequently, the use of the term "enterococci" to express results obtained from ME plates.

### Clostridium perfringens

C. perfringens is a gram-positive, anaerobic, spore-forming, rod-shaped bacterium which ferments sucrose, lactose, and inositol with the production of gas. The organisms produce a characteristic stormy fermentation in milk, reduces sulfite to hydrogen sulfide, reduces nitrate, hydrolyzes gelatin and produce lecithinase and acid phosphatase. The ability to produce spores contributes to its ubiquity in nature. The natural habitat of the bacterium and site of spore formation is the colon of warm-blooded animals. Its occurrence in the environment is considered to be primarily dependent on the presence of fecal pollution.

The use of C. perfringens as an index of fecal pollution in water is limited because of extreme spore resistance and its abundance in decomposing organic matter and soil. Moreover, Clostridium density estimations fail to show agreement between density estimations and the degree of pollution ascertained by other means.

However, even with the absence of good quantitative correlation with E. coli and other coliforms and corollary sanitary survey data, the organisms are largely of fecal origin which is of value in detecting intermittent and past fecal pollution episodes. Still unanswered, however, is to what extent do extrafecal sources contribute to the densities of C. perfringens in the aquatic environment.

Of particular interest is the fact that C. perfringens spores may serve as a tracer in pathogen die-off studies and as a means of monitoring the movement of sewage sludge discharged into marine waters. The latter factor has definite application to the 12 mile sludge disposal site and target recreational beaches on the Long Island and New Jersey coast.

#### MATERIALS AND METHODS

Marine water samples were collected by helicopter on a weekly sampling schedule from mid-June through early October. Samples were collected using a Kemmerer sampler, transferred to a 500ml sterile, wide-mouthed plastic container, and then returned to the Edison laboratory for analysis.

Total and fecal coliform determinations were conducted by the MF technique as described in the 14th Edition of Standard Methods (1975). Fecal streptococcus determinations were conducted by the ME technique developed by Levin et al (1975) for marine waters. This procedure utilizes a highly selective differential media for the enumeration of enterococci in marine waters. Bisson and Cabelli (1979) developed a membrane filter procedure for the rapid quantitation of Clostridium perfringens that used fermentation of sucrose, production of acid phosphatase, and absence of beta-D glucosidase activity as differential characteristics.

The MF fecal coliform technique was modified by using a preliminary incubation period for 2 hours at 35°C. This preincubation of the M-FC plates was followed by incubation at 44.5°C for an additional 24±2 hours.

All M-TEC, Clostridium and Enterococci analyses were performed at the University of Rhode Island by Dr. V. Cabelli.

#### RESULTS AND DISCUSSION

There were 41 observations that had fecal coliform densities greater than 50 colonies/100ml using the modified M-FC technique (Table 1). Only three of the observations occurred along the New Jersey shore at stations JC-11, JC-21, and JC-75.

The M-TEC membrane filter technique indicated 97 observations with fecal coliform densities greater than 50/100ml (Table 2). Stations JC-21 exceeded 50/100ml on three different dates. JC-55, JC-57, JC-83, JC-93, JC-97, and Long Island stations LIC-03 and LIC-22 each exceeded 50/100ml on one occasion.

There were 87 observations that had E. Coli (M-TEC) with densities greater than 50/100 ml (Table 3). The verifications of colonies were designated as E. Coli. Stations with such observations included JC-11, JC-21 (3 different dates), JC-55, JC-57, JC-83, JC-93, LIC-03, and LIC-22. The remainder of the above observations (densities >50 colonies/ 100ml) were made at stations along the Staten Island and Coney Island shore.

Figure 1 shows the comparative effect using the modified M-FC and M-TEC procedure on fecal coliform densities off the Long Island coast. It can be seen that the M-TEC procedure produced greater recoveries of fecal coliform than the M-FC procedure. Although the bacterial densities are low at each of these stations, there is a clear almost parallel effect. This can be clearly seen at stations LIC-01, LIC-03, LIC-04, LIC-05, LIC-07, and LIC-08. Figure 2 presents a comparison of the geometric means of coliform densities (M-FC versus fecal coliform M-TEC) for stations along the northern New Jersey coast. The bacterial densities are low and the densities indicated by the two methods are similar. However, at station JC-21 and JC-37, the M-TEC method did exceed by twofold the density indicated by the modified M-FC methodology. Figure 3 presents a comparison of geometric means of fecal coliform (M-FC) versus fecal coliform (M-TEC) for stations LIC-01 to LIC-10 along the Long Island shore. Bacterial densities are again low and the densities similar. At station LIC-09 there is a greater than twofold recovery by the M-TEC procedure.

Figure 4 and Figure 5 demonstrate that when the fecal coliform densities are high the M-TEC procedure clearly outperforms the modified M-FC method. This is evident at South Beach (SB), Staten Island, NY-35 NY-29, NY-20, and at Coney Island. These figures also demonstrate that a determination of the acceptability of a location for primary contact recreation could depend on the methodology used.

One should not hastily condemn the M-FC procedure in light of increased recovery of fecal coliforms by the M-TEC procedure. In this study, where the fecal coliform densities at Long Island and New Jersey beaches are generally low, the M-FC indicated the same relative water quality as did the M-TEC results. Use of the M-FC test then did not bias the data for those beaches so as to provide an inaccurate water quality profile. Further work, however, needs to be performed to determine more precisely the magnitude of the error involved between the two methods. A significant question has to be asked at this point. The M-TEC method requires more time and effort than the M-FC. In light of data observed, is a change to this more involved procedure warranted? The merits and weaknesses have to be analyzed for the M-TEC system.

One explanation for the observed difference in the two methods is that some fecal coliforms are being inhibited on the M-FC media. When inhibition is occurring, fecal coliforms are being stressed by the growth of the non-coliforms. Under these conditions, recovery on selective media (M-FC) is less than recovery on the less inhibitory M-TEC medium. The M-FC medium contains bile salts #3 and 1% solution of rosolic acid. The sodium

salts of rosolic acid are added to the medium to suppress a variety of non-fecal coliform organisms which may grow at the elevated temperature on the M-FC media. The M-TEC medium contains none of the above mentioned ingredients; instead it contains sodium desoxycholate and sodium lauryl sulfate. These two chemicals are not as inhibitory as the bile salts and the salts of rosolic acid.

These data demonstrate that waste emanating from the New York Harbor flows in an east southeasterly direction, down through the Narrows, and into lower New York Bay. Together with tidal and estuarine flow, and the discharge of the Coney Island sewage treatment plant, high densities of microorganisms are found off the Staten Island and Coney Island Beaches.

Enterococci with densities  $>5/100\text{ml}$  were observed at 13 stations along the New Jersey Shore; 15 stations along the Long Island Coast; 5 stations at Staten Island, and 12 stations at the Coney Island shore. On June 30, 1980, the Enterococci counts at all Coney Island and Staten Island stations were  $>5/100\text{ml}$  (Table 4).

Enterococci with densities  $>50/100\text{ml}$  were observed at the following stations: JC-1A, JC-11, LIC-1, LIC-2, GB, NY-35, and NY-20 (Table 5). These high densities are generally consistent with the high densities of fecal coliforms observed at these stations.

Figure 6 presents geometric mean (GM) densities of C. perfringens progressively from LIC-01 to LIC-28. Density gradients from Rockaway (LIC-01) to Shinnecock Inlet (LIC-28) are consistent with patterns developed by fecal coliform data. Bacterial concentrations decrease while progressing easterly from Rockaway Point. Flow patterns, from the Upper New York Harbor southeasterly and then westerly in the New York Bight Apex, support the bacterial transport patterns. Spore survival of C. perfringens clearly points out this movement.

The geometric mean densities of C. perfringens are much higher at the Coney Island and Staten Island stations (Figure 6 and 7). This is consistent with the degree of fecal coliform pollution. Clostridia are generally two orders of magnitude less than the fecal coliforms (Cabelli 1981).

The ability of these pathogenic microorganism to survive and not multiply outside a living host provides a more realistic indication of pollution than do fecal coliforms. C. perfringens spores are able to survive indefinitely in the marine environment and, consequently, indicate present as well as past pollution. This study with respect to Clostridia reaffirms the presence of pollution at stations with high coliform densities.

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OCCURRENCES OF BACTERIAL DENSITIES GREATER THAN 50 PER 100ML  
 NEW YORK BIGHT, SUMMER 1980  
 FECAL COLIFORMS (M-FC MEDIA)

10121 FRIDAY, MARCH 13, 1981

Table - 1

| Obs | STATION | BACTERIA         | DATE  | DENSITY |
|-----|---------|------------------|-------|---------|
| 1   | JC-11   | FECAL COLI(M-FC) | 06/17 | 740     |
| 2   | JC-21   | FECAL COLI(M-FC) | 06/25 | 340     |
| 3   | JC-75   | FECAL COLI(M-FC) | 06/25 | 50      |
| 4   | SI-80U  | FECAL COLI(M-FC) | 06/30 | 180     |
| 5   | SI-90U  | FECAL COLI(M-FC) | 07/10 | 59      |
| 6   | SI-90U  | FECAL COLI(M-FC) | 07/31 | 181     |
| 7   | SI-90U  | FECAL COLI(M-FC) | 08/06 | 116     |
| 8   | SI-90U  | FECAL COLI(M-FC) | 08/21 | 164     |
| 9   | SI-90U  | FECAL COLI(M-FC) | 09/03 | 79      |
| 10  | SI-80U  | FECAL COLI(M-FC) | 09/10 | 200     |
| 11  | SI-90U  | FECAL COLI(M-FC) | 09/16 | 85      |
| 12  | SI-80U  | FECAL COLI(M-FC) | 10/02 | 80      |
| 13  | SI-80A  | FECAL COLI(M-FC) | 06/30 | 130     |
| 14  | SI-81U  | FECAL COLI(M-FC) | 06/06 | 80      |
| 15  | SI-81U  | FECAL COLI(M-FC) | 08/21 | 120     |
| 16  | SI-80A  | FECAL COLI(M-FC) | 06/30 | 70      |
| 17  | CI-35   | FECAL COLI(M-FC) | 06/30 | 640     |
| 18  | CI-35   | FECAL COLI(M-FC) | 07/10 | 63      |
| 19  | CI-35   | FECAL COLI(M-FC) | 07/17 | 50      |
| 20  | CI-35   | FECAL COLI(M-FC) | 07/31 | 62      |
| 21  | CI-35   | FECAL COLI(M-FC) | 08/06 | 400     |
| 22  | CI-35   | FECAL COLI(M-FC) | 08/21 | 116     |
| 23  | CI-35   | FECAL COLI(M-FC) | 10/02 | 196     |
| 24  | CI-29   | FECAL COLI(M-FC) | 06/30 | 220     |
| 25  | CI-29   | FECAL COLI(M-FC) | 07/31 | 53      |
| 26  | CI-29   | FECAL COLI(M-FC) | 08/06 | 420     |
| 27  | CI-29   | FECAL COLI(M-FC) | 08/21 | 140     |
| 28  | CI-29   | FECAL COLI(M-FC) | 10/02 | 84      |
| 29  | CI-20   | FECAL COLI(M-FC) | 06/30 | 184     |
| 30  | CI-20   | FECAL COLI(M-FC) | 08/06 | 640     |
| 31  | CI-20   | FECAL COLI(M-FC) | 08/21 | 172     |
| 32  | CI-20   | FECAL COLI(M-FC) | 09/10 | 200     |
| 33  | CI-20   | FECAL COLI(M-FC) | 10/02 | 200     |
| 34  | CI-8    | FECAL COLI(M-FC) | 06/30 | 132     |
| 35  | CI-8    | FECAL COLI(M-FC) | 08/06 | 440     |
| 36  | CI-8    | FECAL COLI(M-FC) | 08/21 | 520     |
| 37  | CI-8    | FECAL COLI(M-FC) | 10/02 | 312     |
| 38  | CI-0P   | FECAL COLI(M-FC) | 06/30 | 92      |
| 39  | CI-0P   | FECAL COLI(M-FC) | 08/06 | 96      |
| 40  | CI-0B   | FECAL COLI(M-FC) | 06/30 | 116     |
| 41  | CI-0B   | FECAL COLI(M-FC) | 10/02 | 96      |

## OCCURRENCES OF BACTERIAL DENSITIES GREATER THAN 50 PER 100ML

NEW YORK BIGHT, SUMMER 1980

10121 FRIDAY, MARCH 13, 1981

FECAL COLIFORMS (MTEC MEDIA)

OBS STATION BACTERIA DATE DENSITY

1 JC-21 FECAL COLI(MTEC) 08/20 110  
 2 JC-21 FECAL COLI(MTEC) 08/25 230  
 3 JC-21 FECAL COLI(MTEC) 09/30 65  
 4 JC-55 FECAL COLI(MTEC) 09/30 70  
 5 JC-57 FECAL COLI(MTEC) 07/24 94  
 6 JC-63 FECAL COLI(MTEC) 08/28 110  
 7 JC-93 FECAL COLI(MTEC) 09/18 88  
 8 JC-47 FECAL COLI(MTEC) 09/18 55  
 9 LIC-3 FECAL COLI(MTEC) 09/17 100  
 10 LIC-22 FECAL COLI(MTEC) 10/02 102  
 11 SI-SOU FECAL COLI(MTEC) 06/00 290  
 12 SI-SOU FECAL COLI(MTEC) 06/19 140  
 13 SI-SOU FECAL COLI(MTEC) 06/26 74  
 14 SI-SOU FECAL COLI(MTEC) 06/30 330  
 15 SI-SOU FECAL COLI(MTEC) 07/10 150  
 16 SI-SOU FECAL COLI(MTEC) 07/31 350  
 17 SI-SOU FECAL COLI(MTEC) 08/06 270  
 18 SI-SOU FECAL COLI(MTEC) 08/12 260  
 19 SI-SOU FECAL COLI(MTEC) 08/21 2000  
 20 SI-SOU FECAL COLI(MTEC) 09/03 2400  
 21 SI-SOU FECAL COLI(MTEC) 09/10 1800  
 22 SI-SOU FECAL COLI(MTEC) 09/16 250  
 23 SI-SOU FECAL COLI(MTEC) 10/02 700  
 24 SI-GRA FECAL COLI(MTEC) 06/05 80  
 25 SI-GRA FECAL COLI(MTEC) 06/30 190  
 26 SI-GRA FECAL COLI(MTEC) 07/31 90  
 27 SI-GRA FECAL COLI(MTEC) 08/06 54  
 28 SI-GRA FECAL COLI(MTEC) 08/12 53  
 29 SI-GRA FECAL COLI(MTEC) 09/03 120  
 30 SI-MIU FECAL COLI(MTEC) 06/26 150  
 31 SI-MIU FECAL COLI(MTEC) 08/06 160  
 32 SI-MIU FECAL COLI(MTEC) 08/12 67  
 33 SI-MIU FECAL COLI(MTEC) 09/03 110  
 34 SI-OAR FECAL COLI(MTEC) 08/06 52  
 35 SI-OAR FECAL COLI(MTEC) 08/21 240  
 36 SI-GA FECAL COLI(MTEC) 06/30 71  
 37 SI-RR FECAL COLI(MTEC) 07/31 80  
 38 SI-RR FECAL COLI(MTEC) 10/02 50  
 39 CI-35 FECAL COLI(MTEC) 06/05 380  
 40 CI-35 FECAL COLI(MTEC) 06/26 190  
 41 CI-35 FECAL COLI(MTEC) 06/30 820  
 42 CI-35 FECAL COLI(MTEC) 07/10 130  
 43 CI-35 FECAL COLI(MTEC) 07/17 50  
 44 CI-35 FECAL COLI(MTEC) 07/25 70  
 45 CI-35 FECAL COLI(MTEC) 07/31 60  
 46 CI-35 FECAL COLI(MTEC) 08/06 500  
 47 CI-35 FECAL COLI(MTEC) 08/12 460  
 48 CI-35 FECAL COLI(MTEC) 08/21 710  
 49 CI-35 FECAL COLI(MTEC) 09/03 190  
 50 CI-35 FECAL COLI(MTEC) 09/10 125  
 51 CI-35 FECAL COLI(MTEC) 09/18 220  
 52 CI-35 FECAL COLI(MTEC) 10/02 700  
 53 CI-29 FECAL COLI(MTEC) 06/00 450  
 54 CI-29 FECAL COLI(MTEC) 06/26 230

Table-2



## OCCURRENCES OF BACTERIAL DENSITIES GREATER THAN 50 PER 100ML

3

NEW YORK BIGHT, SUMMER 1980

16121 FRIDAY, MARCH 13, 1981

FECAL COLIFORMS (MTEC MEDIA)

| OBS | STATION | BACTERIA         | DATE  | DENSITY |
|-----|---------|------------------|-------|---------|
| 55  | C1-29   | FECAL COLI(MTEC) | 06/30 | 140     |
| 56  | C1-29   | FECAL COLI(MTEC) | 07/10 | 180     |
| 57  | C1-29   | FECAL COLI(MTEC) | 07/25 | 55      |
| 58  | C1-29   | FECAL COLI(MTEC) | 07/31 | 220     |
| 59  | C1-29   | FECAL COLI(MTEC) | 08/06 | 2000    |
| 60  | C1-29   | FECAL COLI(MTEC) | 08/12 | 170     |
| 61  | C1-29   | FECAL COLI(MTEC) | 08/21 | 1500    |
| 62  | C1-29   | FECAL COLI(MTEC) | 09/03 | 130     |
| 63  | C1-29   | FECAL COLI(MTEC) | 09/10 | 145     |
| 64  | C1-29   | FECAL COLI(MTEC) | 10/02 | 360     |
| 65  | C1-20   | FECAL COLI(MTEC) | 06/05 | 480     |
| 66  | C1-20   | FECAL COLI(MTEC) | 06/20 | 140     |
| 67  | C1-20   | FECAL COLI(MTEC) | 06/30 | 920     |
| 68  | C1-20   | FECAL COLI(MTEC) | 07/10 | 140     |
| 69  | C1-20   | FECAL COLI(MTEC) | 07/25 | 61      |
| 70  | C1-20   | FECAL COLI(MTEC) | 08/06 | 1000    |
| 71  | C1-20   | FECAL COLI(MTEC) | 08/12 | 130     |
| 72  | C1-20   | FECAL COLI(MTEC) | 08/21 | 1000    |
| 73  | C1-20   | FECAL COLI(MTEC) | 09/03 | 230     |
| 74  | C1-20   | FECAL COLI(MTEC) | 09/10 | 1300    |
| 75  | C1-20   | FECAL COLI(MTEC) | 10/02 | 700     |
| 76  | C1-0    | FECAL COLI(MTEC) | 06/06 | 300     |
| 77  | C1-0    | FECAL COLI(MTEC) | 06/26 | 51      |
| 78  | C1-0    | FECAL COLI(MTEC) | 06/30 | 220     |
| 79  | C1-0    | FECAL COLI(MTEC) | 07/25 | 280     |
| 80  | C1-0    | FECAL COLI(MTEC) | 07/31 | 50      |
| 81  | C1-0    | FECAL COLI(MTEC) | 08/06 | 330     |
| 82  | C1-0    | FECAL COLI(MTEC) | 08/21 | 700     |
| 83  | C1-0    | FECAL COLI(MTEC) | 09/10 | 80      |
| 84  | C1-0    | FECAL COLI(MTEC) | 10/02 | 890     |
| 85  | C1-0P   | FECAL COLI(MTEC) | 06/06 | 100     |
| 86  | C1-0P   | FECAL COLI(MTEC) | 06/30 | 330     |
| 87  | C1-0P   | FECAL COLI(MTEC) | 07/10 | 107     |
| 88  | C1-0P   | FECAL COLI(MTEC) | 08/06 | 90      |
| 89  | C1-0P   | FECAL COLI(MTEC) | 10/02 | 940     |
| 90  | C1-MH   | FECAL COLI(MTEC) | 06/05 | 61      |
| 91  | C1-MH   | FECAL COLI(MTEC) | 06/26 | 93      |
| 92  | C1-Mb   | FECAL COLI(MTEC) | 06/30 | 170     |
| 93  | C1-MH   | FECAL COLI(MTEC) | 07/25 | 81      |
| 94  | C1-MH   | FECAL COLI(MTEC) | 08/06 | 320     |
| 95  | C1-MH   | FECAL COLI(MTEC) | 08/17 | 300     |
| 96  | C1-MH   | FECAL COLI(MTEC) | 08/21 | 340     |
| 97  | C1-MH   | FECAL COLI(MTEC) | 10/02 | 340     |

Table-2

OCURRENCES OF BACTERIAL DENSITIES GREATER THAN 50 PER 100ML  
NEW YORK BIGHT, SUMMER 1980  
E. COLI (MTEC MEDIA)

10121 FRIDAY, MARCH 13, 1981

OBS STATION BACTERIA DATE DENSITY

|    |        |               |       |      |
|----|--------|---------------|-------|------|
| 1  | JC-11  | E. COLI(MTEC) | 06/17 | 5000 |
| 2  | JC-21  | E. COLI(MTEC) | 08/20 | 70   |
| 3  | JC-21  | E. COLI(MTEC) | 08/20 | 230  |
| 4  | JC-21  | E. COLI(MTEC) | 09/30 | 60   |
| 5  | JC-55  | E. COLI(MTEC) | 09/30 | 69   |
| 6  | JC-57  | E. COLI(MTEC) | 07/24 | 94   |
| 7  | JC-93  | E. COLI(MTEC) | 08/20 | 90   |
| 8  | JC-93  | E. COLI(MTEC) | 09/18 | 84   |
| 9  | LIC-J  | E. COLI(MTEC) | 09/17 | 100  |
| 10 | LIC-22 | E. COLI(MTEC) | 10/02 | 102  |
| 11 | SI-SUU | E. COLI(MTEC) | 06/05 | 140  |
| 12 | SI-SUU | E. COLI(MTEC) | 06/19 | 90   |
| 13 | SI-SUU | E. COLI(MTEC) | 06/20 | 05   |
| 14 | SI-SUU | E. COLI(MTEC) | 06/30 | 280  |
| 15 | SI-SUU | E. COLI(MTEC) | 07/10 | 50   |
| 16 | SI-SUU | E. COLI(MTEC) | 07/31 | 300  |
| 17 | SI-SUU | E. COLI(MTEC) | 08/06 | 220  |
| 18 | SI-SUU | E. COLI(MTEC) | 08/12 | 240  |
| 19 | SI-SUU | E. COLI(MTEC) | 08/21 | 1900 |
| 20 | SI-SUU | E. COLI(MTEC) | 09/03 | 1900 |
| 21 | SI-SUU | E. COLI(MTEC) | 09/10 | 1600 |
| 22 | SI-SUU | E. COLI(MTEC) | 09/16 | 170  |
| 23 | SI-SUU | E. COLI(MTEC) | 10/02 | 590  |
| 24 | SI-GHA | E. COLI(MTEC) | 06/30 | 100  |
| 25 | SI-GHA | E. COLI(MTEC) | 07/31 | 85   |
| 26 | SI-GHA | E. COLI(MTEC) | 09/03 | 70   |
| 27 | SI-M10 | E. COLI(MTEC) | 06/06 | 90   |
| 28 | SI-M10 | E. COLI(MTEC) | 08/12 | 63   |
| 29 | SI-M10 | E. COLI(MTEC) | 09/03 | 100  |
| 30 | SI-OAK | E. COLI(MTEC) | 08/21 | 230  |
| 31 | SI-OK  | E. COLI(MTEC) | 06/30 | 69   |
| 32 | SI-WH  | E. COLI(MTEC) | 07/31 | 80   |
| 33 | SI-WH  | E. COLI(MTEC) | 10/02 | 51   |
| 34 | CI-35  | E. COLI(MTEC) | 06/05 | 280  |
| 35 | CI-35  | E. COLI(MTEC) | 06/26 | 150  |
| 36 | CI-35  | E. COLI(MTEC) | 06/30 | 770  |
| 37 | CI-35  | E. COLI(MTEC) | 07/25 | 78   |
| 38 | CI-35  | E. COLI(MTEC) | 07/31 | 60   |
| 39 | CI-35  | E. COLI(MTEC) | 08/06 | 510  |
| 40 | CI-35  | E. COLI(MTEC) | 08/12 | 410  |
| 41 | CI-35  | E. COLI(MTEC) | 08/21 | 080  |
| 42 | CI-35  | E. COLI(MTEC) | 09/03 | 160  |
| 43 | CI-35  | E. COLI(MTEC) | 09/10 | 95   |
| 44 | CI-35  | E. COLI(MTEC) | 09/16 | 220  |
| 45 | CI-35  | E. COLI(MTEC) | 10/02 | 550  |
| 46 | CI-29  | E. COLI(MTEC) | 06/05 | 240  |
| 47 | CI-29  | E. COLI(MTEC) | 06/26 | 120  |
| 48 | CI-29  | E. COLI(MTEC) | 06/30 | 140  |
| 49 | CI-29  | E. COLI(MTEC) | 07/10 | 130  |
| 50 | CI-29  | E. COLI(MTEC) | 07/26 | 54   |
| 51 | CI-29  | E. COLI(MTEC) | 07/31 | 210  |
| 52 | CI-29  | E. COLI(MTEC) | 08/06 | 1400 |
| 53 | CI-29  | E. COLI(MTEC) | 08/12 | 170  |
| 54 | CI-29  | E. COLI(MTEC) | 08/21 | 1300 |

Table -3

OCCURRENCES OF BACTERIAL DENSITIES GREATER THAN 50 PER 100ML  
 NEW YORK BIGHT, SUMMER 1980  
 E. COLI (MTEC MEDIA)

16121 FRIDAY, MARCH 13, 1981

Table -3

| OBS | STATION | BACTERIA      | DATE  | DENSITY |
|-----|---------|---------------|-------|---------|
| 55  | CI-29   | E. COLI(MTEC) | 09/03 | 120     |
| 56  | CI-29   | E. COLI(MTEC) | 09/10 | 130     |
| 57  | CI-29   | E. COLI(MTEC) | 10/02 | 290     |
| 58  | CI-20   | E. COLI(MTEC) | 06/00 | 340     |
| 59  | CI-20   | E. COLI(MTEC) | 06/20 | 90      |
| 60  | CI-20   | E. COLI(MTEC) | 06/30 | 470     |
| 61  | CI-20   | E. COLI(MTEC) | 07/10 | 130     |
| 62  | CI-20   | E. COLI(MTEC) | 07/20 | 61      |
| 63  | CI-20   | E. COLI(MTEC) | 08/00 | 1400    |
| 64  | CI-20   | E. COLI(MTEC) | 08/12 | 100     |
| 65  | CI-20   | E. COLI(MTEC) | 08/21 | 1000    |
| 66  | CI-20   | E. COLI(MTEC) | 09/03 | 100     |
| 67  | CI-20   | E. COLI(MTEC) | 09/10 | 900     |
| 68  | CI-20   | E. COLI(MTEC) | 10/02 | 700     |
| 69  | CI-0    | E. COLI(MTEC) | 06/00 | 110     |
| 70  | CI-0    | E. COLI(MTEC) | 06/30 | 200     |
| 71  | CI-0    | E. COLI(MTEC) | 07/20 | 200     |
| 72  | CI-0    | E. COLI(MTEC) | 08/00 | 330     |
| 73  | CI-0    | E. COLI(MTEC) | 08/21 | 700     |
| 74  | CI-0    | E. COLI(MTEC) | 09/10 | 70      |
| 75  | CI-0    | E. COLI(MTEC) | 10/02 | 810     |
| 76  | CI-0P   | E. COLI(MTEC) | 06/00 | 70      |
| 77  | CI-0P   | E. COLI(MTEC) | 06/30 | 270     |
| 78  | CI-0P   | E. COLI(MTEC) | 07/10 | 87      |
| 79  | CI-0P   | E. COLI(MTEC) | 08/00 | 90      |
| 80  | CI-0P   | E. COLI(MTEC) | 10/02 | 840     |
| 81  | CI-M0   | E. COLI(MTEC) | 06/20 | 87      |
| 82  | CI-M0   | E. COLI(MTEC) | 06/30 | 170     |
| 83  | CI-M0   | E. COLI(MTEC) | 07/20 | 79      |
| 84  | CI-M0   | E. COLI(MTEC) | 08/00 | 300     |
| 85  | CI-M0   | E. COLI(MTEC) | 08/17 | 230     |
| 86  | CI-M0   | E. COLI(MTEC) | 08/21 | 340     |
| 87  | CI-M0   | E. COLI(MTEC) | 10/02 | 240     |

OCURRENCES OF BACTERIAL DENSITIES GREATER THAN 5 PER 100ML  
NEW YORK BIGHT, SUMMER 1980  
ENTEROCOCCI

13153 FRIDAY, APRIL 17, 1981

1

OHS STATION BACTERIA DATE DENSITY

Table 4

|    |        |             |       |       |
|----|--------|-------------|-------|-------|
| 1  | JC-1A  | ENTEROCOCCI | 09/17 | 103.5 |
| 2  | JC-11  | ENTEROCOCCI | 06/17 | 179.0 |
| 3  | JC-21  | ENTEROCOCCI | 08/25 | 16.5  |
| 4  | JC-24  | ENTEROCOCCI | 08/20 | 12.0  |
| 5  | JC-37  | ENTEROCOCCI | 06/11 | 24.0  |
| 6  | JC-55  | ENTEROCOCCI | 09/30 | 10.0  |
| 7  | JC-57  | ENTEROCOCCI | 08/21 | 5.5   |
| 8  | JC-79  | ENTEROCOCCI | 09/17 | 6.0   |
| 9  | JC-M1  | ENTEROCOCCI | 09/18 | 6.0   |
| 10 | JC-43  | ENTEROCOCCI | 09/18 | 8.0   |
| 11 | JC-97  | ENTEROCOCCI | 06/11 | 5.0   |
| 12 | JC-47  | ENTEROCOCCI | 09/18 | 8.5   |
| 13 | JC-99  | ENTEROCOCCI | 06/11 | 19.0  |
| 14 | LIC-1  | ENTEROCOCCI | 07/31 | 25.0  |
| 15 | LIC-1  | ENTEROCOCCI | 09/10 | 50.0  |
| 16 | LIC-2  | ENTEROCOCCI | 09/10 | 50.0  |
| 17 | LIC-3  | ENTEROCOCCI | 06/30 | 6.0   |
| 18 | LIC-5  | ENTEROCOCCI | 06/30 | 16.0  |
| 19 | LIC-5  | ENTEROCOCCI | 09/10 | 10.0  |
| 20 | LIC-7  | ENTEROCOCCI | 08/21 | 7.5   |
| 21 | LIC-8  | ENTEROCOCCI | 06/30 | 6.5   |
| 22 | LIC-9  | ENTEROCOCCI | 06/30 | 5.5   |
| 23 | LIC-10 | ENTEROCOCCI | 06/30 | 6.0   |
| 24 | LIC-10 | ENTEROCOCCI | 07/25 | 35.0  |
| 25 | LIC-17 | ENTEROCOCCI | 09/10 | 7.0   |
| 26 | LIC-19 | ENTEROCOCCI | 10/02 | 6.5   |
| 27 | LIC-22 | ENTEROCOCCI | 10/02 | 49.0  |
| 28 | LIC-26 | ENTEROCOCCI | 10/02 | 7.0   |
| 29 | SI-SOU | ENTEROCOCCI | 06/30 | 26.5  |
| 30 | SI-G8A | ENTEROCOCCI | 06/30 | 56.0  |
| 31 | SI-MID | ENTEROCOCCI | 06/30 | 14.5  |
| 32 | SI-DAM | ENTEROCOCCI | 06/30 | 18.0  |
| 33 | SI-GK  | ENTEROCOCCI | 06/30 | 33.0  |
| 34 | CI-35  | ENTEROCOCCI | 06/30 | 108.0 |
| 35 | CI-35  | ENTEROCOCCI | 08/06 | 5.5   |
| 36 | CI-29  | ENTEROCOCCI | 06/30 | 16.5  |
| 37 | CI-29  | ENTEROCOCCI | 08/06 | 5.0   |
| 38 | CI-29  | ENTEROCOCCI | 06/30 | 78.5  |
| 39 | CI-20  | ENTEROCOCCI | 08/06 | 6.5   |
| 40 | CI-20  | ENTEROCOCCI | 08/21 | 5.0   |
| 41 | CI-M   | ENTEROCOCCI | 06/30 | 23.0  |
| 42 | CI-M   | ENTEROCOCCI | 07/25 | 6.0   |
| 43 | CI-OP  | ENTEROCOCCI | 06/30 | 27.5  |
| 44 | CI-OP  | ENTEROCOCCI | 07/31 | 12.0  |
| 45 | CI-MH  | ENTEROCOCCI | 06/30 | 19.0  |

OCCURRENCES OF BACTERIAL DENSITIES GREATER THAN 50 PER 100ML  
NEW YORK BIGHT, SUMMER 1980  
ENTEROCOCCI

13:53 FRIDAY, APRIL 17, 1981<sup>2</sup>

| OBS | STATION | BACTERIA    | DATE  | DENSITY |
|-----|---------|-------------|-------|---------|
| 1   | JC-1A   | ENTEROCOCCI | 09/17 | 103.5   |
| 2   | JC-11   | ENTEROCOCCI | 06/17 | 179.0   |
| 3   | LIC-1   | ENTEROCOCCI | 09/10 | 50.0    |
| 4   | LIC-2   | ENTEROCOCCI | 09/10 | 50.0    |
| 5   | SI-GHA  | ENTEROCOCCI | 06/30 | 56.0    |
| 6   | CI-35   | ENTEROCOCCI | 06/30 | 108.0   |
| 7   | CI-20   | ENTEROCOCCI | 06/30 | 78.5    |

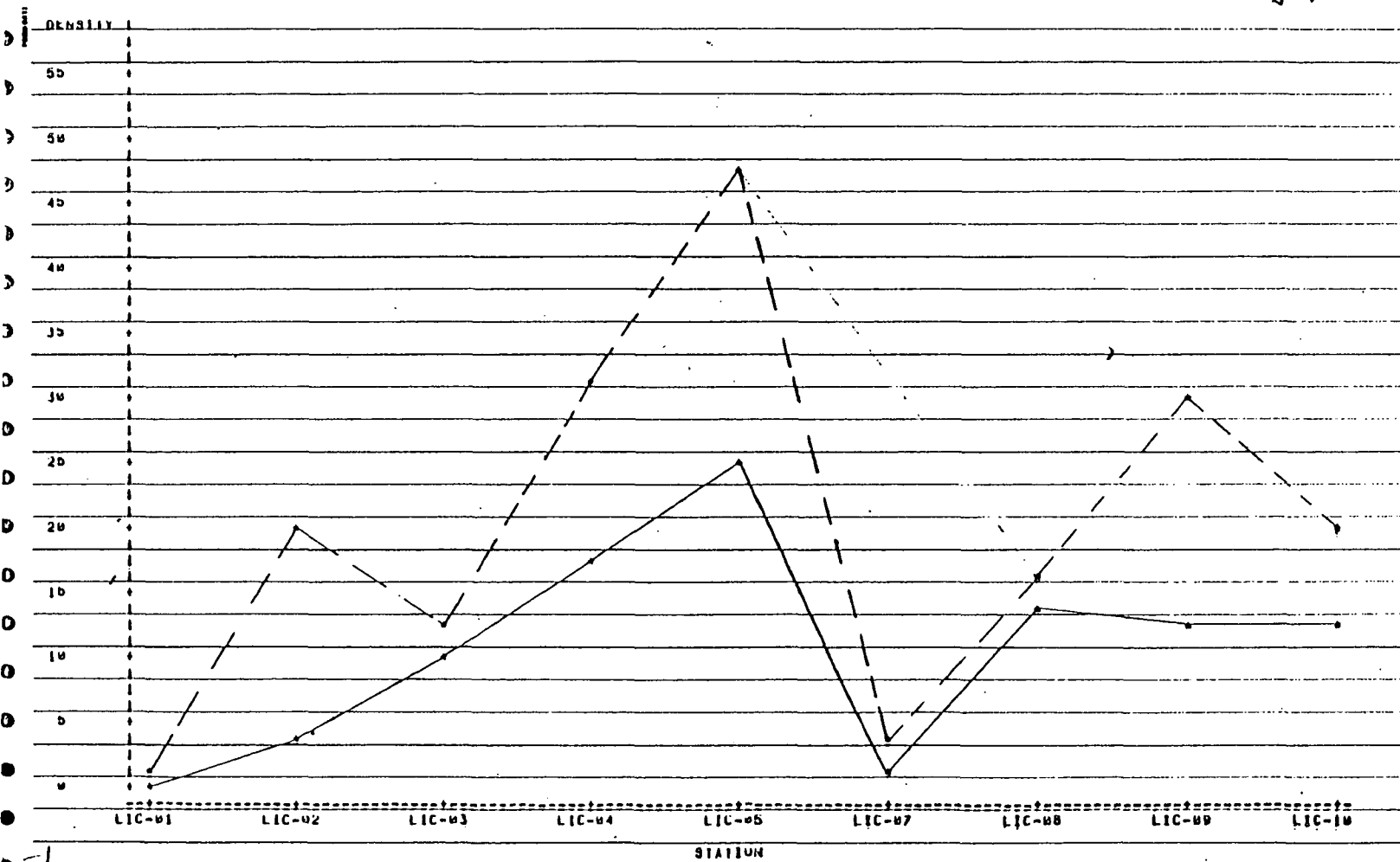
Table - 5

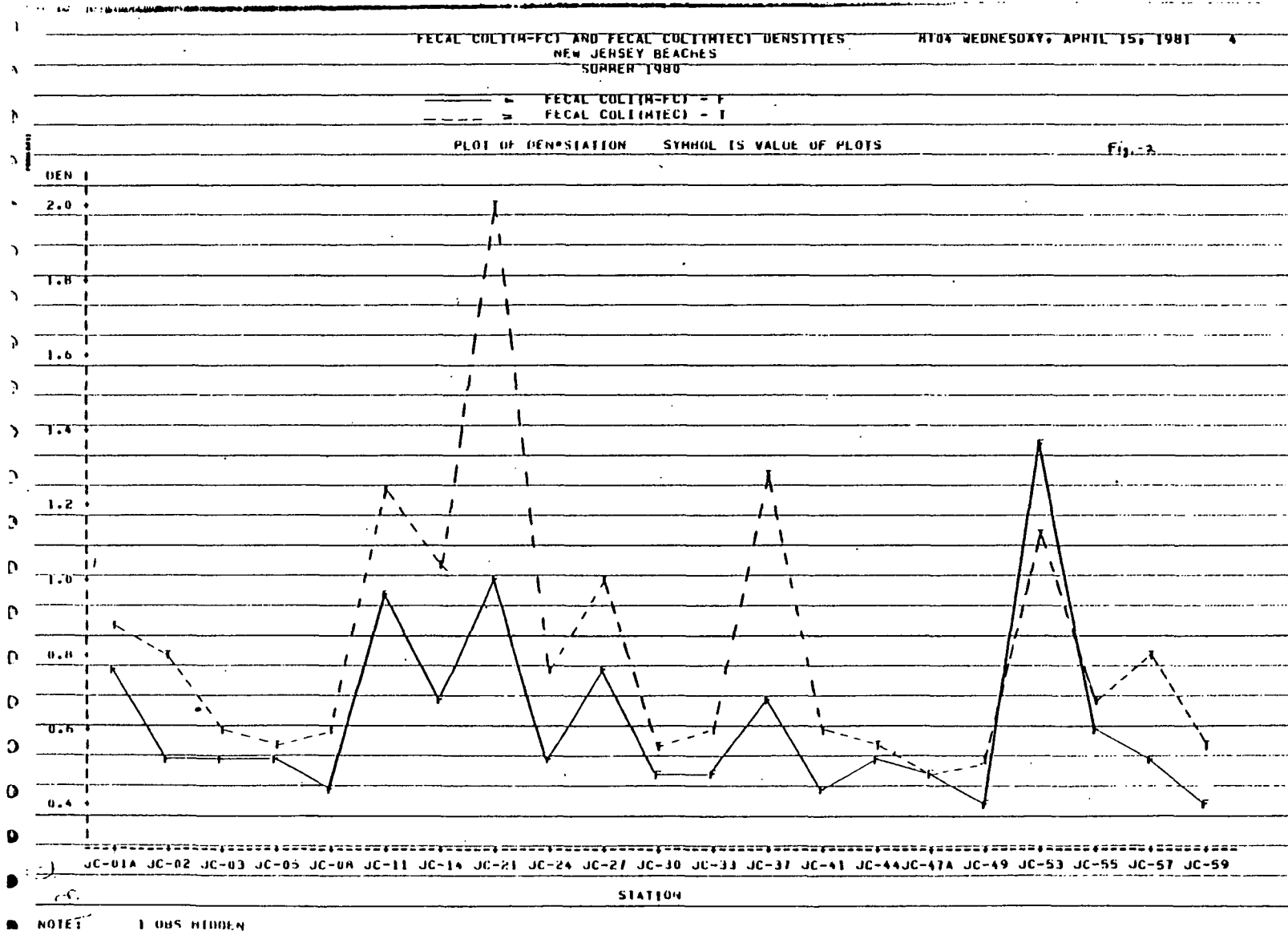
COMPARISON BETWEEN FECAL COLIFORM COUNTS  
 USING M-FC AND MTEC MEDIA  
 JUNE 30, 1988

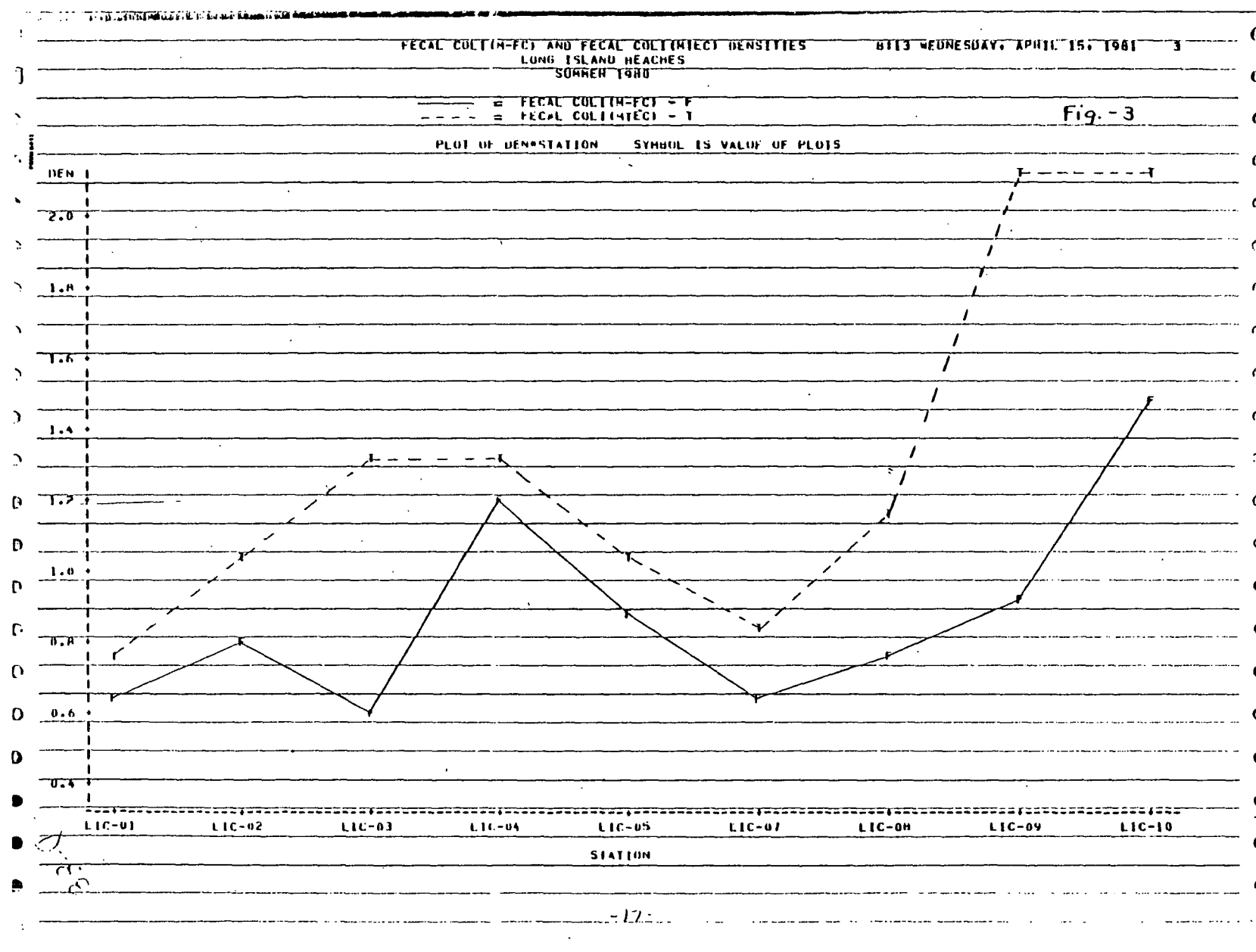
13136 TUESDAY, MARCH 17, 1981

PLANT DENSIFICATION SYMBOL USED IN

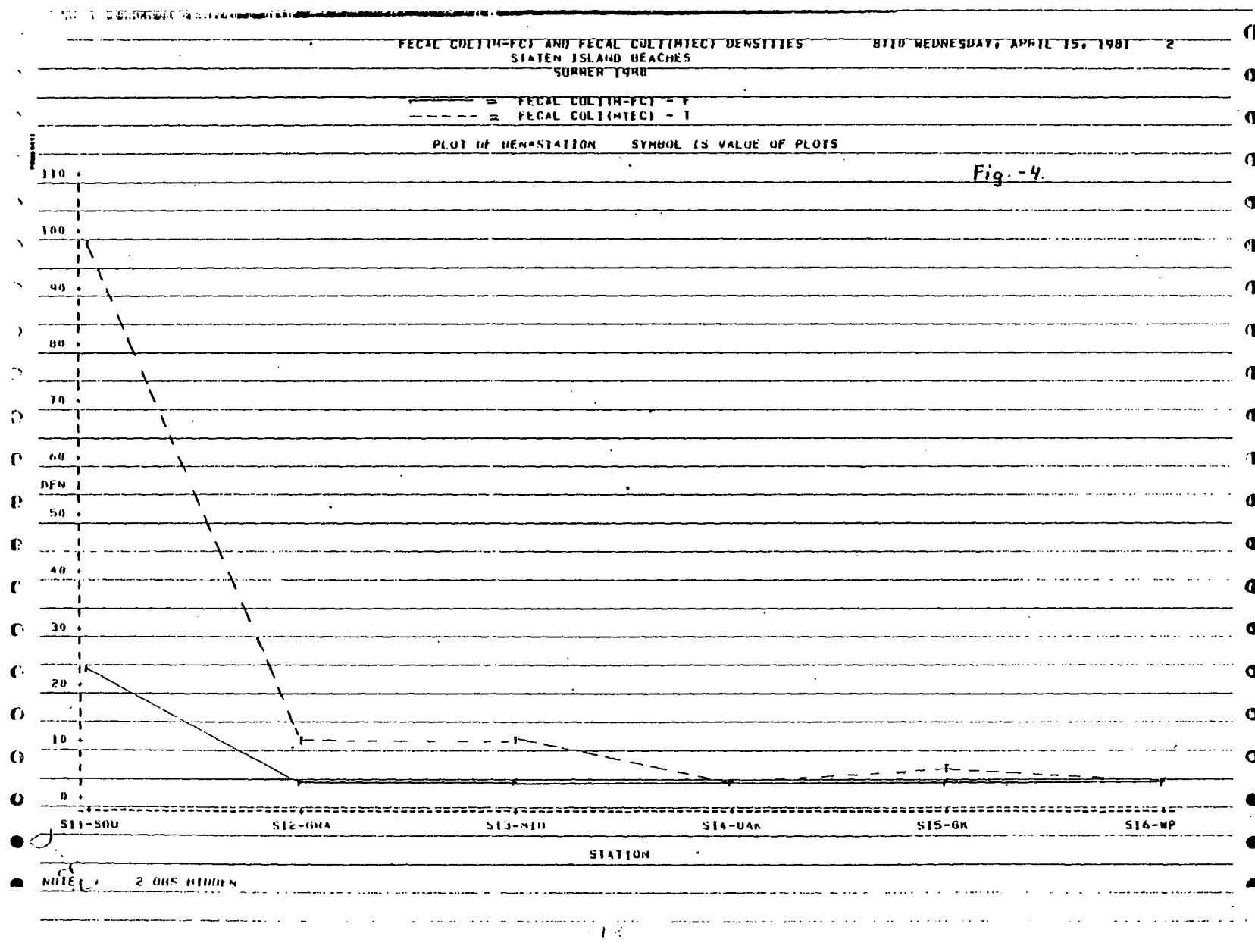
Fig-1

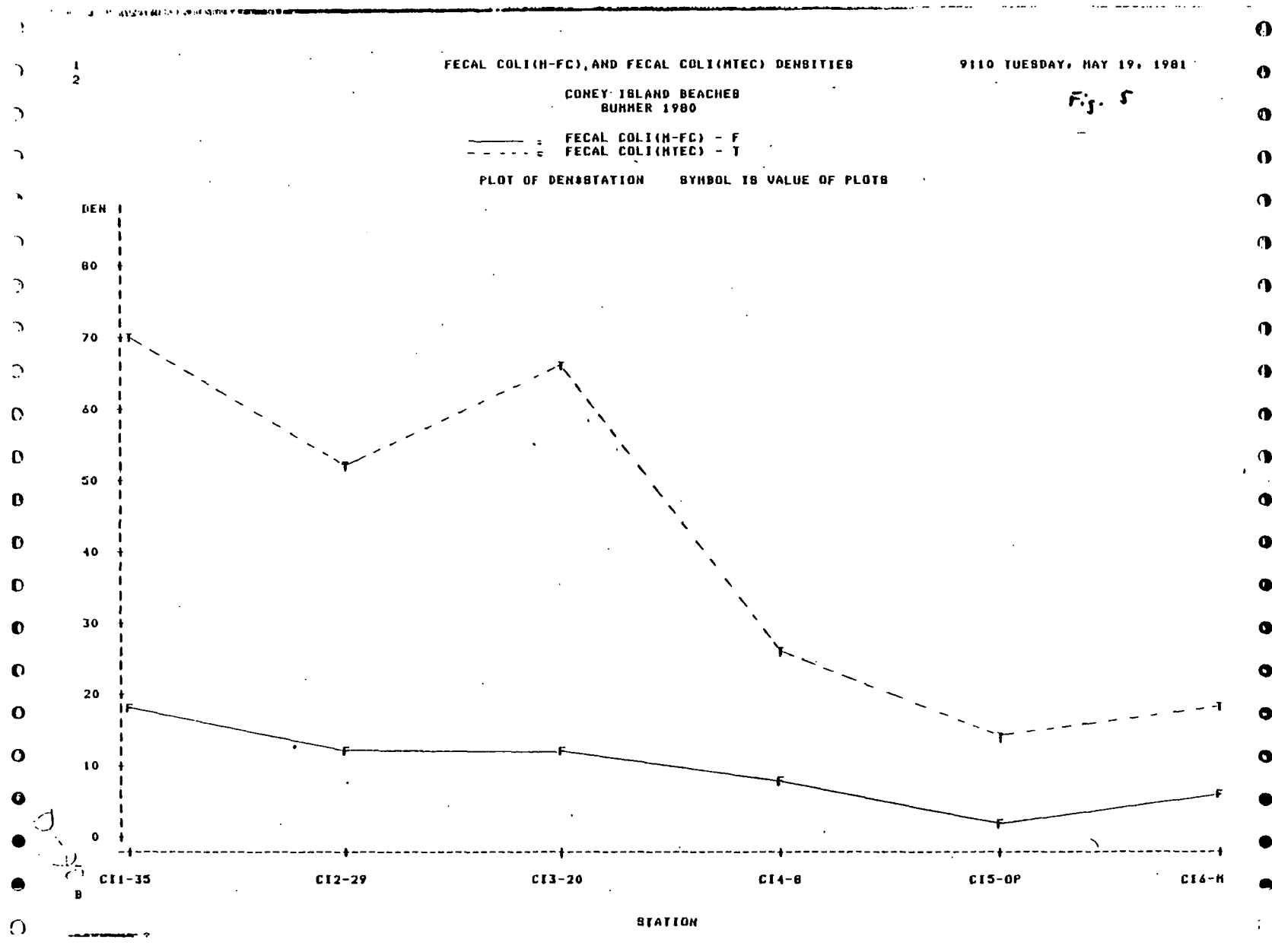










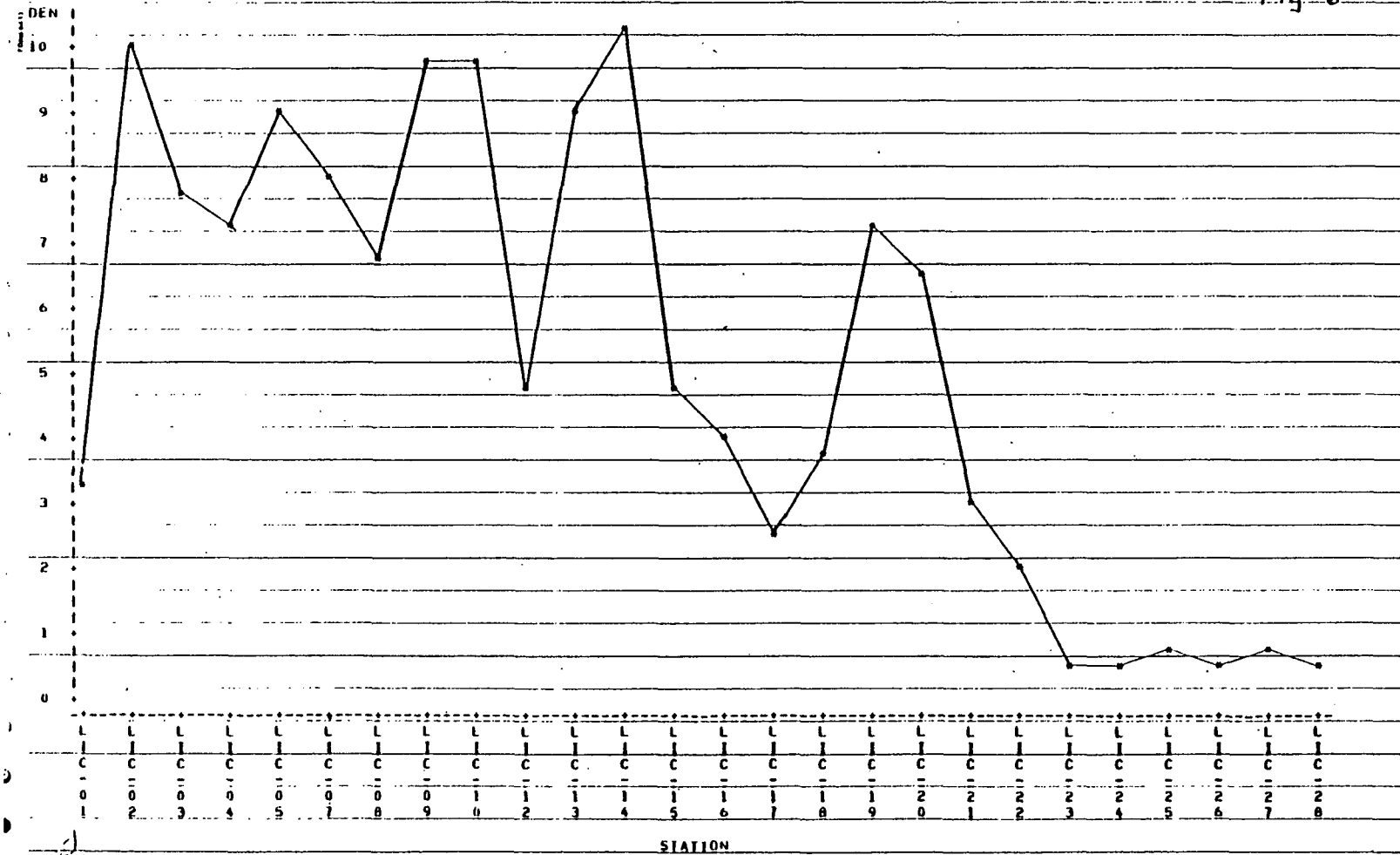


GEOMETRIC MEANS OF *C. PERFRINGENS* DENSITIES  
LONG ISLAND BEACHES  
SUMMER 1980

13:37 FRIDAY, APRIL 17, 1981 3

PLOT OF DEN\*STATION SYMBOL USED IS \*

Fig-6

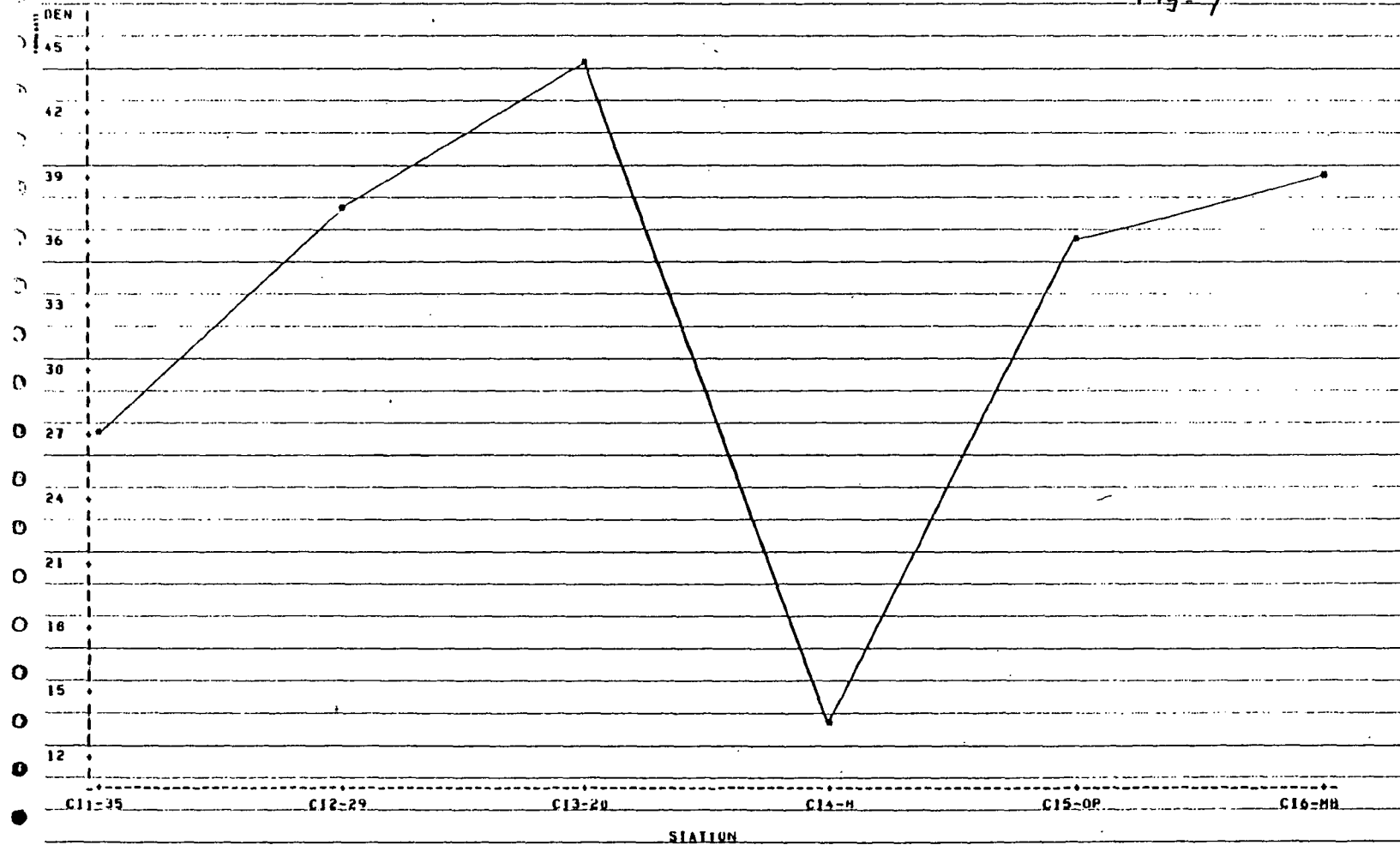


GEOMETRIC MEANS OF C. PERFRINGENS DENSITIES  
CONEY ISLAND BEACHES  
SUMMER 1980

13:36 FRIDAY, APRIL 17, 1981 2

PLOT OF DEN\*STATION SYMBOL USED IS \*

Fig-7



GEOMETRIC MEANS OF C. PERFRINGENS DENSITIES  
STATEN ISLAND BEACHES  
SUMMER 1980

13128 FRIDAY, APRIL 17, 1981 2

PLOT OF DEN\*STATION SYMBOL USED IS \*

Fig = 8

DEN

110

100

90

80

70

60

50

40

30

20

S11-SOU

S12-GRH

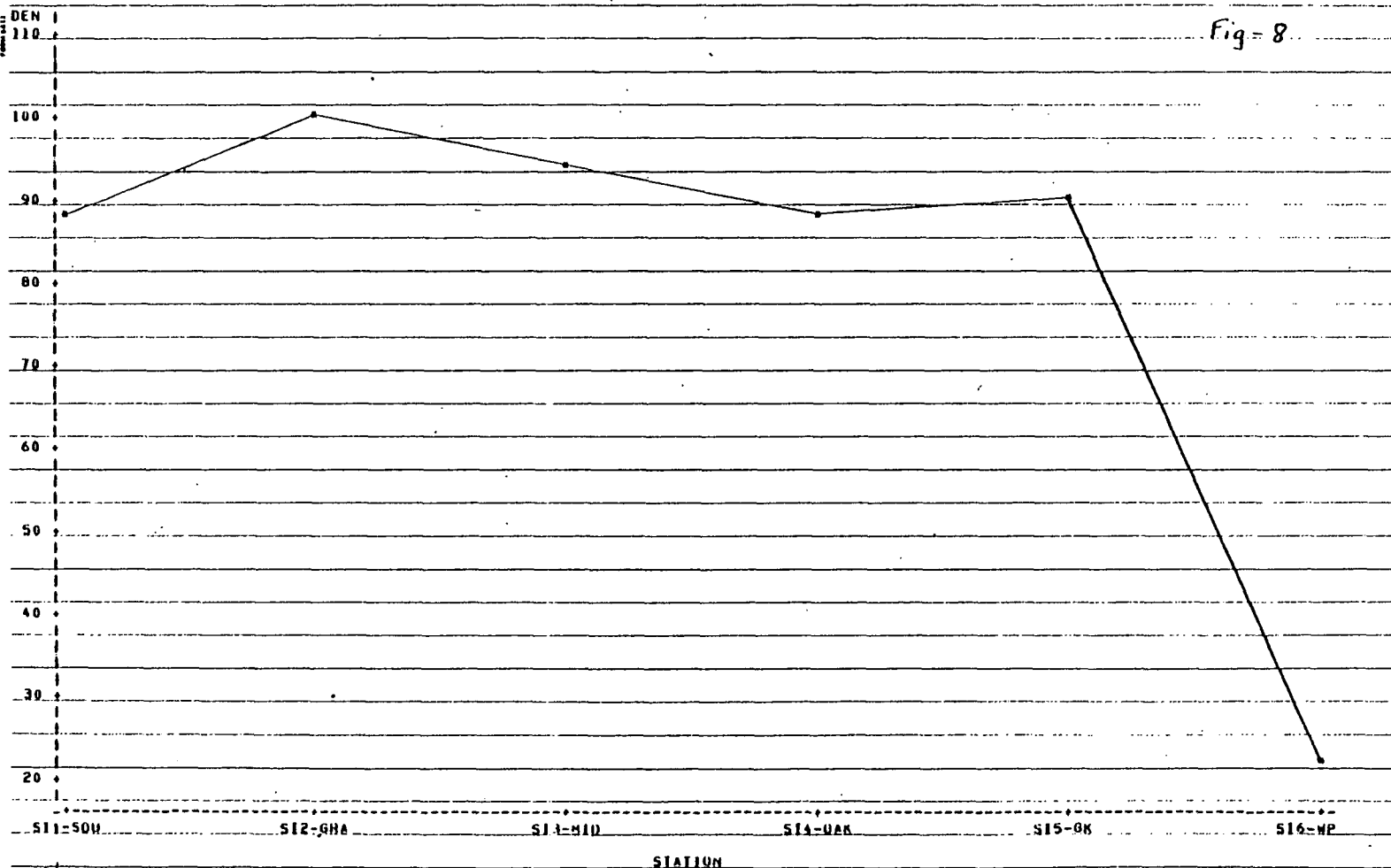
S13-HID

S14-GRK

S15-GRK

S16-WP

STATION



## APPENDIX E

Water Quality in the New York Bight Apex

Summer 1980

STCRET RETRIEVAL CATE 81/03/03  
 NY820 NY8-20  
 40 23 54.0 073 56 03.0 2  
 2 MILES EAST OF SANCY HCGK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK EIGHT SURVEILLANCE  
 1111H030  
 CC47 FEET DEPTH CLASS C0

/TYPA/AMBNT/OCEAN

| CATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CC<br>MG/L | G0010<br>WATER<br>TEMP<br>CENT | 31501<br>TCT CCLI<br>MFIMENDG<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/05/28           | 10 30             | 0002          | 9.8                 | 14.9                           |                                         |                                         |
|                    | 10 30             | 0050          | 7.9                 | 10.0                           |                                         |                                         |
| 80/06/02           | 09 04             | 0002          | 11.6                |                                | C                                       | C                                       |
|                    | 09 04             | 0045          | 7.9                 |                                | 6                                       | 0                                       |
| 80/06/10           | 10 03             | 0002          | 9.3                 |                                | 48                                      | 0                                       |
|                    | 10 03             | 0045          | 7.8                 |                                | 6                                       | C                                       |
| 80/06/14           | 10 40             | 0002          | 9.5                 | 14.9                           |                                         |                                         |
|                    | 10 40             | 0045          | 8.4                 | 13.6                           |                                         |                                         |
| 80/06/16           | 09 12             | 0002          | 8.3                 | 15.3                           | 25                                      | C                                       |
|                    | 09 12             | 0045          | 9.3                 | 12.7                           | 0                                       | 0                                       |
| 80/06/24           | 08 49             | 0002          | 9.5                 | 18.7                           | 3                                       | C                                       |
|                    | 08 49             | 0045          | 7.2                 | 11.6                           | 1                                       | 0                                       |
| 80/06/27           | 08 03             | 0002          | 9.2                 | 18.7                           |                                         |                                         |
|                    | 08 03             | 0045          | 6.2                 | 12.0                           |                                         |                                         |
| 80/07/02           | 08 29             | 0002          | 8.2                 | 18.7                           | 1                                       | 0                                       |
|                    | 08 29             | 0045          | 6.9                 | 14.8                           | 3                                       | C                                       |
| 80/07/05           | 10 00             | 0002          | 7.8                 | 20.5                           |                                         |                                         |
|                    | 10 00             | 0045          | 8.3                 | 18.9                           |                                         |                                         |
| 80/07/07           | 16 13             | 0002          | 9.8                 | 21.0                           | 1                                       | 0                                       |
|                    | 16 13             | 0045          | 7.3                 | 15.2                           | 1                                       | 0                                       |
| 80/07/12           | 10 21             | 0002          | 7.4                 | 19.7                           |                                         |                                         |
|                    | 10 21             | 0045          | 5.9                 | 14.0                           |                                         |                                         |
| 80/07/21           | 13 25             | 0002          | 11.7                | 23.6                           | 4                                       | 3                                       |
|                    | 13 25             | 0045          | 6.2                 | 16.0                           | 4                                       | 1                                       |
| 80/08/01           | 09 29             | 0002          | 7.1                 | 23.2                           | 1                                       | 0                                       |
|                    | 09 29             | 0045          | 6.4                 | 19.9                           | 1                                       | C                                       |
| 80/08/02           | 08 22             | 0002          | 7.3                 | 22.3                           |                                         |                                         |
|                    | 08 22             | 0045          | 6.9                 | 19.3                           |                                         |                                         |
| 80/08/04           | 08 37             | 0002          | 8.0                 | 22.9                           | 2                                       | 2                                       |
|                    | 08 37             | 0045          | 7.1                 | 16.7                           | 2                                       | 0                                       |
| 80/08/09           | 09 43             | 0002          | 7.3                 | 23.2                           |                                         |                                         |
|                    | 09 43             | 0045          | 6.6                 | 16.0                           |                                         |                                         |
| 80/08/13           | 14 21             | 0002          | 10.6                | 23.3                           | C                                       | C                                       |
|                    | 14 21             | 0045          | 7.3                 | 16.7                           | 48                                      | C                                       |
| 80/08/20           | 13 36             | 0002          | 9.3                 | 20.4                           | 7                                       | 0                                       |
|                    | 13 37             | 0045          | 6.9                 | 15.8                           | 1                                       | C                                       |
| 80/08/28           | 13 15             | 0002          | 8.2                 | 23.7                           |                                         |                                         |
|                    | 13 15             | 0045          | 7.4                 | 23.0                           |                                         |                                         |
| 80/09/02           | 12 50             | 0002          | 8.6                 | 22.0                           |                                         |                                         |
|                    | 12 50             | 0045          | 7.1                 | 21.0                           |                                         |                                         |
| 80/09/13           | 08 00             | 0002          | 9.3                 |                                |                                         |                                         |
|                    | 08 00             | 0045          | 4.9                 |                                |                                         |                                         |

SECRET RETRIEVAL DATE 81/03/03  
 NYB20 NYB-20  
 40 23 54.0 073 56 03.0 2  
 2 MILES EAST CF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK NIGHT SURVEILLANCE  
 1111HC30  
 0047 FEET DEPTH CLASS 00

/TYP/A/AMONT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | CC530<br>RESIDUE<br>TOT NFLT<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHC<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/05/28           | 10 30             | 0002          | 20                                   | 0.04K                            | 5.1                           | 0.020K                               |                                 | 0.04                                | 0.020                       | 0.024                              |
|                    | 10 30             | 0050          | 21                                   | 0.1                              | 3.1                           | 0.043                                |                                 | 0.02K                               | 0.020                       | 0.031                              |
| 80/06/02           | 09 04             | 0002          | 12                                   | 0.04                             | 3.9                           | 0.020                                |                                 | 0.02                                | 0.016                       | 0.019                              |
|                    | 09 04             | 0045          | 21                                   | 0.1                              | 3.0                           | 0.020K                               |                                 | 0.02K                               | 0.042                       | 0.032                              |
| 80/06/10           | 10 03             | 0002          | 3                                    | 0.04                             | 3.5                           | 0.020                                |                                 | 0.02                                | 0.018                       | 0.017                              |
|                    | 10 03             | 0045          | 11                                   | 0.2                              |                               | 0.049                                |                                 | 0.02K                               | 0.025                       | 0.035                              |
| 80/06/11           | 14 01             | 0002          |                                      | 0.04K                            |                               | 0.021                                | 0.020K                          |                                     | 0.015                       | 0.013                              |
| 80/06/16           | 09 12             | 0002          | 2                                    | 0.1                              | 2.9                           | 0.020                                |                                 | 0.02                                | 0.031                       | 0.018                              |
|                    | 09 12             | 0045          | 2                                    | 0.2                              | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.022                       | 0.022                              |
| 80/06/18           | 13 25             | 0002          |                                      | 0.1                              |                               | 0.066                                |                                 | 0.02K                               | 0.032                       | 0.023                              |
| 80/06/24           | 08 49             | 0002          | 21                                   | 0.1                              | 3.0                           | 0.037                                |                                 | 0.02                                | 0.038                       | 0.019                              |
|                    | 08 49             | 0045          | 11                                   | 0.3                              | 0.8                           | 0.085                                |                                 | 0.02K                               | 0.035                       | 0.035                              |
| 80/06/25           | 14 25             | 0002          |                                      | 0.1                              |                               | 0.020K                               |                                 | 0.02K                               | 0.030                       | 0.012                              |
| 80/07/01           | 13 08             | 0002          |                                      | 0.2                              |                               | 0.049                                |                                 | 0.02K                               | 0.037                       | 0.029                              |
| 80/07/02           | 08 29             | 0002          | 1                                    | 0.1                              | 3.4                           | 0.020                                |                                 | 0.02                                | 0.029                       | 0.018                              |
|                    | 08 29             | 0045          | 20                                   | 0.2                              | 2.6                           | 0.122                                |                                 | 0.02K                               | 0.054                       | 0.032                              |
| 80/07/07           | 16 13             | 0002          | 41                                   | 0.3                              | 3.1                           | 0.081                                |                                 | 0.02                                | 0.068                       | 0.040                              |
|                    | 16 13             | 0045          | 15                                   | 0.3                              | 2.1                           | 0.020K                               |                                 | 0.02K                               | 0.038                       | 0.033                              |
| 80/07/08           | 09 45             | 0002          |                                      | 0.2                              |                               | 0.021                                |                                 | 0.02K                               | 0.029                       | 0.019                              |
| 80/07/15           | 08 57             | 0002          |                                      | 0.2                              |                               | 0.020K                               |                                 | 0.02K                               | 0.043                       | 0.028                              |
| 80/07/21           | 13 25             | 0002          | 20                                   | 0.4                              | 4.8                           | 0.020                                |                                 | 0.03                                | 0.122                       | 0.038                              |
|                    | 13 25             | 0045          | 10                                   | 0.3                              | 2.9                           | 0.022                                |                                 | 0.02K                               | 0.047                       | 0.025                              |
| 80/07/22           | 10 46             | 0002          |                                      | 0.3                              |                               | 0.020K                               |                                 | 0.02K                               | 0.059                       | 0.022                              |
| 80/08/01           | 09 29             | 0002          | 24                                   | 0.4                              | 2.5                           | 0.076                                |                                 | 0.04                                | 0.067                       | 0.041                              |
|                    | 09 29             | 0045          | 50                                   | 0.3                              | 2.2                           | 0.041                                |                                 | 0.02K                               | 0.039                       | 0.023                              |
| 80/08/04           | 08 37             | 0002          | 3                                    | 0.2                              | 3.5                           | 0.013                                |                                 | 0.04                                | 0.052                       | 0.025                              |
|                    | 08 37             | 0045          | 22                                   | 0.3                              | 1.4                           | 0.026                                |                                 | 0.02K                               | 0.037                       | 0.027                              |
| 80/08/13           | 14 21             | 0002          | 2                                    | 0.04                             | 3.7                           | 0.020                                |                                 | 0.02                                | 0.071                       | 0.031                              |
|                    | 14 21             | 0045          | 17                                   | 0.2                              | 2.1                           | 0.060                                |                                 | 0.02K                               | 0.069                       | 0.035                              |
|                    | 14 22             | 0002          |                                      | 0.04K                            |                               | 0.020K                               |                                 | 0.02K                               | 0.064                       | 0.033                              |
| 80/08/19           | 14 15             | 0002          |                                      | 0.04K                            |                               | 0.042                                |                                 | 0.02                                | 0.049                       | 0.027                              |
| 80/08/20           | 13 36             | 0002          | 9                                    | 0.02                             | 2.4                           | 0.047                                |                                 | 0.09                                | 0.074                       | 0.044                              |
|                    | 13 37             | 0045          | 15                                   | 0.2                              | 1.3                           | 0.071                                |                                 | 0.03                                | 0.045                       | 0.038                              |
| 80/09/02           | 12 50             | 0002          | 35                                   | 0.05                             | 0.9                           | 0.020K                               |                                 | 0.05                                | 0.032                       | 0.017                              |
|                    | 12 50             | 0045          | 5                                    | 0.1                              | 0.8                           | 0.041                                |                                 | 0.05                                | 0.023                       | 0.019                              |



SECRET RETRIEVAL DATE 81/03/03  
 NYB21 NYB-21  
 40 23 54.0 073 53 30.0 2  
 4 MILES EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK EIGHT SURVEILLANCE  
 1111H030  
 0079 FEET DEPTH CLASS 00

/IYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 31501<br>TOT COLI<br>MFIMENDO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/05/28           | 10 55             | 0002          | 9.3                 | 14.8                           |                                         |                                         |
|                    | 10 55             | 0080          | 8.2                 | 9.1                            |                                         |                                         |
| 80/06/02           | 09 11             | 0002          | 10.5                |                                | 3                                       | 0                                       |
|                    | 09 11             | 0076          | 7.9                 |                                | 3                                       | 0                                       |
| 80/06/10           | 10 10             | 0002          | 8.9                 |                                | 13                                      | 0                                       |
|                    | 10 10             | 0076          | 7.9                 |                                | 6                                       | 0                                       |
| 80/06/16           | 09 20             | 0002          | 8.8                 | 14.6                           | 248                                     | 0                                       |
|                    | 09 20             | 0076          | 7.3                 | 10.1                           | 12                                      | 0                                       |
| 80/06/24           | 08 55             | 0002          | 9.4                 | 18.4                           | 1                                       | 0                                       |
|                    | 08 55             | 0076          | 7.3                 | 10.9                           | 0                                       | 0                                       |
| 80/07/02           | 08 34             | 0002          | 8.6                 | 18.1                           | 3                                       | 0                                       |
|                    | 08 34             | 0076          | 7.0                 | 13.2                           | 2                                       | 1                                       |
| 80/07/07           | 16 10             | 0002          | 8.8                 | 20.7                           | 1                                       | 0                                       |
|                    | 16 10             | 0076          | 7.7                 | 13.7                           | 2                                       | 0                                       |
| 80/07/21           | 13 21             | 0002          | 14.9                | 24.1                           | 0                                       | 0                                       |
|                    | 13 21             | 0076          | 5.0                 | 14.3                           | 6                                       | 1                                       |
| 80/08/01           | 09 34             | 0002          | 5.9                 | 22.3                           | 5                                       | 0                                       |
|                    | 09 34             | 0076          | 6.0                 | 14.9                           | 4                                       | 0                                       |
| 80/08/04           | 08 40             | 0002          | 8.0                 | 24.0                           | 4                                       | 1                                       |
|                    | 08 40             | 0076          | 11.9                | 16.8                           | 1                                       | 0                                       |
| 80/08/13           | 14 16             | 0002          | 9.5                 | 22.3                           | 9                                       | 2                                       |
|                    | 14 16             | 0076          | 7.9                 | 16.1                           | 1                                       | 0                                       |
| 80/08/20           | 13 39             | 0002          | 10.1                | 20.0                           | 3                                       | 0                                       |
|                    | 13 41             | 0076          | 6.5                 | 14.3                           | 0                                       | 0                                       |
| 80/08/28           | 12 55             | 0002          | 8.0                 | 23.2                           |                                         |                                         |
|                    | 12 55             | 0076          | 8.0                 | 22.6                           |                                         |                                         |
| 80/09/02           | 12 35             | 0002          | 8.4                 | 22.0                           |                                         |                                         |
|                    | 12 35             | 0076          | 5.5                 | 18.4                           |                                         |                                         |

SECRET RETRIEVAL DATE 81/03/03  
 NYB21 NYB-21  
 40 23 54.0 073 53 30.0 2  
 4 MILES EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK EIGHT SURVEILLANCE  
 1111H030  
 0079 FEET DEPTH CLASS 00

/TTPA/AMBNT/OCEAN

| DATE       | TIME      | DEPTH | 00530<br>RESIDUE<br>TOT NFLT<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHO<br>MG/L P |
|------------|-----------|-------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| FROM<br>TC | OF<br>DAY | FEET  |                                      |                                  |                               |                                      |                                 |                                     |                             |                                    |
| 80/05/28   | 10 55     | 0002  | 16                                   | 0.04K                            | 3.8                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.014                              |
|            | 10 55     | 0080  | 63                                   | 0.1                              | 3.3                           | 0.038                                |                                 | 0.02K                               | 0.020                       | 0.026                              |
| 80/06/02   | 09 11     | 0002  | 22                                   | 0.04K                            | 4.4                           | 0.020K                               |                                 | 0.02K                               | 0.028                       | 0.022                              |
|            | 09 11     | 0076  | 52                                   | 0.1                              | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.061                       | 0.032                              |
| 80/06/10   | 10 10     | 0002  | 15                                   | 0.1                              | 3.8                           | 0.040                                |                                 | 0.02                                | 0.022                       | 0.028                              |
|            | 10 10     | 0076  | 2                                    | 0.3                              | 2.6                           | 0.059                                |                                 | 0.02K                               | 0.025                       | 0.032                              |
| 80/06/16   | 09 20     | 0002  | 6                                    | 0.1                              | 3.5                           | 0.020K                               |                                 | 0.02K                               | 0.027                       | 0.015                              |
|            | 09 20     | 0076  | 8                                    | 0.2                              | 2.8                           | 0.020K                               |                                 | 0.02K                               | 0.035                       | 0.022                              |
| 80/06/24   | 08 55     | 0002  | 14                                   | 0.04K                            | 2.3                           | 0.041                                |                                 | 0.02K                               | 0.030                       | 0.014                              |
|            | 08 55     | 0076  | 20                                   | 0.3                              | 1.3                           | 0.060                                |                                 | 0.02K                               | 0.033                       | 0.031                              |
| 80/07/02   | 08 34     | 0002  | 6                                    | 0.2                              | 3.3                           | 0.020K                               |                                 | 0.02K                               | 0.048                       | 0.032                              |
|            | 08 34     | 0076  | 2                                    | 0.3                              | 1.5                           | 0.020K                               |                                 | 0.02K                               | 0.046                       | 0.036                              |
| 80/07/07   | 16 10     | 0002  | 6                                    | 0.3                              | 7.1                           | 0.082                                |                                 | 0.04                                | 0.066                       | 0.044                              |
|            | 16 10     | 0076  | 14                                   | 0.4                              | 3.2                           | 0.020K                               |                                 | 0.02K                               | 0.040                       | 0.037                              |
| 80/07/21   | 13 21     | 0002  | 20                                   | 0.3                              | 5.1                           | 0.020K                               |                                 | 0.02K                               | 0.109                       | 0.029                              |
|            | 13 21     | 0076  | 2                                    | 0.6                              | 1.8                           | 0.082                                |                                 | 0.02K                               | 0.064                       | 0.041                              |
| 80/08/01   | 09 34     | 0002  | 18                                   | 0.5                              | 3.2                           | 0.114                                |                                 | 0.04                                | 0.070                       | 0.050                              |
|            | 09 34     | 0076  | 20                                   | 0.4                              | 2.3                           | 0.041                                |                                 | 0.02K                               | 0.045                       | 0.030                              |
| 80/08/04   | 08 40     | 0002  | 9                                    | 0.04K                            | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.017                       | 0.010K                             |
|            | 08 40     | 0076  | 12                                   | 0.1                              | 1.0                           | 0.020K                               |                                 | 0.02K                               | 0.027                       | 0.015                              |
| 80/08/13   | 14 16     | 0002  | 5                                    | 0.04                             | 4.6                           | 0.020K                               |                                 | 0.02K                               | 0.069                       | 0.036                              |
|            | 14 16     | 0076  | 8                                    | 0.2                              | 4.2                           | 0.056                                |                                 | 0.02K                               | 0.061                       | 0.031                              |
| 80/08/20   | 13 39     | 0002  | 5                                    | 0.04K                            | 3.0                           | 0.042                                |                                 | 0.04                                | 0.060                       | 0.038                              |
|            | 13 41     | 0076  | 19                                   | 0.3                              | 1.1                           | 0.104                                |                                 | 0.03                                | 0.062                       | 0.048                              |
| 80/09/02   | 12 35     | 0002  | 7                                    | 0.04K                            | 1.2                           | 0.020K                               |                                 | 0.04                                | 0.025                       | 0.015                              |
|            | 12 35     | 0076  | 2                                    | 0.5                              | 2.5                           | 0.115                                |                                 | 0.06                                | 0.045                       | 0.036                              |

SECRET RETRIEVAL DATE 81/03/03  
 NYB22 NYB-22  
 40 23 54.0 073 51 00.0 2  
 6 PILES EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE MUD GROUNDS  
 1111H030  
 0090 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE<br>FRCM<br>TC | TIME<br>GF<br>DAY | DEPTH<br>FEET | 00300<br>CC<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 31501<br>TOT COLI<br>MFIMENDQ<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/05/28           | 11 10             | 0002          | 8.9                 | 14.8                           |                                         |                                         |
|                    | 11 10             | 0066          | 8.3                 | 9.7                            |                                         |                                         |
| 80/06/02           | 09 16             | 0002          | 10.4                |                                | 0                                       | 0                                       |
|                    | 09 16             | 0086          | 7.6                 |                                | 8                                       | 0                                       |
| 80/06/10           | 10 16             | 0002          | 8.7                 |                                | 20                                      | 1                                       |
|                    | 10 16             | 0086          | 7.8                 |                                | 21                                      | 0                                       |
| 80/06/14           | 10 50             | 0002          | 10.0                | 16.8                           |                                         |                                         |
|                    | 10 50             | 0086          | 7.6                 | 9.5                            |                                         |                                         |
| 80/06/16           | 09 25             | 0002          | 8.3                 | 13.7                           | 18                                      | 0                                       |
|                    | 09 25             | 0086          | 7.5                 | 9.6                            | 23                                      | 0                                       |
| 80/06/24           | 08 59             | 0002          | 10.2                | 18.2                           | 0                                       | 0                                       |
|                    | 08 59             | 0086          | 7.2                 | 10.4                           | 0                                       | 0                                       |
| 80/06/27           | 08 08             | 0002          | 10.1                | 18.7                           |                                         |                                         |
|                    | 08 08             | 0086          | 6.6                 | 11.4                           |                                         |                                         |
| 80/07/02           | 08 39             | 0002          | 7.5                 | 17.8                           | 6                                       | 3                                       |
|                    | 08 39             | 0086          | 7.0                 | 12.2                           | 2                                       | 0                                       |
| 80/07/05           | 09 55             | 0002          | 7.9                 | 21.4                           |                                         |                                         |
|                    | 09 55             | 0086          | 7.1                 | 15.5                           |                                         |                                         |
| 80/07/07           | 16 05             | 0002          | 9.3                 | 21.0                           | 0                                       | 0                                       |
|                    | 16 05             | 0086          | 5.5                 | 12.9                           | 48                                      | 0                                       |
| 80/07/12           | 10 15             | 0002          | 8.2                 | 19.9                           |                                         |                                         |
|                    | 10 15             | 0086          | 5.4                 | 12.6                           |                                         |                                         |
| 80/07/21           | 13 19             | 0002          | 11.5                | 23.8                           | 0                                       | 0                                       |
|                    | 13 19             | 0086          | 5.7                 | 12.4                           | 1                                       | 0                                       |
| 80/08/01           | 09 39             | 0002          | 8.0                 | 23.4                           | 0                                       | 0                                       |
|                    | 09 39             | 0086          | 7.4                 | 15.7                           | 1                                       | 0                                       |
| 80/08/02           | 08 31             | 0002          | 8.1                 | 23.0                           |                                         |                                         |
|                    | 08 31             | 0086          | 6.4                 | 14.0                           |                                         |                                         |
| 80/08/04           | 08 44             | 0002          | 7.8                 | 23.9                           | 0                                       | 0                                       |
|                    | 08 44             | 0086          | 8.4                 | 16.8                           | 0                                       | 0                                       |
| 80/08/09           | 09 37             | 0002          | 8.3                 | 23.0                           |                                         |                                         |
|                    | 09 37             | 0086          | 7.3                 | 14.1                           |                                         |                                         |
| 80/08/13           | 14 14             | 0002          | 10.2                | 23.2                           | 0                                       | 0                                       |
|                    | 14 14             | 0086          | 7.1                 | 14.6                           | 8                                       | 0                                       |
| 80/08/20           | 13 43             | 0002          | 9.2                 | 20.3                           | 0                                       | 0                                       |
|                    | 13 43             | 0086          | 8.3                 | 13.8                           | 1                                       | 0                                       |
| 80/08/28           | 12 45             | 0002          | 8.6                 | 23.6                           |                                         |                                         |
|                    | 12 45             | 0086          | 7.9                 | 22.1                           |                                         |                                         |
| 80/09/02           | 12 20             | 0002          | 8.8                 | 22.5                           |                                         |                                         |
|                    | 12 20             | 0086          | 5.4                 | 16.8                           |                                         |                                         |
| 80/09/13           | 08 06             | 0002          | 8.1                 |                                |                                         |                                         |
|                    | 08 06             | 0086          | 4.7                 |                                |                                         |                                         |

SECRET RETRIEVAL DATE 81/03/03  
 NYB22 NYB-22  
 40 23 54.0 073 51 00.0 2  
 6 MILES EAST OF SANDY HOOK ST PK  
 34C25 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE PUD GROUNDS  
 1111H030  
 0090 FEET DEPTH CLASS 00

/T/PA/AMNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00530<br>RESIDUE<br>TOT NFLT<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHO<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/05/28           | 11 10             | 0002          | 15                                   | 0.1                              | 4.9                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.017                              |
|                    | 11 10             | 0066          | 18                                   | 0.1                              | 2.6                           | 0.024                                |                                 | 0.02K                               | 0.020                       | 0.024                              |
| 80/06/02           | 09 16             | 0002          | 13                                   | 0.04K                            | 2.6                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.016                              |
|                    | 09 16             | 0086          | 16                                   | 0.2                              | 2.3                           | 0.020K                               |                                 | 0.02K                               | 0.031                       | 0.032                              |
| 80/06/10           | 10 16             | 0002          | 3                                    | 0.1                              | 7.2                           | 0.077                                |                                 | 0.04                                | 0.035                       | 0.032                              |
|                    | 10 16             | 0086          | 26                                   | 0.2                              | 5.1                           | 0.049                                |                                 | 0.02K                               | 0.037                       | 0.032                              |
| 80/06/11           | 14 08             | 0002          |                                      | 0.04K                            |                               | 0.031                                | 0.020K                          |                                     | 0.017                       | 0.016                              |
| 80/06/16           | 09 25             | 0002          | 18                                   | 0.1                              | 2.6                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.015                              |
|                    | 09 25             | 0086          | 18                                   | 0.3                              | 1.8                           | 0.020K                               |                                 | 0.02K                               | 0.027                       | 0.028                              |
| 80/06/24           | 08 59             | 0002          | 57                                   | 0.04K                            | 3.8                           | 0.066                                |                                 | 0.02K                               | 0.025                       | 0.011                              |
|                    | 08 59             | 0086          | 19                                   | 0.4                              | 2.1                           | 0.079                                |                                 | 0.02K                               | 0.035                       | 0.035                              |
| 80/06/25           | 14 27             | 0002          |                                      | 0.1                              |                               | 0.020K                               |                                 | 0.02K                               | 0.040                       | 0.015                              |
| 80/07/01           | 13 11             | 0002          |                                      | 0.2                              |                               | 0.057                                |                                 | 0.02                                | 0.039                       | 0.029                              |
| 80/07/02           | 08 39             | 0002          | 10                                   | 0.2                              | 2.9                           | 0.088                                |                                 | 0.03                                | 0.058                       | 0.046                              |
|                    | 08 39             | 0086          | 45                                   | 0.3                              | 3.0                           | 0.020K                               |                                 | 0.02K                               | 0.058                       | 0.034                              |
| 80/07/07           | 16 05             | 0002          | 14                                   | 0.2                              | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.047                       | 0.033                              |
|                    | 16 05             | 0086          | 54                                   | 0.4                              | 2.0                           | 0.039                                |                                 | 0.02K                               | 0.050                       | 0.049                              |
| 80/07/08           | 09 49             | 0002          |                                      | 0.3                              |                               | 0.041                                |                                 | 0.02K                               | 0.039                       | 0.027                              |
| 80/07/15           | 08 59             | 0002          |                                      | 0.2                              |                               | 0.020K                               |                                 | 0.02K                               | 0.066                       | 0.037                              |
| 80/07/21           | 13 19             | 0002          | 22                                   | 0.2                              | 3.1                           | 0.020K                               |                                 | 0.02K                               | 0.080                       | 0.023                              |
|                    | 13 19             | 0086          | 43                                   | 0.7                              | 1.4                           | 0.067                                |                                 | 0.02K                               | 0.051                       | 0.033                              |
| 80/07/22           | 10 49             | 0002          |                                      | 0.3                              |                               | 0.020K                               |                                 | 0.02K                               | 0.066                       | 0.024                              |
| 80/08/01           | 09 39             | 0002          | 16                                   | 0.04K                            | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.010K                      | 0.010K                             |
|                    | 09 39             | 0086          | 6                                    | 0.3                              | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.016                              |
| 80/08/04           | 08 44             | 0002          | 13                                   | 0.04K                            | 1.1                           | 0.020K                               |                                 | 0.02K                               | 0.013                       | 0.010K                             |
|                    | 08 44             | 0086          | 3                                    | 0.1                              | 1.2                           | 0.020K                               |                                 | 0.02K                               | 0.027                       | 0.015                              |
| 80/08/13           | 14 14             | 0002          | 20                                   | 0.04K                            | 5.8                           | 0.020K                               |                                 | 0.02K                               | 0.059                       | 0.027                              |
|                    | 14 14             | 0086          | 50                                   | 0.3                              | 2.9                           | 0.073                                |                                 | 0.02K                               | 0.041                       | 0.036                              |
|                    | 14 15             | 0002          |                                      | 0.04K                            |                               | 0.020K                               |                                 | 0.02K                               | 0.054                       | 0.027                              |
| 80/08/19           | 14 17             | 0002          |                                      | 0.04K                            |                               | 0.042                                |                                 | 0.03                                | 0.056                       | 0.033                              |
| 80/08/20           | 13 43             | 0002          | 3                                    | 0.04K                            | 2.0                           | 0.052                                |                                 | 0.03                                | 0.038                       | 0.025                              |
|                    | 13 45             | 0086          | 48                                   | 0.3                              | 1.1                           | 0.104                                |                                 | 0.03                                | 0.053                       | 0.044                              |
| 80/09/02           | 12 20             | 0002          | 15                                   | 0.04K                            | 2.6                           | 0.020K                               |                                 | 0.04                                | 0.023                       | 0.015                              |
|                    | 12 20             | 0086          | 13                                   | 0.5                              | 2.8                           | 0.117                                |                                 | 0.05                                | 0.036                       | 0.038                              |

SECRET RETRIEVAL DATE 81/03/03  
 NYB23 NYB-23  
 40 23 54.0 073 49 12.0 2  
 7.4MI EAST OF SANDY HCRK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YCRK BIGHT SURVEILLANCE CELLAR CRT  
 1111H030  
 0100 FEET DEPTH CLASS 00

/TYP/A/MBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 | 31501    | 31613    |
|----------|-------|-------|-------|-------|----------|----------|
| FRCM     | OF    |       | CO    | WATER | TOT COLI | FEC COLI |
| TC       | CAY   | FEET  | MG/L  | TEMP  | MFIMENDO | M-FCAGAR |
|          |       |       |       | CENT  | /100ML   | /100ML   |
| 80/05/28 | 11 30 | 0002  | 9.0   | 14.8  |          |          |
|          | 11 30 | 0105  | 7.6   | 9.2   |          |          |
| 80/06/02 | 09 21 | 0002  | 10.3  |       | C        | C        |
|          | 09 21 | 0103  | 8.3   |       | 35       | 1        |
| 80/06/10 | 10 23 | 0002  | 8.9   |       | 10       | 0        |
|          | 10 23 | 0103  | 8.1   |       | 128      | C        |
| 80/06/16 | 09 30 | 0002  | 11.3  | 14.5  | 6        | 0        |
|          | 09 30 | 0103  | 7.0   | 9.8   | 29       | 0        |
| 80/06/24 | 09 03 | 0002  | 9.7   | 17.9  | 0        | 0        |
|          | 09 03 | 0103  | 7.5   | 10.3  | 0        | C        |
| 80/07/02 | 08 42 | 0002  | 7.9   | 18.7  | 3        | 1        |
|          | 08 42 | 0103  | 6.5   | 11.3  | 38       | 3        |
| 80/07/07 | 16 00 | 0002  | 8.1   | 21.1  | 0        | 0        |
|          | 16 00 | 0103  | 6.0   | 12.3  | 4        | C        |
| 80/07/21 | 13 16 | 0002  | 10.7  | 24.3  | 1        | 0        |
|          | 13 16 | 0103  | 5.7   | 13.3  | 1        | C        |
| 80/08/01 | 09 41 | 0002  | 7.9   | 23.5  | 0        | C        |
|          | 09 41 | 0103  | 6.7   | 13.2  | 16       | 1        |
| 80/08/04 | 08 48 | 0002  | 7.7   | 23.9  | 0        | 0        |
|          | 08 48 | 0103  | 6.0   | 14.1  | 2        | 0        |
| 80/08/13 | 14 09 | 0002  | 10.0  | 23.2  | C        | C        |
|          | 14 09 | 0103  | 6.4   | 14.2  | 0        | C        |
| 80/08/20 | 13 47 | 0002  | 8.3   | 20.4  | 4        | 0        |
|          | 13 48 | 0103  | 5.5   | 13.7  | 0        | 0        |
| 80/08/28 | 12 15 | 0002  | 7.6   | 23.7  |          |          |
|          | 12 15 | 0103  | 7.5   | 19.9  |          |          |
| 80/09/02 | 12 05 | 0002  | 8.5   | 22.4  |          |          |
|          | 12 05 | 0103  | 6.6   | 16.7  |          |          |

SECRET RETRIEVAL DATE 81/03/03  
 NYB23 NYB-23  
 40 23 54.0 073 49 12.0 2  
 7.4MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE CELLAR DIRT  
 1111H030

/TYP/A/AMONT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00530<br>RESIDUE<br>TOT NFLY<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2+NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>ORTHO<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/05/28           | 11 30             | 0002          | 18                                   | 0.1                              | 9.5                           | 0.02CK                               |                                 | 0.02K                               | 0.018                       | 0.019                              |
|                    | 11 30             | 0105          | 20                                   | 0.1                              | 3.4                           | 0.043                                |                                 | 0.02K                               | 0.026                       | 0.033                              |
| 80/06/02           | 09 21             | 0002          | 19                                   | 0.04K                            | 4.9                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.016                              |
|                    | 09 21             | 0103          | 25                                   | 0.1                              | 2.5                           | 0.020K                               |                                 | 0.02K                               | 0.028                       | 0.034                              |
| 80/06/10           | 10 23             | 0002          | 10                                   | 0.1                              | 4.0                           | 0.031                                |                                 | 0.02K                               | 0.022                       | 0.025                              |
|                    | 10 23             | 0103          | 1                                    | 0.3                              | 3.6                           | 0.049                                |                                 | 0.02K                               | 0.025                       | 0.030                              |
| 80/06/16           | 09 30             | 0002          | 3                                    | 0.1                              | 3.1                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.022                              |
|                    | 09 30             | 0103          | 3                                    | 0.4                              | 2.9                           | 0.020K                               |                                 | 0.02K                               | 0.030                       | 0.028                              |
| 80/06/24           | 09 03             | 0002          | 24                                   | 0.1                              | 3.3                           | 0.028                                |                                 | 0.02K                               | 0.020                       | 0.011                              |
|                    | 09 03             | 0103          | 80                                   | 0.5                              | 4.5                           | 0.098                                |                                 | 0.02K                               | 0.227                       | 0.042                              |
| 80/07/02           | 08 42             | 0002          | 6                                    | 0.2                              | 3.1                           | 0.059                                |                                 | 0.02K                               | 0.054                       | 0.036                              |
|                    | 08 42             | 0103          | 7                                    | 0.4                              | 2.7                           | 0.020K                               |                                 | 0.02K                               | 0.054                       | 0.048                              |
| 80/07/07           | 16 00             | 0002          | 15                                   | 0.1                              | 2.3                           | 0.02CK                               |                                 | 0.02K                               | 0.028                       | 0.021                              |
|                    | 16 00             | 0103          | 47                                   | 0.6                              | 1.6                           | 0.044                                |                                 | 0.02K                               | 0.045                       | 0.044                              |
| 80/07/21           | 13 16             | 0002          | 7                                    | 0.1                              | 2.9                           | 0.020K                               |                                 | 0.02K                               | 0.066                       | 0.019                              |
|                    | 13 16             | 0103          | 12                                   | 0.8                              | 2.1                           | 0.067                                |                                 | 0.02K                               | 0.051                       | 0.033                              |
| 80/08/01           | 09 41             | 0002          | 22                                   | 0.04K                            | 2.5                           | 0.02CK                               |                                 | 0.02K                               | 0.010                       | 0.010K                             |
|                    | 09 41             | 0103          | 39                                   | 0.3                              | 2.3                           | 0.02CK                               |                                 | 0.02K                               | 0.029                       | 0.023                              |
| 80/08/04           | 08 48             | 0002          | 6                                    | 0.04K                            | 2.3                           | 0.02CK                               |                                 | 0.02K                               | 0.013                       | 0.010K                             |
|                    | 08 48             | 0103          | 38                                   | 0.5                              | 3.5                           | 0.061                                |                                 | 0.02K                               | 0.078                       | 0.037                              |
| 80/08/13           | 14 09             | 0002          | 3                                    | 0.04K                            | 7.5                           | 0.020K                               |                                 | 0.02K                               | 0.049                       | 0.019                              |
|                    | 14 09             | 0103          | 13                                   | 0.4                              | 2.8                           | 0.081                                |                                 | 0.02K                               | 0.043                       | 0.035                              |
| 80/08/20           | 13 47             | 0002          | 2                                    | 0.04K                            | 1.9                           | 0.066                                |                                 | 0.03                                | 0.040                       | 0.027                              |
|                    | 13 48             | 0103          | 17                                   | 0.3                              | 1.9                           | 0.132                                |                                 | 0.03                                | 0.065                       | 0.050                              |
| 80/09/02           | 12 05             | 0002          | 2                                    | 0.04K                            | 1.5                           | 0.020K                               |                                 | 0.04                                | 0.036                       | 0.015                              |
|                    | 12 05             | 0103          | 2                                    | 0.6                              | 0.7                           | 0.091                                |                                 | 0.06                                | 0.036                       | 0.032                              |

SECRET RETRIEVAL DATE 81/03/03  
 NYB24 NYB-24  
 40 23 54.0 073 47 30.0 2  
 8.6MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030  
 0123 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 31501<br>TOT COLI<br>MFIMENDO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/05/28           | 11 55             | 0002          | 9.0                 | 14.7                           |                                         |                                         |
|                    | 11 55             | 0126          | 7.3                 | 9.5                            |                                         |                                         |
| 80/06/02           | 09 26             | 0002          | 9.9                 |                                | 1                                       | 0                                       |
|                    | 09 26             | 0123          | 8.5                 |                                | 24                                      | 0                                       |
| 80/06/10           | 10 30             | 0002          | 9.9                 |                                | 0                                       | 0                                       |
|                    | 10 30             | 0123          | 8.4                 |                                | 4                                       | 0                                       |
| 80/06/14           | 11 00             | 0002          | 11.0                | 16.2                           |                                         |                                         |
|                    | 11 00             | 0123          | 8.1                 | 10.4                           |                                         |                                         |
| 80/06/16           | 09 35             | 0002          | 10.9                | 14.8                           | 14                                      | 0                                       |
|                    | 09 35             | 0123          | 8.1                 | 10.0                           | 5                                       | 0                                       |
| 80/06/24           | 09 07             | 0002          | 9.5                 | 17.9                           | 0                                       | 0                                       |
|                    | 09 07             | 0123          | 8.9                 | 10.4                           | 2                                       | 0                                       |
| 80/06/27           | 08 14             | 0002          | 10.5                | 19.5                           |                                         |                                         |
|                    | 08 14             | 0123          | 7.9                 | 10.5                           |                                         |                                         |
| 80/07/02           | 09 30             | 0002          | 8.0                 | 19.5                           | 0                                       | 0                                       |
|                    | 09 30             | 0123          | 5.7                 | 10.7                           | 92                                      | 11                                      |
| 80/07/05           | 09 50             | 0002          | 9.2                 | 21.2                           |                                         |                                         |
|                    | 09 50             | 0123          |                     | 14.8                           |                                         |                                         |
| 80/07/07           | 15 56             | 0002          | 8.2                 | 21.3                           | 0                                       | 0                                       |
|                    | 15 56             | 0123          | 6.4                 | 12.0                           | 17                                      | 0                                       |
| 80/07/12           | 10 10             | 0002          | 8.4                 | 20.0                           |                                         |                                         |
|                    | 10 10             | 0123          | 5.9                 |                                |                                         |                                         |
| 80/07/21           | 13 14             | 0002          | 10.0                | 22.4                           | 0                                       | 0                                       |
|                    | 13 14             | 0123          | 7.8                 | 12.6                           | 42                                      | 0                                       |
| 80/08/01           | 09 46             | 0002          | 7.8                 | 23.3                           | 0                                       | 0                                       |
|                    | 09 46             | 0123          | 6.1                 | 13.7                           | 80                                      | 1                                       |
| 80/08/02           | 08 37             | 0002          | 7.9                 | 22.9                           |                                         |                                         |
|                    | 08 37             | 0123          | 7.1                 | 14.3                           |                                         |                                         |
| 80/08/04           | 08 53             | 0002          | 7.7                 | 24.0                           | 0                                       | 0                                       |
|                    | 08 53             | 0123          | 5.6                 | 13.4                           | 43                                      | 7                                       |
| 80/08/09           | 09 33             | 0002          | 7.3                 | 24.8                           |                                         |                                         |
|                    | 09 33             | 0123          | 7.1                 | 13.9                           |                                         |                                         |
| 80/08/13           | 14 06             | 0002          | 11.8                | 23.8                           | 0                                       | 0                                       |
|                    | 14 06             | 0123          | 6.4                 | 14.2                           | 0                                       | 0                                       |
| 80/08/20           | 13 52             | 0002          | 7.8                 | 20.4                           | 0                                       | 0                                       |
|                    | 13 53             | 0123          | 7.5                 | 13.3                           | 160                                     | 10                                      |
| 80/08/28           | 11 40             | 0002          | 7.6                 | 23.4                           |                                         |                                         |
|                    | 11 40             | 0123          | 5.9                 | 18.4                           |                                         |                                         |
| 80/09/02           | 11 55             | 0002          | 8.4                 | 22.4                           |                                         |                                         |
|                    | 11 55             | 0123          | 6.7                 | 13.7                           |                                         |                                         |
| 80/09/13           | 08 11             | 0002          | 7.5                 |                                |                                         |                                         |
|                    | 08 11             | 0123          | 7.7                 |                                |                                         |                                         |

STCRET RETRIEVAL DATE 81/03/03  
 NYB24 NYB-24  
 40 23 54.0 073 47 30.0 2  
 8.6MI EAST CF SANDY HOOK ST PK  
 34G25 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030  
 0123 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | Q0530<br>RESIDUE<br>TOT AFLT<br>MG/L | Q0956<br>SILICA<br>TOTAL<br>MG/L | Q0680<br>T ORG C<br>C<br>MG/L | Q0610<br>NH3+NH4-<br>N TOTAL<br>MG/L | Q0620<br>NO3-N<br>TOTAL<br>MG/L | Q0630<br>NC2&NO3<br>N-TOTAL<br>MG/L | Q0665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>ORTHO<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/05/28           | 11 55             | 0002          | 26                                   | 0.1                              | 3.1                           | 0.020K                               |                                 | 0.02K                               | 0.018                       | 0.017                              |
|                    | 11 55             | 0126          | 11                                   | 0.1                              | 2.6                           | 0.043                                |                                 | 0.02K                               | 0.023                       | 0.036                              |
| 80/06/02           | 09 26             | 0002          | 19                                   | 0.04K                            | 3.8                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.016                              |
|                    | 09 26             | 0123          | 55                                   | 0.1                              | 2.1                           | 0.020K                               |                                 | 0.02K                               | 0.023                       | 0.029                              |
| 80/06/10           | 10 30             | 0002          | 1                                    | 0.04K                            | 4.8                           | 0.020K                               |                                 | 0.02K                               | 0.030                       | 0.018                              |
|                    | 10 30             | 0123          | 20                                   | 0.3                              | 4.8                           | 0.031                                |                                 | 0.02K                               | 0.030                       | 0.020                              |
| 80/06/16           | 09 35             | 0002          | 46                                   | 0.1                              | 2.9                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.017                              |
|                    | 09 35             | 0123          | 3                                    | 0.2                              | 1.4                           | 0.020K                               |                                 | 0.02K                               | 0.030                       | 0.025                              |
| 80/06/24           | 09 07             | 0002          | 82                                   | 0.1                              | 3.8                           | 0.060                                |                                 | 0.02K                               | 0.018                       | 0.010K                             |
|                    | 09 07             | 0123          | 46                                   | 0.4                              | 3.6                           | 0.054                                |                                 | 0.02K                               | 0.033                       | 0.028                              |
| 80/07/02           | 09 30             | 0002          | 1                                    | 0.2                              | 2.6                           | 0.020K                               |                                 | 0.02K                               | 0.044                       | 0.032                              |
|                    | 09 30             | 0123          | 18                                   | 0.4                              | 2.6                           | 0.034                                |                                 | 0.02K                               | 0.123                       | 0.062                              |
| 80/07/07           | 15 56             | 0002          | 7                                    | 0.1                              | 2.2                           | 0.020K                               |                                 | 0.02K                               | 0.028                       | 0.019                              |
|                    | 15 56             | 0123          | 13                                   | 0.5                              | 1.8                           | 0.039                                |                                 | 0.02K                               | 0.052                       | 0.044                              |
| 80/07/21           | 13 14             | 0002          | 8                                    | 0.05                             | 2.9                           | 0.020K                               |                                 | 0.02K                               | 0.051                       | 0.010K                             |
|                    | 13 14             | 0123          | 10                                   | 0.6                              | 1.8                           | 0.062                                |                                 | 0.02K                               | 0.072                       | 0.043                              |
| 80/08/01           | 09 46             | 0002          | 18                                   | 0.04K                            | 1.9                           | 0.020K                               |                                 | 0.02K                               | 0.010                       | 0.010K                             |
|                    | 09 46             | 0123          | 41                                   | 0.4                              | 2.2                           | 0.054                                |                                 | 0.02K                               | 0.063                       | 0.038                              |
| 80/08/04           | 08 53             | 0002          | 4                                    | 0.04K                            | 1.0                           | 0.020K                               |                                 | 0.02K                               | 0.013                       | 0.010K                             |
|                    | 08 53             | 0123          | 17                                   | 0.4                              | 1.0                           | 0.070                                |                                 | 0.02K                               | 0.097                       | 0.061                              |
| 80/08/13           | 14 06             | 0002          | 3                                    | 0.04K                            | 4.8                           | 0.020K                               |                                 | 0.02K                               | 0.059                       | 0.019                              |
|                    | 14 06             | 0123          | 3                                    | 0.4                              | 2.8                           | 0.073                                |                                 | 0.02K                               | 0.059                       | 0.036                              |
| 80/08/20           | 13 52             | 0002          | 31                                   | 0.04                             | 1.1                           | 0.042                                |                                 | 0.03                                | 0.029                       | 0.021                              |
|                    | 13 53             | 0123          | 23                                   | 0.2                              | 1.1                           | 0.047                                |                                 | 0.03                                | 0.083                       | 0.042                              |
| 80/09/02           | 11 55             | 0002          | 20                                   | 0.04K                            | 1.0                           | 0.026                                |                                 | 0.05                                | 0.023                       | 0.017                              |
|                    | 11 55             | 0123          | 9                                    | 0.5                              | 0.6                           | 0.087                                |                                 | 0.10                                | 0.037                       | 0.034                              |



SECRET RETRIEVAL DATE 81/03/03

NYB25 NYB-25

40 23 54.0 073 45 00.0 2

10.6MI EAST OF SANCY HOOK ST PK

34025 NEW JERSEY

ATLANTIC OCEAN

NEW YORK BIGHT SURVEILLANCE SGE SLUDGE G

1111H030

/TYP/AMBNT/OCEAN

0078 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 31501<br>TOT COLI<br>MFIMENDQ<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/05/28           | 12 25             | 0002          | 9.0                 | 14.7                           |                                         |                                         |
|                    | 12 25             | 0075          | 8.5                 | 9.5                            |                                         |                                         |
| 80/06/02           | 09 29             | 0002          | 8.7                 |                                | 2                                       | 0                                       |
|                    | 09 29             | 0076          | 8.9                 |                                | 43                                      | 0                                       |
| 80/06/10           | 10 35             | 0002          | 9.0                 |                                | 0                                       | 0                                       |
|                    | 10 35             | 0076          | 8.8                 |                                | 120                                     | 0                                       |
| 80/06/16           | 09 39             | 0002          |                     |                                | 128                                     | 4K                                      |
|                    | 09 39             | 0076          | 7.9                 | 10.2                           | 260                                     | 9                                       |
| 80/06/24           | 09 11             | 0002          | 9.0                 | 18.1                           | 140                                     | 1                                       |
|                    | 09 11             | 0076          | 7.3                 | 11.1                           | 3                                       | 0                                       |
| 80/07/02           | 09 34             | 0002          | 8.2                 | 19.6                           | 0                                       | 1                                       |
|                    | 09 34             | 0076          | 7.0                 | 12.7                           | 17208                                   | 108                                     |
| 80/07/07           | 15 53             | 0002          | 8.6                 | 21.2                           | 0                                       | 0                                       |
|                    | 15 53             | 0076          | 5.0                 | 13.0                           | 55                                      | 3                                       |
| 80/07/21           | 13 10             | 0002          | 9.4                 | 23.1                           | 0                                       | 0                                       |
|                    | 13 10             | 0076          | 5.1                 | 13.7                           | 46                                      | 1                                       |
| 80/08/01           | 09 50             | 0002          | 7.8                 | 23.3                           | 96                                      | 12                                      |
|                    | 09 50             | 0076          | 6.9                 | 16.1                           | 3                                       | 2                                       |
| 80/08/04           | 08 56             | 0002          | 7.5                 | 24.1                           | 0                                       | 0                                       |
|                    | 08 56             | 0076          | 7.6                 | 14.7                           | 88                                      | 2                                       |
| 80/08/13           | 14 02             | 0002          | 9.3                 | 24.1                           | 0                                       | 0                                       |
|                    | 14 02             | 0076          | 7.2                 | 14.6                           | 228                                     | 2                                       |
| 80/08/20           | 13 55             | 0002          | 7.9                 | 20.0                           | 0                                       | 0                                       |
|                    | 13 56             | 0076          | 7.5                 | 13.4                           | 1420                                    | 38                                      |
| 80/08/27           | 13 00             | 0002          | 7.4                 | 24.0                           |                                         |                                         |
|                    | 13 00             | 0076          | 6.5                 | 19.3                           |                                         |                                         |
| 80/09/02           | 11 40             | 0002          | 8.3                 | 23.0                           |                                         |                                         |
|                    | 11 40             | 0076          | 6.0                 | 15.1                           |                                         |                                         |

SECRET RETRIEVAL DATE 81/03/03  
 NYB25 NYB-25  
 40 23 54.0 073 45 00.0 2  
 10.6MI EAST OF SANDY HOOK ST PK  
 34C25 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK EIGHT SURVEILLANCE SGE SLUDGE G  
 1111H030  
 0078 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00530<br>RESIDUE<br>TOT KFLT<br>MG/L | 00956<br>SILICA<br>TCTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHG<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/05/28           | 12 25             | 0002          | 17                                   | 0.1                              | 1.8                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.019                              |
|                    | 12 25             | 0075          | 20                                   | 0.05                             | 2.8                           | 0.020K                               |                                 | 0.02K                               | 0.023                       | 0.024                              |
| 80/06/02           | 09 29             | 0002          | 19                                   | 0.1                              | 2.7                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.019                              |
|                    | 09 29             | 0076          | 15                                   | 0.1                              | 2.3                           | 0.020K                               |                                 | 0.02K                               | 0.026                       | 0.032                              |
| 80/06/10           | 10 35             | 0002          | 7                                    | 0.04                             | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.022                       | 0.018                              |
|                    | 10 35             | 0076          | 7                                    | 0.2                              | 3.6                           | 0.021                                |                                 | 0.02K                               | 0.032                       | 0.028                              |
| 80/06/16           | 09 39             | 0002          | 2                                    | 0.1                              | 2.8                           | 0.020K                               |                                 | 0.02K                               | 0.022                       | 0.081                              |
|                    | 09 39             | 0076          | 17                                   | 0.1                              | 4.2                           | 0.020K                               |                                 | 0.02K                               | 0.253                       | 0.076                              |
| 80/06/24           | 09 11             | 0002          | 15                                   | 0.1                              | 3.9                           | 0.085                                |                                 | 0.02K                               | 0.015                       | 0.010K                             |
|                    | 09 11             | 0076          | 16                                   | 0.2                              | 1.9                           | 0.047                                |                                 | 0.02K                               | 0.063                       | 0.045                              |
| 80/07/02           | 09 34             | 0002          | 10                                   | 0.05                             | 2.1                           | 0.020K                               |                                 | 0.02K                               | 0.027                       | 0.022                              |
|                    | 09 34             | 0076          | 46                                   | 0.3                              | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.054                       | 0.043                              |
| 80/07/07           | 15 53             | 0002          | 59                                   | 0.1                              | 1.2                           | 0.020K                               |                                 | 0.02K                               | 0.031                       | 0.021                              |
|                    | 15 53             | 0076          | 34                                   | 0.4                              | 3.8                           | 0.044                                |                                 | 0.02K                               | 0.092                       | 0.081                              |
| 80/07/21           | 13 10             | 0002          | 18                                   | 0.04K                            | 2.1                           | 0.020K                               |                                 | 0.02K                               | 0.047                       | 0.010K                             |
|                    | 13 10             | 0076          | 18                                   | 0.6                              | 1.9                           | 0.052                                |                                 | 0.02K                               | 0.061                       | 0.039                              |
| 80/08/01           | 09 50             | 0002          | 20                                   | 0.04K                            | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.010                       | 0.010K                             |
|                    | 09 50             | 0076          | 20                                   | 0.2                              | 2.9                           | 0.020K                               |                                 | 0.02K                               | 0.094                       | 0.032                              |
| 80/08/04           | 08 56             | 0002          | 5                                    | 0.04K                            | 1.4                           | 0.020K                               |                                 | 0.02K                               | 0.013                       | 0.010K                             |
|                    | 08 56             | 0076          | 28                                   | 0.1                              | 1.7                           | 0.020K                               |                                 | 0.02K                               | 0.088                       | 0.035                              |
| 80/08/13           | 14 02             | 0002          | 12                                   | 0.04K                            | 7.2                           | 0.073                                |                                 | 0.02K                               | 0.041                       | 0.019                              |
|                    | 14 02             | 0076          | 22                                   | 0.1                              | 7.8                           | 0.035                                |                                 | 0.02K                               | 0.175                       | 0.054                              |
| 80/08/20           | 13 55             | 0002          | 12                                   | 0.1                              | 1.2                           | 0.037                                |                                 | 0.03                                | 0.029                       | 0.021                              |
|                    | 13 56             | 0076          | 56                                   | 0.2                              | 1.8                           | 0.047                                |                                 | 0.03                                | 0.118                       | 0.040                              |
| 80/09/02           | 11 40             | 0002          | 30                                   | 0.04K                            | 1.0                           | 0.020K                               |                                 | 0.04                                | 0.025                       | 0.017                              |
|                    | 11 40             | 0076          | 3                                    | 0.5                              | 2.3                           | 0.078                                |                                 | 0.05                                | 0.068                       | 0.040                              |

SECRET RETRIEVAL DATE 81/03/03

NY826 NYE-26

40 23 54.0 073 43 15.0 2

12MI EAST OF SANDY HOOK ST PK

34025 NEW JERSEY

ATLANTIC OCEAN

NEW YCRK BIGHT SURVEILLANCE SGE SLUDGE G

1111H030

/TYP/AMBNT/OCEAN

0078 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>DO<br>MG/L | COC10<br>WATER<br>TEMP<br>CENT | 31501<br>TOT COLI<br>MFIMENDO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/05/28           | 12 50             | 0002          | 9.2                 | 14.6                           |                                         |                                         |
|                    | 12 50             | 0077          | 8.8                 | 8.9                            |                                         |                                         |
| 80/06/02           | 09 34             | 0002          | 8.7                 |                                | 24                                      | 0                                       |
|                    | 09 34             | 0076          | 8.7                 |                                | 16                                      | 1                                       |
| 80/06/10           | 10 39             | 0002          | 9.2                 |                                | 48                                      | 0                                       |
|                    | 10 39             | 0076          | 9.0                 |                                | 520                                     | 1                                       |
| 80/06/16           | 09 45             | 0002          | 9.7                 | 14.9                           | 11                                      | 0                                       |
|                    | 09 45             | 0076          | 7.9                 | 9.9                            | 480                                     | 0                                       |
| 80/06/24           | 09 15             | 0002          | 8.6                 | 18.4                           | 1                                       | 0                                       |
|                    | 09 15             | 0076          | 7.7                 | 12.0                           | 232                                     | 3                                       |
| 80/07/02           | 09 39             | 0002          | 8.1                 | 19.6                           | 5                                       | 0                                       |
|                    | 09 39             | 0076          | 6.8                 | 12.6                           | 4                                       | 1                                       |
| 80/07/07           | 15 45             | 0002          | 8.1                 | 21.1                           | 0                                       | 0                                       |
|                    | 15 45             | 0076          | 7.4                 | 13.9                           | 72                                      | 7                                       |
| 80/07/21           | 13 05             | 0002          | 9.0                 | 23.5                           | 0                                       | 0                                       |
|                    | 13 05             | 0076          | 6.9                 | 13.0                           | 144                                     | 1                                       |
| 80/08/01           | 09 54             | 0002          | 8.6                 | 23.4                           | 0                                       | 0                                       |
|                    | 09 54             | 0076          | 6.6                 | 14.3                           | 51                                      | 2                                       |
| 80/08/04           | 09 03             | 0002          | 7.6                 | 24.1                           | 0                                       | 0                                       |
|                    | 09 03             | 0076          | 7.8                 | 13.8                           | 1                                       | 1                                       |
| 80/08/13           | 13 59             | 0002          | 8.1                 | 24.3                           | 0                                       | 0                                       |
|                    | 13 59             | 0076          | 7.3                 | 15.8                           | 30                                      | 0                                       |
| 80/08/20           | 13 57             | 0002          | 7.9                 | 20.2                           | 0                                       | 0                                       |
|                    | 13 58             | 0076          | 8.4                 | 14.6                           | 2                                       | 0                                       |
| 80/08/27           | 12 45             | 0002          | 7.5                 | 23.5                           |                                         |                                         |
|                    | 12 45             | 0076          | 7.5                 | 21.9                           |                                         |                                         |

STCRET RETRIEVAL DATE 81/03/03  
 NYB26 NYB-26  
 40 23 54.0 073 43 15.0 2  
 12MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YCRK BIGHT SURVEILLANCE SGE SLUDGE G  
 1111H030  
 CC78 FEET DEPTH CLASS 00

/TYPA/APBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00530<br>RESIDUE<br>TOT NFLT<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHO<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/05/28           | 12 50             | 0002          | 6                                    | 0.1                              | 5.9                           | 0.030                                |                                 | 0.02K                               | 0.015                       | 0.019                              |
|                    | 12 50             | 0077          | 19                                   | 0.05                             | 4.8                           | 0.020K                               |                                 | 0.02K                               | 0.026                       | 0.026                              |
| 80/06/02           | 09 34             | 0002          | 21                                   | 0.1                              | 2.3                           | 0.020K                               |                                 | 0.02K                               | 0.018                       | 0.022                              |
|                    | 09 34             | 0076          | 5                                    | 0.1                              | 3.3                           | 0.020K                               |                                 | 0.02K                               | 0.023                       | 0.029                              |
| 80/06/10           | 10 39             | 0002          | 14                                   | 0.1                              | 4.4                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.018                              |
|                    | 10 39             | 0076          | 14                                   | 0.2                              | 4.7                           | 0.021                                |                                 | 0.02K                               | 0.027                       | 0.025                              |
| 80/06/16           | 09 45             | 0002          | 12                                   | 0.1                              | 3.0                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.017                              |
|                    | 09 45             | 0076          | 13                                   | 0.1                              | 4.1                           | 0.02CK                               |                                 | 0.02K                               | 0.057                       | 0.035                              |
| 80/06/24           | 09 15             | 0002          | 16                                   | 0.1                              | 4.4                           | 0.066                                |                                 | 0.02K                               | 0.015                       | 0.011                              |
|                    | 09 15             | 0076          | 2                                    | 0.3                              | 2.6                           | 0.073                                |                                 | 0.02K                               | 0.195                       | 0.052                              |
| 80/07/02           | 09 39             | 0002          | 2                                    | 0.1                              | 2.5                           | 0.02CK                               |                                 | 0.02K                               | 0.044                       | 0.032                              |
|                    | 09 39             | 0076          | 17                                   | 0.3                              | 2.1                           | 0.02CK                               |                                 | 0.02K                               | 0.043                       | 0.034                              |
| 80/07/07           | 15 45             | 0002          | 6                                    | 0.1                              | 1.7                           | 0.020K                               |                                 | 0.02K                               | 0.028                       | 0.019                              |
|                    | 15 45             | 0076          | 28                                   | 0.3                              | 3.7                           | 0.02CK                               |                                 | 0.02K                               | 0.040                       | 0.030                              |
| 80/07/21           | 13 05             | 0002          | 5                                    | 0.05                             | 1.7                           | 0.020K                               |                                 | 0.02K                               | 0.035                       | 0.010K                             |
|                    | 13 05             | 0076          | 13                                   | 0.4                              | 1.3                           | 0.027                                |                                 | 0.02K                               | 0.059                       | 0.025                              |
| 80/08/01           | 09 54             | 0002          | 15                                   | 0.04K                            | 2.3                           | 0.079                                |                                 | 0.02K                               | 0.023                       | 0.013                              |
|                    | 09 54             | 0076          | 100                                  | 0.2                              | 2.1                           | 0.02E                                |                                 | 0.02K                               | 0.055                       | 0.032                              |
| 80/08/04           | 09 03             | 0002          | 9                                    | 0.04K                            | 1.6                           | 0.020K                               |                                 | 0.02K                               | 0.011                       | 0.010K                             |
|                    | 09 03             | 0076          | 5                                    | 0.1                              | 1.2                           | 0.02CK                               |                                 | 0.02K                               | 0.066                       | 0.023                              |
| 80/08/13           | 13 59             | 0002          | 5                                    | 0.04K                            | 5.9                           | 0.02CK                               |                                 | 0.02K                               | 0.033                       | 0.012                              |
|                    | 13 59             | 0076          | 26                                   | 0.05                             | 6.0                           | 0.02CK                               |                                 | 0.02K                               | 0.082                       | 0.033                              |
| 80/08/20           | 13 57             | 0002          | 5                                    | 0.1                              | 3.1                           | 0.037                                |                                 | 0.03                                | 0.029                       | 0.021                              |
|                    | 13 58             | 0076          | 15                                   | 0.2                              | 2.2                           | 0.052                                |                                 | 0.03                                | 0.039                       | 0.027                              |

SECRET RETRIEVAL DATE 81/03/03  
 NYB27 NYB-27  
 40 23 54.0 073 40 32.0 2  
 14MI EAST CF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030  
 0081 FEET DEPTH CLASS 00

/TYP/AHBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | CO300<br>CO<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 31501<br>TOT COLI<br>MFIMENDO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/06/02           | 09 38             | 0002          | 8.7                 |                                | 6                                       | 0                                       |
|                    | 09 38             | 0079          | 9.4                 |                                | 12                                      | 0                                       |
| 80/06/10           | 10 45             | 0002          | 9.0                 |                                | 0                                       | 0                                       |
|                    | 10 45             | 0079          | 9.0                 |                                | 9                                       | 0                                       |
| 80/06/16           | 09 50             | 0002          | 9.3                 | 16.0                           | 3                                       | 0                                       |
|                    | 09 50             | 0079          | 7.8                 | 10.0                           | 180                                     | 0                                       |
| 80/06/24           | 09 19             | 0002          | 8.6                 | 18.1                           | 220                                     | 8                                       |
|                    | 09 19             | 0079          | 8.1                 | 11.5                           | 132                                     | 3                                       |
| 80/07/02           | 09 43             | 0002          | 8.3                 | 19.7                           | 26                                      | 0                                       |
|                    | 09 43             | 0079          | 7.5                 | 12.4                           | 2                                       | 0                                       |
| 80/07/07           | 15 43             | 0002          | 7.9                 | 21.2                           | 0                                       | 0                                       |
|                    | 15 43             | 0079          | 7.4                 | 13.8                           | 6                                       | 0                                       |
| 80/07/21           | 13 00             | 0002          | 8.4                 | 23.9                           | 0                                       | 0                                       |
|                    | 13 00             | 0079          | 7.5                 | 14.5                           | 0                                       | 0                                       |
| 80/08/01           | 09 59             | 0002          | 8.6                 | 23.2                           | 0                                       | 0                                       |
|                    | 09 59             | 0079          | 7.4                 | 14.7                           | 0                                       | 0                                       |
| 80/08/04           | 09 08             | 0002          | 7.5                 | 24.2                           | 0                                       | 0                                       |
|                    | 09 08             | 0079          | 9.0                 | 15.1                           | 1                                       | 0                                       |
| 80/08/13           | 13 55             | 0002          | 8.8                 | 24.5                           | 1                                       | 0                                       |
|                    | 13 55             | 0079          | 7.4                 | 15.9                           | 0                                       | 0                                       |
| 80/08/27           | 12 20             | 0002          | 7.8                 | 22.7                           |                                         |                                         |
|                    | 12 20             | 0079          | 7.0                 | 20.6                           |                                         |                                         |

SECRET RETRIEVAL DATE 81/03/03  
 NYB27 NYE-27  
 40 23 54.0 073 40 32.0 2  
 14MI EAST OF SANCTUARY POINT ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111HC3C  
 0081 FEET DEPTH CLASS 00

/TYP/AMNT/OCEAN

| DATE       | TIME      | DEPTH | C0530<br>RESIDUE<br>TOT NFLT<br>MG/L | Q0956<br>SILICA<br>TOTAL<br>MG/L | C0680<br>T ORG C<br>C<br>MG/L | Q0610<br>NH3+NH4-<br>N TOTAL<br>MG/L | Q0620<br>NO3-N<br>TOTAL<br>MG/L | Q0630<br>NO2&NO3<br>N-TOTAL<br>MG/L | Q0665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHO<br>MG/L P |
|------------|-----------|-------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| FROM<br>TC | CF<br>DAY | FEET  |                                      |                                  |                               |                                      |                                 |                                     |                             |                                    |
| 80/06/02   | 09 38     | 0002  | 25                                   | 0.1                              | 1.5                           | 0.020K                               |                                 | 0.02K                               | 0.018                       | 0.022                              |
|            | 09 38     | 0079  | 12                                   | 0.1                              | 1.9                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.027                              |
| 80/06/10   | 10 45     | 0002  | 49                                   | 0.04                             | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.022                       | 0.016                              |
|            | 10 45     | 0079  | 2                                    | 0.2                              | 2.1                           | 0.020                                |                                 | 0.02K                               | 0.022                       | 0.025                              |
| 80/06/16   | 09 50     | 0002  | 28                                   | 0.1                              | 2.9                           | 0.020K                               |                                 | 0.02K                               | 0.010                       | 0.017                              |
|            | 09 50     | 0079  | 49                                   | 0.1                              | 4.5                           | 0.195                                |                                 | 0.02K                               | 0.120                       | 0.025                              |
| 80/06/24   | 09 19     | 0002  | 16                                   | 0.1                              | 2.1                           | 0.041                                |                                 | 0.02K                               | 0.023                       | 0.016                              |
|            | 09 19     | 0079  | 20                                   | 0.2                              | 1.4                           | 0.111                                |                                 | 0.02K                               | 0.045                       | 0.035                              |
| 80/07/02   | 09 43     | 0002  | 10                                   | 0.04K                            | 2.3                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.015                              |
|            | 09 43     | 0079  | 3                                    | 0.3                              | 3.6                           | 0.020K                               |                                 | 0.02K                               | 0.039                       | 0.027                              |
| 80/07/07   | 15 43     | 0002  | 50                                   | 0.1                              | 3.3                           | 0.020K                               |                                 | 0.02K                               | 0.028                       | 0.019                              |
|            | 15 43     | 0079  | 6                                    | 0.3                              | 1.5                           | 0.020K                               |                                 | 0.02K                               | 0.040                       | 0.035                              |
| 80/07/21   | 13 00     | 0002  | 3                                    | 0.04K                            | 2.5                           | 0.020K                               |                                 | 0.02K                               | 0.029                       | 0.010K                             |
|            | 13 00     | 0079  | 8                                    | 0.2                              | 3.3                           | 0.020K                               |                                 | 0.02K                               | 0.037                       | 0.015                              |
| 80/08/01   | 09 59     | 0002  | 15                                   | 0.04K                            | 2.3                           | 0.020K                               |                                 | 0.02K                               | 0.014                       | 0.010K                             |
|            | 09 59     | 0079  | 6                                    | 0.2                              | 2.4                           | 0.028                                |                                 | 0.02K                               | 0.043                       | 0.021                              |
| 80/08/04   | 09 08     | 0002  | 27                                   | 0.04K                            | 1.9                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.010K                             |
|            | 09 08     | 0079  | 12                                   | 0.1                              | 1.9                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.011                              |
| 80/08/13   | 13 55     | 0002  | 2                                    | 0.04K                            | 2.7                           | 0.020K                               |                                 | 0.02K                               | 0.041                       | 0.015                              |
|            | 13 55     | 0079  | 14                                   | 0.1                              | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.074                       | 0.027                              |

SECRET RETRIEVAL DATE 81/03/03

NYB32 NYB-32

40 29 25.0 073 56 00.0 2

ADJACENT TO AMBRCSE CHANNEL

34025 NEW JERSEY

ATLANTIC OCEAN

NEW YORK EIGHT SURV FLIA WHISTLE

1111H030

/TYPA/AMBNT/OCEAN

0024 FEET DEPTH CLASS 00

| DATE     | TIME | DEPTH | 00300 | 00010 | 31501    | 31613    |
|----------|------|-------|-------|-------|----------|----------|
| FRCM     | OF   |       | CO    | WATER | TOT COLI | FEC COLI |
| TC       | CAY  | FEET  | MG/L  | TEMP  | MFIMENDO | M-FCAGAR |
|          |      |       |       | CENT  | /100ML   | /100ML   |
| 80/06/02 | 10   | 17    | 0002  | 9.9   | 21       | 1        |
|          | 10   | 17    | 0041  | 9.3   | 17       | 0        |
| 80/06/10 | 12   | 47    | 0002  | 7.6   | 80       | 3        |
|          | 12   | 47    | 0041  | 7.4   | 152      | 3        |
| 80/06/16 | 10   | 58    | 0002  | 8.5   | 13.4     | 0        |
|          | 10   | 58    | 0041  | 7.8   | 9.9      | 0        |
| 80/06/24 | 10   | 24    | 0002  | 9.8   | 18.0     | 35       |
|          | 10   | 24    | 0041  | 8.1   | 12.0     | 0        |
| 80/07/02 | 10   | 50    | 0002  | 7.4   | 19.5     | 4        |
|          | 10   | 50    | 0041  | 7.8   | 13.0     | 2        |
| 80/07/09 | 11   | 00    | 0002  | 6.5   | 22.5     | 8        |
|          | 11   | 00    | 0041  | 6.5   | 17.7     | 3        |
| 80/07/21 | 13   | 32    | 0002  | 6.6   | 20.3     | 8        |
|          | 13   | 32    | 0041  | 6.1   | 15.9     | 0        |
| 80/08/01 | 10   | 52    | 0002  | 7.0   | 23.3     | 0        |
|          | 10   | 52    | 0041  | 7.6   | 17.7     | 1        |
| 80/08/04 | 10   | 38    | 0002  | 5.3   | 23.8     | 84       |
|          | 10   | 38    | 0041  | 8.2   | 19.4     | 0        |
| 80/08/13 | 14   | 44    | 0002  | 7.4   | 19.4     | 0        |
|          | 14   | 44    | 0041  | 7.5   | 17.8     | 0        |
| 80/09/02 | 10   | 30    | 0002  | 6.8   | 23.5     |          |
|          | 10   | 30    | 0041  | 6.0   | 20.8     |          |

SECRET RETRIEVAL DATE 81/03/03  
 NYB32 NYB-32  
 40 29 25.0 073 56 00.0 2  
 ADJACENT TO AMBRCSE CHANNEL  
 34C25 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV FLIA WPISTLE  
 1111H030  
 0024 FEET DEPTH CLASS 00

/TYP/A/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00530<br>RESIDUE<br>TOT AFLT<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHO<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/06/02           | 10 17             | 0002          | 6                                    | 0.1                              | 4.4                           | 0.020K                               |                                 | 0.02K                               | 0.026                       | 0.024                              |
|                    | 10 17             | 0041          | 24                                   | 0.04                             | 3.6                           | 0.020K                               |                                 | 0.02K                               | 0.023                       | 0.022                              |
| 80/06/10           | 12 47             | 0002          | 4                                    | 0.2                              | 2.5                           | 0.161                                |                                 | 0.09                                | 0.060                       | 0.049                              |
|                    | 12 47             | 0041          | 3                                    | 0.3                              | 2.2                           | 0.161                                |                                 | 0.07                                | 0.060                       | 0.044                              |
| 80/06/16           | 10 58             | 0002          | 1                                    | 0.1                              | 2.5                           | 0.020K                               |                                 | 0.02K                               | 0.027                       | 0.020                              |
|                    | 10 58             | 0041          | 19                                   | 0.1                              | 1.9                           | 0.020K                               |                                 | 0.02K                               | 0.027                       | 0.015                              |
| 80/06/24           | 10 24             | 0002          | 14                                   | 0.1                              | 3.9                           | 0.060                                |                                 | 0.11                                | 0.073                       | 0.028                              |
|                    | 10 24             | 0041          | 6                                    | 0.2                              | 3.4                           | 0.020K                               |                                 | 0.02K                               | 0.038                       | 0.028                              |
| 80/07/02           | 10 50             | 0002          | 5                                    | 0.2                              | 2.7                           | 0.22C                                |                                 | 0.07                                | 0.070                       | 0.058                              |
|                    | 10 50             | 0041          | 5                                    | 0.3                              | 2.1                           | 0.020K                               |                                 | 0.02K                               | 0.043                       | 0.029                              |
| 80/07/21           | 13 32             | 0002          | 5                                    | 0.2                              | 1.6                           | 0.057                                |                                 | 0.02K                               | 0.053                       | 0.027                              |
|                    | 13 32             | 0041          | 5                                    | 0.3                              | 1.4                           | 0.020K                               |                                 | 0.02K                               | 0.041                       | 0.023                              |
| 80/08/01           | 10 52             | 0041          | 25                                   | 0.2                              | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.068                       | 0.018                              |
| 80/08/04           | 10 38             | 0002          | 9                                    | 0.6                              | 1.6                           | 0.256                                |                                 | 0.08                                | 0.105                       | 0.081                              |
|                    | 10 38             | 0041          | 1                                    | 0.1                              | 1.8                           | 0.020K                               |                                 | 0.02K                               | 0.031                       | 0.020                              |
| 80/08/13           | 14 44             | 0002          | 7                                    | 0.1                              | 3.3                           | 0.069                                |                                 | 0.02K                               | 0.056                       | 0.038                              |
|                    | 14 44             | 0041          | 4                                    | 0.1                              | 2.7                           | 0.048                                |                                 | 0.02K                               | 0.046                       | 0.033                              |
| 80/09/02           | 10 30             | 0002          | 3                                    | 0.1                              | 3.8                           | 0.156                                |                                 | 0.19                                | 0.077                       | 0.055                              |
|                    | 10 30             | 0041          | 49                                   | 0.3                              | 1.3                           | 0.076                                |                                 | 0.05                                | 0.036                       | 0.037                              |



SECRET RETRIEVAL DATE 81/03/03

NY833 NY8-33

40 18 36.0 073 53 45.0 2

ADJACENT TO AMBRCE CHANNEL

34025 NEW JERSEY

ATLANTIC OCEAN

NEW YCRK EIGHT SURV BW POA WHISTLE

1111H030

/TYP/AMBNT/OCEAN

0046 FEET DEPTH CLASS 00

| DATE     | TIME | DEPTH | C0300 | 00C10 | 31501    | 31613    |
|----------|------|-------|-------|-------|----------|----------|
| FRCM     | CF   |       | DO    | WATER | TOT COLI | FEC COLI |
| TC       | CAY  | FEET  | MG/L  | TEMP  | MFIMENDO | M-FCAGAR |
|          |      |       |       | CENT  | /100ML   | /100ML   |
| 80/06/02 | 10   | 10    | 0002  | 10.1  | 0        | 0        |
|          | 10   | 10    | 0044  | 11.4J | 5        | 0        |
| 80/06/10 | 12   | 42    | 0002  | 7.5   | 128      | 2        |
|          | 12   | 42    | 0044  | 8.4   | 19       | C        |
| 80/06/16 | 10   | 53    | 0002  | 10.8  | 13.8     | 0        |
|          | 10   | 53    | 0044  | 8.5   | 12.1     | C        |
| 80/06/24 | 10   | 19    | 0002  | 10.8  | 17.0     | 1        |
|          | 10   | 19    | 0044  | 7.2   | 11.9     | 0        |
| 80/07/02 | 10   | 45    | 0002  | 8.3   | 19.2     | 1        |
|          | 10   | 45    | 0044  | 8.2   | 14.0     | C        |
| 80/07/09 | 10   | 56    | 0002  | 6.7   | 20.2     | 1        |
|          | 10   | 56    | 0044  | 7.0   | 15.8     | 1        |
| 80/07/21 | 13   | 35    | 0002  | 9.0   | 22.7     | 0        |
|          | 13   | 35    | 0044  | 5.9   | 15.2     | 0        |
| 80/08/01 | 10   | 48    | 0002  | 7.9   | 23.1     | 0        |
|          | 10   | 48    | 0044  | 7.8   | 17.5     | C        |
| 80/08/04 | 10   | 35    | 0002  | 5.8   | 23.6     | 21       |
|          | 10   | 35    | 0044  | 8.3   | 19.0     | 0        |
| 80/08/13 | 14   | 39    | 0002  | 10.0  | 23.0     | 88       |
|          | 14   | 39    | 0044  | 7.8   | 15.7     | 4        |
| 80/09/02 | 10   | 45    | 0002  | 6.8   | 23.2     | 1        |
|          | 10   | 45    | 0044  | 5.5   | 19.8     |          |

SECRET RETRIEVAL DATE 81/03/03  
 NYB33 NYB-33  
 40 18 36.0 073 53 45.0 2  
 ADJACENT TO AMBRESE CHANNEL  
 34C25 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV BW MOA WHISTLE  
 1111H030  
 CC46 FEET DEPTH CLASS 00

/TTPA/AMBNT/OCEAN

| DATE       | TIME      | DEPTH | 00530<br>RESIDUE<br>TOT NFLT<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2+NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHC<br>MG/L P |
|------------|-----------|-------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| FRCM<br>TC | CF<br>CAY | FEET  |                                      |                                  |                               |                                      |                                 |                                     |                             |                                    |
| 80/06/02   | 10 10     | 0002  | 19                                   | 0.04K                            | 3.6                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.019                              |
|            | 10 10     | 0044  | 8                                    | 0.04K                            | 3.1                           | 0.020K                               |                                 | 0.02K                               | 0.018                       | 0.019                              |
| 80/06/10   | 12 42     | 0002  | 2                                    | 0.3                              | 2.6                           | 0.161                                |                                 | 0.07                                | 0.052                       | 0.047                              |
|            | 12 42     | 0044  | 7                                    | 0.2                              | 2.0                           | 0.040                                |                                 | 0.02K                               | 0.030                       | 0.028                              |
| 80/06/16   | 10 53     | 0002  | 2                                    | 0.1                              | 2.5                           | 0.020K                               |                                 | 0.02K                               | 0.022                       | 0.017                              |
|            | 10 53     | 0044  | 5                                    | 0.1                              | 2.7                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.020                              |
| 80/06/24   | 10 19     | 0002  | 13                                   | 0.1                              | 4.3                           | 0.028                                |                                 | 0.02K                               | 0.051                       | 0.016                              |
|            | 10 19     | 0044  | 16                                   | 0.2                              | 2.1                           | 0.020K                               |                                 | 0.02K                               | 0.038                       | 0.026                              |
| 80/07/02   | 10 45     | 0002  | 8                                    | 0.1                              | 1.8                           | 0.020K                               |                                 | 0.02K                               | 0.039                       | 0.025                              |
|            | 10 45     | 0044  | 20                                   | 0.3                              | 3.3                           | 0.020K                               |                                 | 0.02K                               | 0.035                       | 0.027                              |
| 80/07/21   | 13 35     | 0002  | 17                                   | 0.1                              | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.053                       | 0.019                              |
|            | 13 35     | 0044  | 20                                   | 0.3                              | 2.4                           | 0.032                                |                                 | 0.02K                               | 0.047                       | 0.029                              |
| 80/08/01   | 10 48     | 0044  | 31                                   | 0.2                              | 2.5                           | 0.020K                               |                                 | 0.02K                               | 0.035                       | 0.020                              |
| 80/08/04   | 10 35     | 0002  | 14                                   | 0.4                              | 2.4                           | 0.195                                |                                 | 0.06                                | 0.080                       | 0.064                              |
|            | 10 35     | 0044  | 20                                   | 0.1                              | 1.4                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.017                              |
| 80/08/13   | 14 39     | 0002  | 17                                   | 0.04K                            | 2.9                           | 0.020K                               |                                 | 0.02K                               | 0.049                       | 0.027                              |
|            | 14 39     | 0044  | 38                                   | 0.1                              | 3.0                           | 0.027                                |                                 | 0.02K                               | 0.043                       | 0.027                              |
| 80/09/02   | 10 45     | 0002  | 14                                   | 0.1                              | 1.9                           | 0.093                                |                                 | 0.15                                | 0.057                       | 0.049                              |
|            | 10 45     | 0044  | 49                                   | 0.4                              | 1.2                           | 0.093                                |                                 | 0.05                                | 0.038                       | 0.041                              |

SECRET RETRIEVAL DATE 81/03/03

NY834 NY8-34

40 27 15.0 073 50 00.0 2

ADJACENT SOUTH SIDE OF HCRN

34025 NEW JERSEY

ATLANTIC OCEAN

NEW YORK BIGHT SURVEILLANCE AMBROSE HCRN

1111H030

/TYP/AMBNT/OCEAN

0087 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TC | TIME<br>CF<br>DAY | DEPTH<br>FEET | CO300<br>CC<br>MG/L | CO010<br>WATER<br>TEMP<br>CENT | 31501<br>TOT COLI<br>MFIMENDO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/06/02           | 10 05             | 0002          | 10.0                |                                | 2                                       | 0                                       |
|                    | 10 05             | 0079          | 7.9                 |                                | 16                                      | 0                                       |
| 80/06/10           | 12 36             | 0002          | 8.6                 |                                | 13                                      | 0                                       |
|                    | 12 36             | 0079          | 8.1                 |                                | 22                                      | 0                                       |
| 80/06/16           | 10 47             | 0002          | 9.5                 | 13.9                           | 3                                       | 0                                       |
|                    | 10 47             | 0079          | 8.0                 | 9.4                            | 2                                       | 0                                       |
| 80/06/24           | 10 14             | 0002          | 10.0                | 18.5                           | 0                                       | 0                                       |
|                    | 10 14             | 0079          | 7.7                 | 10.9                           | 0                                       | 0                                       |
| 80/07/02           | 10 41             | 0002          | 8.8                 | 19.9                           | 0                                       | 0                                       |
|                    | 10 41             | 0079          | 9.0                 | 12.6                           | 0                                       | 0                                       |
| 80/07/09           | 10 50             | 0002          | 8.8                 | 20.6                           | 0                                       | 0                                       |
|                    | 10 50             | 0079          | 5.8                 | 13.1                           | 2                                       | 0                                       |
| 80/07/21           | 13 38             | 0002          | 9.7                 | 22.8                           | 0                                       | 0                                       |
|                    | 13 38             | 0079          | 5.4                 | 13.7                           | 1                                       | 0                                       |
| 80/08/01           | 10 42             | 0002          | 8.1                 | 23.1                           | 0                                       | 0                                       |
|                    | 10 42             | 0079          | 7.0                 | 14.4                           | 0                                       | 0                                       |
| 80/08/04           | 10 30             | 0002          | 8.1                 | 24.4                           | 0                                       | 0                                       |
|                    | 10 30             | 0079          | 7.5                 | 16.2                           | 1                                       | 1                                       |
| 80/08/13           | 14 35             | 0002          | 9.9                 | 23.3                           | 0                                       | 0                                       |
|                    | 14 35             | 0079          | 7.1                 | 14.8                           | 1                                       | 0                                       |
| 80/08/26           | 13 45             | 0002          | 6.9                 | 22.8                           |                                         |                                         |
|                    | 13 45             | 0088          | 6.9                 | 19.8                           |                                         |                                         |
| 80/09/02           | 11 10             | 0002          | 9.8                 | 22.9                           |                                         |                                         |
|                    | 11 10             | 0079          | 6.0                 | 13.8                           |                                         |                                         |

SECRET RETRIEVAL DATE 81/03/03  
 NY834 NYE-34  
 40 27 15.0 073 50 00.0 2  
 ADJACENT SOUTH SIDE OF HORN  
 34C25 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE AMBROSE HORN  
 1111H030

/TYP/AMBNT/OCEAN

0087 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00530<br>RESIDUE<br>TOT NFLT<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00600<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHC<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/06/02           | 10 05             | 0002          | 11                                   | 0.04K                            | 3.0                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.016                              |
|                    | 10 05             | 0079          | 5                                    | 0.2                              | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.026                       | 0.034                              |
| 80/06/10           | 12 36             | 0002          | 8                                    | 0.1                              | 3.9                           | 0.077                                |                                 | 0.05                                | 0.035                       | 0.030                              |
|                    | 12 36             | 0079          | 4                                    | 0.3                              | 2.5                           | 0.059                                |                                 | 0.02K                               | 0.025                       | 0.030                              |
| 80/06/16           | 10 47             | 0002          | 5                                    | 0.1                              | 1.6                           | 0.020K                               |                                 | 0.02K                               | 0.022                       | 0.015                              |
|                    | 10 47             | 0079          | 2                                    | 0.4                              | 1.6                           | 0.020K                               |                                 | 0.02K                               | 0.030                       | 0.030                              |
| 80/06/24           | 10 14             | 0002          | 8                                    | 0.04K                            | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.030                       | 0.014                              |
|                    | 10 14             | 0079          | 17                                   | 0.4                              | 1.6                           | 0.041                                |                                 | 0.02K                               | 0.033                       | 0.033                              |
| 80/07/02           | 10 41             | 0002          | 12                                   | 0.1                              | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.037                       | 0.025                              |
|                    | 10 41             | 0079          | 10                                   | 0.3                              | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.039                       | 0.034                              |
| 80/07/21           | 13 38             | 0002          | 4                                    | 0.04K                            | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.037                       | 0.010K                             |
|                    | 13 38             | 0079          | 19                                   | 0.7                              | 1.4                           | 0.082                                |                                 | 0.02K                               | 0.064                       | 0.041                              |
| 80/08/01           | 10 42             | 0002          | 14                                   | 0.04K                            | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.012                       | 0.010K                             |
|                    | 10 42             | 0079          | 55                                   | 0.3                              | 2.9                           | 0.020K                               |                                 | 0.02K                               | 0.035                       | 0.021                              |
| 80/08/04           | 10 30             | 0002          | 5                                    | 0.04K                            | 2.1                           | 0.020K                               |                                 | 0.02K                               | 0.013                       | 0.010K                             |
|                    | 10 30             | 0079          | 29                                   | 0.2                              | 1.6                           | 0.020K                               |                                 | 0.02K                               | 0.031                       | 0.022                              |
| 80/08/13           | 14 35             | 0002          | 4                                    | 0.04K                            | 5.6                           | 0.020K                               |                                 | 0.02K                               | 0.043                       | 0.021                              |
|                    | 14 35             | 0079          | 28                                   | 0.3                              | 2.7                           | 0.069                                |                                 | 0.02K                               | 0.051                       | 0.036                              |
| 80/09/02           | 11 10             | 0002          | 10                                   | 0.04                             | 2.0                           | 0.011                                |                                 | 0.06                                | 0.038                       | 0.026                              |
|                    | 11 10             | 0079          | 20                                   | 0.6                              | 1.2                           | 0.098                                |                                 | 0.05                                | 0.045                       | 0.040                              |

STCRET RETRIEVAL DATE 81/03/03  
 NYB35 NYB-35  
 40 26 10.0 073 47 12.0 2  
 2.5MI SE OF AMBRCSE HORN  
 34059 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YCRK BIGHT SURVEILLANCE  
 1111H030  
 0100 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | 00300 | 00010 | 31501    | 31613    |
|----------|-------|-------|-------|-------|----------|----------|
| FRCM     | CF    |       | CG    | WATER | TOT COLI | FEC COLI |
| TC       | DAY   | FEET  | MG/L  | TEMP  | MFIMENDO | M-FCAGAR |
|          |       |       |       | CENT  | /100ML   | /100ML   |
| 80/06/02 | 10 00 | 0002  | 8.7   |       | 3        | 0        |
|          | 10 00 | 0093  | 9.5   |       | 0        | 0        |
| 80/06/10 | 12 30 | 0002  | 9.2   |       | 3        | 0        |
|          | 12 30 | 0093  | 8.8   |       | 2        | 0        |
| 80/06/16 | 10 43 | 0002  | 10.5  | 14.8  | 3        | 0        |
|          | 10 43 | 0093  | 8.0   | 9.7   | 176      | 5        |
| 80/06/24 | 10 10 | 0002  | 11.2  | 18.3  | 0        | 0        |
|          | 10 10 | 0093  | 7.9   | 12.2  | 0        | 0        |
| 80/07/02 | 10 38 | 0002  | 8.3   | 20.2  | 2        | 0        |
|          | 10 38 | 0093  | 6.5   | 13.8  | 19       | 0        |
| 80/07/09 | 10 45 | 0002  | 8.5   | 21.1  | 0        | 0        |
|          | 10 45 | 0093  | 7.2   | 15.0  | 0        | 0        |
| 80/07/21 | 13 41 | 0002  | 10.2  | 24.1  | 0        | 0        |
|          | 13 41 | 0093  | 5.0   | 12.9  | 45       | 0        |
| 80/08/01 | 10 37 | 0002  | 7.8   | 23.4  | 0        | 0        |
|          | 10 37 | 0093  | 7.8   | 14.4  | 1        | 0        |
| 80/08/04 | 10 26 | 0002  | 8.0   | 24.4  | 0        | 0        |
|          | 10 26 | 0093  | 7.3   | 15.7  | 1        | 0        |
| 80/08/13 | 14 31 | 0002  | 9.7   | 23.0  | 0        | 0        |
|          | 14 31 | 0093  | 7.1   | 14.7  | 0        | 0        |
| 80/08/26 | 13 25 | 0002  | 7.5   | 22.2  |          |          |
|          | 13 25 | 0091  | 7.3   | 19.0  |          |          |
| 80/09/02 | 11 20 | 0002  | 8.3   | 22.7  |          |          |
|          | 11 20 | 0093  | 6.6   | 17.0  |          |          |

SECRET RETRIEVAL DATE 81/03/03  
 NYB35 NYB-35  
 40 26 10.0 073 47 12.0 2  
 2.5MI SE CF AMBRCSE HORN  
 34C59 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK EIGHT SURVEILLANCE  
 1111H030  
 0100 FEET DEPTH CLASS 00

/TYPA/AMBNTOCEAN

| DATE       | TIME      | DEPTH | 00530<br>RESIDUE<br>TOT NFLY<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHCS-TOT<br>MG/L P | 70507<br>PHOS-T<br>ORTHO<br>MG/L P |
|------------|-----------|-------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| FRCM<br>TC | OF<br>DAY | FEET  |                                      |                                  |                               |                                      |                                 |                                     |                             |                                    |
| 80/06/02   | 10 00     | 0002  | 15                                   | 0.1                              | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.019                              |
|            | 10 00     | 0093  | 9                                    | 0.1                              | 5.0                           | 0.020K                               |                                 | 0.02K                               | 0.018                       | 0.024                              |
| 80/06/10   | 12 30     | 0002  | 9                                    | 0.04K                            | 3.2                           | 0.021                                |                                 | 0.02K                               | 0.027                       | 0.018                              |
|            | 12 30     | 0093  | 3                                    | 0.04                             | 3.0                           | 0.021                                |                                 | 0.02K                               | 0.020                       | 0.020                              |
| 80/06/16   | 10 43     | 0002  | 3                                    | 0.1                              | 3.2                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.017                              |
|            | 10 43     | 0093  | 4                                    | 0.2                              | 1.8                           | 0.020K                               |                                 | 0.02K                               | 0.032                       | 0.043                              |
| 80/06/24   | 10 10     | 0002  | 38                                   | 0.1                              | 2.1                           | 0.022                                |                                 | 0.02K                               | 0.020                       | 0.011                              |
|            | 10 10     | 0093  | 22                                   | 0.2                              | 1.9                           | 0.028                                |                                 | 0.02K                               | 0.028                       | 0.023                              |
| 80/07/02   | 10 38     | 0002  | 10                                   | 0.1                              | 1.8                           | 0.020K                               |                                 | 0.02K                               | 0.035                       | 0.020                              |
|            | 10 38     | 0093  | 5                                    | 0.3                              | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.050                       | 0.041                              |
| 80/07/21   | 13 41     | 0002  | 2                                    | 0.1                              | 2.1                           | 0.020K                               |                                 | 0.02K                               | 0.057                       | 0.013                              |
|            | 13 41     | 0093  | 8                                    | 0.7                              | 2.1                           | 0.092                                |                                 | 0.02K                               | 0.098                       | 0.066                              |
| 80/08/01   | 10 37     | 0002  | 9                                    | 0.04K                            | 3.1                           | 0.020K                               |                                 | 0.02K                               | 0.012                       | 0.010K                             |
|            | 10 37     | 0093  | 1K                                   | 0.2                              | 2.8                           | 0.020K                               |                                 | 0.02K                               | 0.033                       | 0.020                              |
| 80/08/04   | 10 26     | 0002  | 5                                    | 0.04K                            | 2.1                           | 0.020K                               |                                 | 0.02K                               | 0.013                       | 0.010K                             |
|            | 10 26     | 0093  | 4                                    | 0.3                              | 1.8                           | 0.020K                               |                                 | 0.02K                               | 0.033                       | 0.023                              |
| 80/08/13   | 14 31     | 0002  | 2                                    | 0.04K                            | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.038                       | 0.023                              |
|            | 14 31     | 0093  | 3                                    | 0.2                              | 4.8                           | 0.060                                |                                 | 0.02K                               | 0.054                       | 0.036                              |
| 80/09/02   | 11 20     | 0002  | 8                                    | 0.04                             | 1.0                           | 0.011                                |                                 | 0.04                                | 0.019                       | 0.017                              |
|            | 11 20     | 0093  | 47                                   | 0.4                              | 1.8                           | 0.061                                |                                 | 0.05                                | 0.043                       | 0.037                              |

SECRET RETRIEVAL DATE 81/03/03  
 NYB40 NYB-40  
 40 33 36.0 073 45 00.0 2  
 1.5 MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YORK  
 ATLANTIC OCEAN 013391  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030  
 0044 FEET DEPTH CLASS 00

/TYP/A/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | C0300 | 00010 | 31501    | 31613    |
|----------|-------|-------|-------|-------|----------|----------|
| FRCM     | CF    |       | CG    | WATER | TOT COLI | FEC COLI |
| TC       | DAY   | FEET  | MG/L  | TEMP  | MFIMENDO | M-FCAGAR |
|          |       |       |       | CENT  | /100ML   | /100ML   |
| 80/06/02 | 11 09 | 0002  | 9.0   |       | 0        | 0        |
|          | 11 09 | 0041  | 8.8   |       | C        | 0        |
| 80/06/10 | 11 44 | 0002  | 8.5   |       | 0        | 0        |
|          | 11 44 | 0041  | 8.8   |       | 1        | 0        |
| 80/06/14 | 11 18 | 0002  | 9.7   | 15.9  |          |          |
|          | 11 18 | 0041  | 9.1   | 10.9  |          |          |
| 80/06/16 | 10 35 | 0002  | 9.4   | 14.0  | 1        | 0        |
|          | 10 35 | 0041  | 7.8   | 11.4  | 3        | C        |
| 80/06/24 | 10 02 | 0002  | 9.4   | 18.1  | 0        | 0        |
|          | 10 02 | 0041  | 7.8   | 15.4  | C        | C        |
| 80/06/27 | 08 30 | 0002  | 9.4   | 19.4  |          |          |
|          | 08 30 | 0041  | 7.9   | 14.7  |          |          |
| 80/07/02 | 10 25 | 0002  | 8.3   | 20.2  | C        | 0        |
|          | 10 25 | 0041  | 6.8   | 18.0  | C        | 0        |
| 80/07/05 | 09 35 | 0002  | 8.9   | 22.4  |          |          |
|          | 09 35 | 0041  | 8.0   | 19.1  |          |          |
| 80/07/07 | 15 05 | 0002  | 8.2   | 20.2  | 0        | 0        |
|          | 15 05 | 0041  | 7.3   | 17.7  | C        | C        |
| 80/07/12 | 09 53 | 0002  | 8.0   | 20.7  |          |          |
|          | 09 53 | 0041  | 5.8   | 16.3  |          |          |
| 80/07/21 | 12 29 | 0002  | 8.8   | 24.4  | 0        | 0        |
|          | 12 29 | 0041  | 5.5   | 17.0  | 1        | 0        |
| 80/08/01 | 10 30 | 0002  | 8.7   | 24.2  | C        | C        |
|          | 10 30 | 0041  | 6.0   | 21.9  | 4CB      | 4B       |
| 80/08/02 | 08 51 | 0002  | 9.3   | 23.3  |          |          |
|          | 08 51 | 0041  | 5.8   | 21.2  |          |          |
| 80/08/04 | 09 43 | 0002  | 7.3   | 23.2  | 0        | C        |
|          | 09 43 | 0041  | 7.1   | 19.4  | 0        | C        |
| 80/08/09 | 09 20 | 0002  | 7.8   | 22.2  |          |          |
|          | 09 20 | 0041  | 4.6   | 18.7  |          |          |
| 80/08/13 | 13 24 | 0002  | 7.1   | 21.6  | 0        | 0        |
|          | 13 24 | 0041  | 6.0   | 18.5  | 0        | 0        |
| 80/08/26 | 11 25 | 0002  | 8.1   | 23.8  |          |          |
|          | 11 25 | 0045  | 6.4   | 21.0  |          |          |
| 80/09/13 | 08 28 | 0002  | 8.3   |       |          |          |
|          | 08 28 | 0041  | 5.2   |       |          |          |

SECRET RETRIEVAL DATE 81/03/03  
 NYB40 NYB-40  
 40 33 36.0 073 45 00.0 2  
 1.5 MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YORK  
 ATLANTIC OCEAN 013391  
 NEW YORK EIGHT SURVEILLANCE  
 1111H030  
 0044 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00530<br>RESIDUE<br>TOT NFLT<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>GRTHO<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/06/02           | 11 09             | 0002          | 00                                   | 0.1                              | 7.0                           | 0.020                                |                                 | 0.02                                | 0.020                       | 0.027                              |
|                    | 11 09             | 0041          | 16                                   | 0.2                              | 0.0                           | 0.020K                               |                                 | 0.02K                               | 0.023                       | 0.027                              |
| 80/06/10           | 11 44             | 0002          | 2                                    | 0.2                              | 2.7                           | 0.059                                |                                 | 0.02                                | 0.026                       | 0.031                              |
|                    | 11 44             | 0041          | 12                                   | 0.2                              | 3.3                           | 0.040                                |                                 | 0.02K                               | 0.025                       | 0.042                              |
| 80/06/16           | 10 35             | 0002          | 11                                   | 0.1                              | 3.7                           | 0.020                                |                                 | 0.02                                | 0.030                       | 0.023                              |
|                    | 10 35             | 0041          | 69                                   | 0.3                              | 3.6                           | 0.020K                               |                                 | 0.02K                               | 0.047                       | 0.017                              |
| 80/06/24           | 10 02             | 0002          | 4                                    | 0.1                              | 4.7                           | 0.019                                |                                 | 0.02                                | 0.035                       | 0.024                              |
|                    | 10 02             | 0041          | 13                                   | 0.3                              | 2.6                           | 0.020K                               |                                 | 0.02K                               | 0.030                       | 0.028                              |
| 80/07/02           | 10 25             | 0002          | 17                                   | 0.2                              | 2.4                           | 0.031                                |                                 | 0.02                                | 0.044                       | 0.032                              |
|                    | 10 25             | 0041          | 50                                   | 0.4                              | 3.8                           | 0.054                                |                                 | 0.02K                               | 0.043                       | 0.034                              |
| 80/07/07           | 15 05             | 0002          | 7                                    | 0.2                              | 3.1                           | 0.023                                |                                 | 0.02                                | 0.037                       | 0.025                              |
|                    | 15 05             | 0041          | 62                                   | 0.3                              | 1.9                           | 0.034                                |                                 | 0.02K                               | 0.033                       | 0.028                              |
| 80/07/21           | 12 29             | 0002          | 2                                    | 0.1                              | 2.9                           | 0.020                                |                                 | 0.02                                | 0.042                       | 0.010                              |
|                    | 12 29             | 0041          | 32                                   | 0.4                              | 0.9                           | 0.020K                               |                                 | 0.02K                               | 0.049                       | 0.023                              |
| 80/08/01           | 10 30             | 0002          | 19                                   | 0.04                             | 2.9                           | 0.020                                |                                 | 0.02                                | 0.028                       | 0.010                              |
|                    | 10 30             | 0041          | 330                                  | 0.7                              | 3.0                           | 0.049                                |                                 | 0.02K                               | 0.039                       | 0.025                              |
| 80/08/04           | 09 43             | 0002          | 25                                   | 0.1                              | 1.4                           | 0.032                                |                                 | 0.02                                | 0.035                       | 0.024                              |
|                    | 09 43             | 0041          | 70                                   | 0.2                              | 1.4                           | 0.022                                |                                 | 0.02K                               | 0.052                       | 0.022                              |
| 80/08/13           | 13 24             | 0002          | 12                                   | 0.3                              | 8.6                           | 0.055                                |                                 | 0.02                                | 0.059                       | 0.036                              |
|                    | 13 24             | 0041          | 38                                   | 0.4                              | 5.8                           | 0.069                                |                                 | 0.02K                               | 0.064                       | 0.035                              |



SECRET RETRIEVAL DATE 81/03/03

NYB41 NYB-41

40 31 39.0 073 45 00.0 2

3.5 MI SOUTH OF ATLANTIC BEACH

36059 NEW YORK

ATLANTIC OCEAN 013391

NEW YORK BIGHT SURVEILLANCE

1111H030

/TYP/AMBNT/OCEAN

0060 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00010 | 31501    | 31613    |
|----------|-------|-------|-------|-------|----------|----------|
| FROM     | OF    |       | CO    | WATER | TOT COLI | FEC COLI |
| TC       | CAY   | FEET  | MG/L  | TEMP  | MFIMENDO | M-FCAGAR |
|          |       |       |       | CENT  | /100ML   | /100ML   |
| 80/06/02 | 11 12 | 0002  | 9.1   |       | 11       | 0        |
|          | 11 12 | 0059  | 8.9   |       | C        | C        |
| 80/06/10 | 11 37 | 0002  | 9.2   |       | 1        | 0        |
|          | 11 37 | 0059  | 9.0   |       | 4        | 0        |
| 80/06/16 | 10 30 | 0002  | 9.8   | 14.1  | 0        | 0        |
|          | 10 30 | 0059  | 6.5   | 9.6   | 88       | C        |
| 80/06/24 | 09 58 | 0002  | 9.9   | 18.1  | 0        | 0        |
|          | 09 58 | 0059  | 7.3   | 13.1  | 0        | C        |
| 80/07/02 | 10 19 | 0002  | 8.1   | 20.2  | 2        | 0        |
|          | 10 19 | 0059  | 8.0   | 13.9  | C        | C        |
| 80/07/07 | 15 10 | 0002  | 8.3   | 21.8  | C        | 0        |
|          | 15 10 | 0059  | 7.4   | 16.6  | 1        | 0        |
| 80/07/21 | 12 37 | 0002  | 8.7   | 24.0  | C        | 0        |
|          | 12 37 | 0059  | 6.1   | 17.0  | 3        | C        |
| 80/08/01 | 10 26 | 0002  | 8.4   | 24.0  | 0        | 0        |
|          | 10 26 | 0059  | 6.4   | 17.0  | C        | 0        |
| 80/08/04 | 09 38 | 0002  | 8.0   | 24.1  | C        | C        |
|          | 09 38 | 0059  | 7.1   | 18.1  | C        | C        |
| 80/08/13 | 13 27 | 0002  | 8.1   | 23.6  | 0        | 0        |
|          | 13 27 | 0059  | 8.2   | 17.2  | C        | 0        |
| 80/08/26 | 11 45 | 0002  | 8.1   | 23.0  |          |          |
|          | 11 45 | 0059  | 9.3   | 20.9  |          |          |

SECRET RETRIEVAL DATE 81/03/03  
 NYB41 NYB-41  
 40 31 39.0 073 45 00.0 2  
 3.5 MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YORK  
 ATLANTIC OCEAN 013391  
 NEW YORK EIGHT SURVEILLANCE  
 1111HC30  
 CC60 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | C0530<br>RESIDUE<br>TOT NFLT<br>MG/L | Q0956<br>SILICA<br>TOTAL<br>MG/L | C0680<br>T ORG C<br>C<br>MG/L | Q0610<br>NH3+NH4-<br>N TOTAL<br>MG/L | Q0620<br>NO3-N<br>TOTAL<br>MG/L | Q0630<br>NO2&NO3<br>N-TOTAL<br>MG/L | Q0665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>GRTHO<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/06/02           | 11 12             | 0002          | 16                                   | 0.04K                            | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.019                              |
|                    | 11 12             | 0059          | 10                                   | 0.1                              | 6.0                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.024                              |
| 80/06/10           | 11 37             | 0002          | 8                                    | 0.04                             | 6.8                           | 0.021                                |                                 | 0.02K                               | 0.017                       | 0.023                              |
|                    | 11 37             | 0059          | 3                                    | 0.1                              | 4.2                           | 0.021                                |                                 | 0.02K                               | 0.017                       | 0.020                              |
| 80/06/16           | 10 30             | 0002          | 14                                   | 0.1                              | 3.3                           | 0.020K                               |                                 | 0.02K                               | 0.022                       | 0.017                              |
|                    | 10 30             | 0059          | 2                                    | 0.2                              | 5.0                           | 0.020K                               |                                 | 0.02K                               | 0.047                       | 0.012                              |
| 80/06/24           | 09 58             | 0002          | 2                                    | 0.04K                            | 1.6                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.014                              |
|                    | 09 58             | 0059          | 3                                    | 0.2                              | 1.5                           | 0.022                                |                                 | 0.02K                               | 0.030                       | 0.026                              |
| 80/07/02           | 10 19             | 0002          | 5                                    | 0.1                              | 2.6                           | 0.020K                               |                                 | 0.02K                               | 0.031                       | 0.022                              |
|                    | 10 19             | 0059          | 19                                   | 0.3                              | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.035                       | 0.027                              |
| 80/07/07           | 15 10             | 0002          | 2                                    | 0.1                              | 2.5                           | 0.020K                               |                                 | 0.02K                               | 0.028                       | 0.019                              |
|                    | 15 10             | 0059          | 27                                   | 0.3                              | 1.4                           | 0.024                                |                                 | 0.02K                               | 0.040                       | 0.026                              |
| 80/07/21           | 12 37             | 0002          | 3                                    | 0.04K                            | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.027                       | 0.010K                             |
|                    | 12 37             | 0059          | 20                                   | 0.2                              | 1.5                           | 0.020K                               |                                 | 0.02K                               | 0.041                       | 0.019                              |
| 80/08/01           | 10 26             | 0002          | 15                                   | 0.04K                            | 3.9                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.011                              |
|                    | 10 26             | 0059          | 50                                   | 0.4                              | 4.2                           | 0.032                                |                                 | 0.02K                               | 0.039                       | 0.023                              |
| 80/08/04           | 09 38             | 0002          | 2                                    | 0.04K                            | 1.6                           | 0.020K                               |                                 | 0.02K                               | 0.027                       | 0.015                              |
|                    | 09 38             | 0059          | 30                                   | 0.2                              | 3.1                           | 0.031                                |                                 | 0.02K                               | 0.029                       | 0.022                              |
| 80/08/13           | 13 27             | 0002          | 4                                    | 0.1                              | 1.5                           | 0.020K                               |                                 | 0.02K                               | 0.004                       | 0.017                              |
|                    | 13 27             | 0059          | 20                                   | 0.1                              | 2.0                           | 0.022                                |                                 | 0.02K                               | 0.041                       | 0.025                              |

SECRET RETRIEVAL DATE 81/03/03  
 NYB42 NYB-42  
 4C 29 42.0 073 45 00.0 2  
 5.5MI SCUTH OF ATLANTIC BEACH  
 36C59 NEW YCRK  
 ATLANTIC OCEAN  
 NEW YCRK BIGHT SURVEILLANCE  
 1111H030  
 0078 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | G0300<br>CC<br>MG/L | CCCIC<br>WATER<br>TEMP<br>CENT | 31501<br>TOT COLI<br>MFIMENDO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/06/02           | 11 16             | 0002          | 8.9                 |                                | 0                                       | 0                                       |
|                    | 11 16             | 0073          | 8.6                 |                                | 1                                       | 0                                       |
| 80/06/10           | 11 30             | 0002          | 12.3                |                                | 1                                       | 0                                       |
|                    | 11 30             | 0073          | 8.7                 |                                | 19                                      | C                                       |
| 80/06/14           | 11 13             | 0002          | 10.5                | 15.9                           |                                         |                                         |
|                    | 11 13             | 0073          | 8.4                 | 10.7                           |                                         |                                         |
| 80/06/16           | 10 25             | 0002          | 9.6                 | 14.4                           | 4                                       | 0                                       |
|                    | 10 25             | 0073          | 8.1                 | 8.9                            | 60                                      | C                                       |
| 80/06/24           | 09 53             | 0002          | 9.8                 | 18.3                           | 6                                       | 0                                       |
|                    | 09 53             | 0073          | 7.4                 | 12.1                           | 3                                       | 1                                       |
| 80/06/27           | 08 25             | 0002          | 9.3                 | 19.6                           |                                         |                                         |
|                    | 08 25             | 0073          | 7.1                 | 10.6                           |                                         |                                         |
| 80/07/02           | 10 14             | 0002          | 8.5                 | 19.9                           | 0                                       | 0                                       |
|                    | 10 14             | 0073          | 7.5                 | 13.0                           | 0                                       | 1                                       |
| 80/07/05           | 09 40             | 0002          | 8.0                 | 21.3                           |                                         |                                         |
|                    | 09 40             | 0073          | 8.0                 | 16.1                           |                                         |                                         |
| 80/07/07           | 15 15             | 0002          | 8.2                 | 21.8                           | 0                                       | 0                                       |
|                    | 15 15             | 0073          | 7.1                 | 15.7                           | 2                                       | 0                                       |
| 80/07/12           | 09 56             | 0002          | 9.2                 | 20.8                           |                                         |                                         |
|                    | 09 56             | 0073          | 6.7                 | 14.4                           |                                         |                                         |
| 80/07/21           | 12 40             | 0002          | 8.7                 | 23.6                           | 0                                       | C                                       |
|                    | 12 40             | 0073          | 6.2                 | 16.0                           | 1                                       | 0                                       |
| 80/08/01           | 10 22             | 0002          | 7.9                 | 23.3                           | C                                       | 0                                       |
|                    | 10 22             | 0073          | 6.6                 | 16.5                           | C                                       | 0                                       |
| 80/08/02           | 08 47             | 0002          | 7.8                 | 23.0                           |                                         |                                         |
|                    | 08 47             | 0073          | 5.8                 | 16.0                           |                                         |                                         |
| 80/08/04           | 09 35             | 0002          | 8.3                 | 24.2                           | 0                                       | 0                                       |
|                    | 09 35             | 0073          | 6.5                 | 17.0                           | C                                       | 0                                       |
| 80/08/09           | 09 24             | 0002          | 8.0                 | 23.8                           |                                         |                                         |
|                    | 09 24             | 0073          | 6.3                 | 16.0                           |                                         |                                         |
| 80/08/13           | 13 31             | 0002          | 8.3                 | 24.1                           | C                                       | C                                       |
|                    | 13 31             | 0073          | 7.7                 | 16.8                           | 0                                       | C                                       |
| 80/08/26           | 12 10             | 0002          | 7.7                 | 22.1                           |                                         |                                         |
|                    | 12 10             | 0073          | 8.0                 | 20.3                           |                                         |                                         |
| 80/09/13           | 08 22             | 0002          | 8.3                 |                                |                                         |                                         |
|                    | 08 22             | 0073          | 4.1                 |                                |                                         |                                         |

SECRET RETRIEVAL DATE 81/03/03  
 NYB42 NYB-42  
 40 29 42.0 073 45 00.0 2  
 5.5MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YORK  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030

/TYP/A/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | CC530<br>RESIDUE<br>TOT NFLT<br>MG/L | Q0956<br>SILICA<br>TOTAL<br>MG/L | Q0680<br>T ORG C<br>C<br>MG/L | Q0610<br>NH3+NH4-<br>N TOTAL<br>MG/L | Q0620<br>NO3-N<br>TOTAL<br>MG/L | Q0630<br>NO2&NO3<br>N-TOTAL<br>MG/L | Q0665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>ORTHO<br>MG/L P |
|----------|-------|-------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/06/02 | 11 16 | 0002  | 6                                    | 0.04K                            | 3.0                           | 0.02CK                               |                                 | 0.02K                               | 0.015                       | 0.019                              |
|          | 11 16 | 0073  | 13                                   | 0.1                              | 5.0                           | 0.02CK                               |                                 | 0.02K                               | 0.023                       | 0.027                              |
| 80/06/10 | 11 30 | 0002  | 3                                    | 0.04K                            | 2.5                           | 0.021                                |                                 | 0.02K                               | 0.015                       | 0.016                              |
|          | 11 30 | 0073  | 13                                   | 0.2                              | 2.1                           | 0.059                                |                                 | 0.02K                               | 0.022                       | 0.032                              |
| 80/06/16 | 10 25 | 0002  | 18                                   | 0.1                              | 5.4                           | 0.020K                               |                                 | 0.02K                               | 0.022                       | 0.015                              |
|          | 10 25 | 0073  | 3                                    | 0.3                              | 2.5                           | 0.020K                               |                                 | 0.02K                               | 0.022                       | 0.023                              |
| 80/06/24 | 09 53 | 0002  | 15                                   | 0.04K                            | 1.9                           | 0.02CK                               |                                 | 0.02K                               | 0.018                       | 0.014                              |
|          | 09 53 | 0073  | 17                                   | 0.2                              | 3.0                           | 0.02E                                |                                 | 0.02K                               | 0.045                       | 0.028                              |
| 80/07/02 | 10 14 | 0002  | 5                                    | 0.1                              | 2.7                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.020                              |
|          | 10 14 | 0073  | 4                                    | 0.3                              | 1.5                           | 0.02CK                               |                                 | 0.02K                               | 0.037                       | 0.032                              |
| 80/07/07 | 15 15 | 0002  | 11                                   | 0.1                              | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.026                       | 0.019                              |
|          | 15 15 | 0073  | 14                                   | 0.3                              | 1.6                           | 0.020                                |                                 | 0.02K                               | 0.040                       | 0.030                              |
| 80/07/21 | 12 40 | 0002  | 3                                    | 0.04K                            | 2.3                           | 0.020K                               |                                 | 0.02K                               | 0.035                       | 0.010K                             |
|          | 12 40 | 0073  | 6                                    | 0.2                              | 1.9                           | 0.022                                |                                 | 0.02K                               | 0.041                       | 0.023                              |
| 80/08/01 | 10 22 | 0002  | 8                                    | 0.04K                            | 3.5                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.010K                             |
|          | 10 22 | 0073  | 54                                   | 0.3                              | 2.8                           | 0.02CK                               |                                 | 0.02K                               | 0.037                       | 0.023                              |
| 80/08/04 | 09 35 | 0002  | 2                                    | 0.04K                            | 2.1                           | 0.02CK                               |                                 | 0.02K                               | 0.013                       | 0.010K                             |
|          | 09 35 | 0073  | 8                                    | 0.4                              | 1.1                           | 0.035                                |                                 | 0.02K                               | 0.035                       | 0.025                              |
| 80/08/13 | 13 31 | 0002  | 7                                    | 0.04K                            | 1.5                           | 0.020K                               |                                 | 0.02K                               | 0.033                       | 0.015                              |
|          | 13 31 | 0073  | 5                                    | 0.1                              | 2.8                           | 0.022                                |                                 | 0.02K                               | 0.041                       | 0.027                              |

SECRET RETRIEVAL DATE 81/03/03  
 NYB43 NYB-43  
 40 27 45.0 073 45 00.0 2  
 7.5MI SCUTH OF ATLANTIC BEACH  
 36059 NEW YCRK  
 ATLANTIC CCEAN  
 NEW YCRK BIGHT SURVEILLANCE  
 1111H030  
 0089 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | CO300<br>CO<br>MG/L | COCIC<br>WATER<br>TEMP<br>CENT | 31501<br>TOT COLI<br>PFIMENDO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/06/02           | 11 21             | 0002          | 8.6                 |                                | 0                                       | 0                                       |
|                    | 11 21             | 0088          | 9.2                 |                                | 0                                       | 0                                       |
| 80/06/10           | 11 25             | 0002          | 10.0                |                                | 2                                       | 0                                       |
|                    | 11 25             | 0088          | 8.2                 |                                | 34                                      | 0                                       |
| 80/06/16           | 10 20             | 0002          | 10.3                | 14.8                           | 3                                       | 0                                       |
|                    | 10 20             | 0088          | 8.1                 | 9.1                            | 39                                      | 0                                       |
| 80/06/24           | 09 48             | 0002          | 8.3                 | 17.9                           | 0                                       | 0                                       |
|                    | 09 48             | 0088          | 7.4                 | 10.7                           | 2                                       | 0                                       |
| 80/07/02           | 10 10             | 0002          | 8.0                 | 20.0                           | 0                                       | 0                                       |
|                    | 10 10             | 0088          | 7.3                 | 13.1                           | 0                                       | 0                                       |
| 80/07/07           | 15 19             | 0002          | 8.1                 | 21.3                           | 0                                       | 0                                       |
|                    | 15 19             | 0088          | 7.0                 | 14.1                           | 8                                       | 0                                       |
| 80/07/21           | 12 42             | 0002          | 9.0                 | 23.1                           | 0                                       | 0                                       |
|                    | 12 42             | 0088          | 6.6                 | 15.0                           | 2                                       | 1                                       |
| 80/08/01           | 10 18             | 0002          | 7.9                 | 23.2                           | 0                                       | 0                                       |
|                    | 10 18             | 0088          | 6.8                 | 15.4                           | 0                                       | 0                                       |
| 80/08/04           | 09 30             | 0002          | 8.2                 | 24.2                           | 0                                       | 0                                       |
|                    | 09 30             | 0088          | 6.6                 | 15.5                           | 1                                       | 1                                       |
| 80/08/13           | 13 35             | 0002          | 9.5                 | 23.6                           | 0                                       | 0                                       |
|                    | 13 35             | 0088          | 7.5                 | 16.2                           | 1                                       | 0                                       |
| 80/08/26           | 12 30             | 0002          | 8.0                 | 22.1                           |                                         |                                         |
|                    | 12 30             | 0088          | 8.0                 | 19.9                           |                                         |                                         |

SECRET RETRIEVAL DATE 81/03/03  
 NYB43 NYB-43  
 40 27 45.0 073 45 00.0 2  
 7.5MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YORK  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE  
 1111H030  
 0089 FEET DEPTH CLASS 00

/TYP/A/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00530<br>RESIDUE<br>TOT NFLT<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>ORTHO<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/06/02           | 11 21             | 0002          | 8                                    | C.C4K                            | 3.0                           | 0.020K                               |                                 | 0.02K                               | 0.018                       | 0.019                              |
|                    | 11 21             | 0088          | 11                                   | C.1                              | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.024                              |
| 80/06/10           | 11 25             | 0002          | 14                                   | C.C4K                            | 3.7                           | 0.021                                |                                 | 0.02K                               | 0.027                       | 0.018                              |
|                    | 11 25             | 0088          | 2                                    | 0.3                              | 2.6                           | 0.068                                |                                 | 0.02K                               | 0.022                       | 0.028                              |
| 80/06/16           | 10 20             | 0002          | 7                                    | 0.1                              | 2.6                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.038                              |
|                    | 10 20             | 0088          | 16                                   | 0.1                              | 1.8                           | 0.020K                               |                                 | 0.02K                               | 0.030                       | 0.028                              |
| 80/06/24           | 09 48             | 0002          | 10                                   | 0.1                              | 1.5                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.014                              |
|                    | 09 48             | 0088          | 16                                   | 0.4                              | 1.1                           | 0.028                                |                                 | 0.02K                               | 0.033                       | 0.033                              |
| 80/07/02           | 10 10             | 0002          | 16                                   | 0.1                              | 2.8                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.015                              |
|                    | 10 10             | 0088          | 29                                   | 0.3                              | 1.6                           | 0.030                                |                                 | 0.02K                               | 0.025                       | 0.039                              |
| 80/07/07           | 15 19             | 0002          | 17                                   | 0.1                              | 1.3                           | 0.029                                |                                 | 0.02                                | 0.026                       | 0.016                              |
|                    | 15 19             | 0088          | 23                                   | 0.3                              | 2.2                           | 0.020K                               |                                 | 0.02K                               | 0.047                       | 0.044                              |
| 80/07/21           | 12 42             | 0002          | 30                                   | C.C4K                            | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.039                       | 0.010K                             |
|                    | 12 42             | 0088          | 47                                   | 0.4                              | 2.1                           | 0.032                                |                                 | 0.02K                               | 0.047                       | 0.025                              |
| 80/08/01           | 10 18             | 0002          | 16                                   | C.C4K                            | 2.6                           | 0.020K                               |                                 | 0.02K                               | 0.014                       | 0.010K                             |
|                    | 10 18             | 0088          | 28                                   | 0.3                              | 2.6                           | 0.020K                               |                                 | 0.02K                               | 0.041                       | 0.021                              |
| 80/08/04           | 09 30             | 0002          | 25                                   | C.C4K                            | 1.2                           | 0.020K                               |                                 | 0.02K                               | 0.013                       | 0.010K                             |
|                    | 09 30             | 0088          | 25                                   | 0.3                              | 1.6                           | 0.031                                |                                 | 0.02K                               | 0.037                       | 0.027                              |
| 80/08/13           | 13 35             | 0002          | 20                                   | 0.C4K                            | 3.6                           | 0.020K                               |                                 | 0.02K                               | 0.038                       | 0.017                              |
|                    | 13 35             | 0088          | 39                                   | 0.2                              | 2.5                           | C.031                                |                                 | 0.02K                               | 0.051                       | 0.031                              |

SECRET RETRIEVAL DATE 81/03/03  
 NYB44 NYB-44  
 40 25 54.C 073 45 00.0 2  
 9.5MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YCRK  
 ATLANTIC CCEAN  
 NEW YCRK BIGHT SURVEILLANCE  
 1111H030  
 0094 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>CF<br>DAY | DEPTH<br>FEET | 00300<br>CC<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 31501<br>TOT COLI<br>MFIMENDO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/06/02           | 11 25             | 0002          | 8.6                 |                                | 0                                       | 0                                       |
|                    | 11 25             | 0091          | 9.1                 |                                | C                                       | 0                                       |
| 80/06/10           | 11 16             | 0002          | 9.1                 |                                | 88                                      | C                                       |
|                    | 11 16             | 0091          | 8.8                 |                                | 23                                      | 0                                       |
| 80/06/14           | 11 07             | 0002          | 10.5                | 16.3                           |                                         |                                         |
|                    | 11 07             | 0091          | 8.0                 | 10.0                           |                                         |                                         |
| 80/06/16           | 10 14             | 0002          | 9.6                 | 15.0                           | 22                                      | 0                                       |
|                    | 10 14             | 0091          | 7.1                 | 10.7                           | 1480                                    | 26                                      |
| 80/06/24           | 09 43             | 0002          | 8.7                 | 18.1                           | 0                                       | 0                                       |
|                    | 09 43             | 0091          | 7.4                 | 10.2                           | 7                                       | C                                       |
| 80/06/27           | 08 19             | 0002          | 9.8                 | 19.5                           |                                         |                                         |
|                    | 08 19             | 0091          | 7.2                 | 10.8                           |                                         |                                         |
| 80/07/02           | 10 05             | 0002          | 8.0                 | 19.9                           | 3                                       | C                                       |
|                    | 10 05             | 0091          | 6.3                 | 11.8                           | 112                                     | C                                       |
| 80/07/05           | 09 45             | 0002          | 8.1                 | 21.7                           |                                         |                                         |
|                    | 09 45             | 0091          | 6.0                 | 12.9                           |                                         |                                         |
| 80/07/07           | 15 23             | 0002          | 8.3                 | 21.0                           | 0                                       | C                                       |
|                    | 15 23             | 0091          | 5.9                 | 14.0                           | 38                                      | 2                                       |
| 80/07/12           | 10 05             | 0002          | 8.6                 | 20.3                           |                                         |                                         |
|                    | 10 05             | 0091          | 5.2                 | 12.9                           |                                         |                                         |
| 80/07/21           | 12 45             | 0002          | 9.5                 | 23.4                           | C                                       | C                                       |
|                    | 12 45             | 0091          | 5.5                 | 14.3                           | 188                                     | 5                                       |
| 80/08/01           | 10 14             | 0002          | 7.9                 | 23.3                           | 0                                       | C                                       |
|                    | 10 14             | 0091          | 6.8                 | 14.4                           | 4                                       | 0                                       |
| 80/08/02           | 08 42             | 0002          | 7.6                 | 23.0                           |                                         |                                         |
|                    | 08 42             | 0091          | 6.7                 | 15.1                           |                                         |                                         |
| 80/08/04           | 09 27             | 0002          | 7.8                 | 24.0                           | 0                                       | 0                                       |
|                    | 09 27             | 0091          | 6.5                 | 14.3                           | 1                                       | C                                       |
| 80/08/09           | 09 29             | 0002          | 7.6                 | 24.7                           |                                         |                                         |
|                    | 09 29             | 0091          | 8.3                 | 14.4                           |                                         |                                         |
| 80/08/13           | 13 38             | 0002          | 9.5                 | 23.6                           | 0                                       | 0                                       |
|                    | 13 38             | 0091          | 7.1                 | 14.8                           | 15                                      | 0                                       |
| 80/08/26           | 12 45             | 0002          | 7.8                 | 22.1                           |                                         |                                         |
|                    | 12 45             | 0091          | 7.5                 | 18.9                           |                                         |                                         |
| 80/09/13           | 08 16             | 0002          | 7.5                 |                                |                                         |                                         |
|                    | 08 16             | 0091          | 5.5                 |                                |                                         |                                         |

SECRET RETRIEVAL DATE 81/03/03  
 NY844 NYE-44  
 40 25 54.0 073 45 00.0 2  
 9.5MI SCUTH OF ATLANTIC BEACH  
 36059 NEW YCRK  
 ATLANTIC OCEAN  
 NEW YCRK BIGHT SURVEILLANCE  
 1111HC3C  
 CC94 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | CC530<br>RESIDUE<br>TOT NFLT<br>MG/L | CC956<br>SILICA<br>TOTAL<br>MG/L | CC680<br>T ORG C<br>C<br>MG/L | CC610<br>NH3+NH4-<br>N TOTAL<br>MG/L | CC620<br>NO3-N<br>TOTAL<br>MG/L | CC630<br>NO2&NO3<br>N-TOTAL<br>MG/L | CC665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHO<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/06/02           | 11 25             | 0002          | 39                                   | 0.1                              | 3.0                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.022                              |
|                    | 11 25             | 0091          | 6                                    | 0.1                              | 5.0                           | 0.020K                               |                                 | 0.02K                               | 0.023                       | 0.024                              |
| 80/06/10           | 11 16             | 0002          | 10                                   | 0.04K                            | 2.9                           | 0.021                                |                                 | 0.02K                               | 0.020                       | 0.016                              |
|                    | 11 16             | 0091          | 7                                    | 0.2                              | 2.8                           | 0.031                                |                                 | 0.02K                               | 0.025                       | 0.023                              |
| 80/06/16           | 10 14             | 0002          | 2                                    | 0.1                              | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.067                       | 0.048                              |
| 80/06/24           | 09 43             | 0002          | 4                                    | 0.1                              | 1.4                           | 0.022                                |                                 | 0.02K                               | 0.015                       | 0.014                              |
|                    | 09 43             | 0091          | 3                                    | 0.3                              | 1.7                           | 0.054                                |                                 | 0.02K                               | 0.033                       | 0.033                              |
| 80/07/02           | 10 05             | 0002          | 3                                    | 0.1                              | 1.9                           | 0.020K                               |                                 | 0.02K                               | 0.029                       | 0.020                              |
|                    | 10 05             | 0091          | 18                                   | 0.3                              | 2.7                           | 0.039                                |                                 | 0.02K                               | 0.076                       | 0.055                              |
| 80/07/07           | 15 23             | 0002          | 6                                    | 0.1                              | 1.9                           | 0.020K                               |                                 | 0.02K                               | 0.026                       | 0.019                              |
|                    | 15 23             | 0091          | 32                                   | 0.3                              | 3.5                           | 0.020                                |                                 | 0.02K                               | 0.066                       | 0.053                              |
| 80/07/21           | 12 45             | 0002          | 10                                   | 0.04K                            | 2.3                           | 0.020K                               |                                 | 0.02K                               | 0.051                       | 0.010K                             |
|                    | 12 45             | 0091          | 10                                   | 0.5                              | 1.8                           | 0.062                                |                                 | 0.02K                               | 0.078                       | 0.060                              |
| 80/08/01           | 10 14             | 0002          | 1K                                   | 0.04K                            | 3.3                           | 0.020K                               |                                 | 0.02K                               | 0.014                       | 0.010K                             |
|                    | 10 14             | 0091          | 11                                   | 0.2                              | 2.3                           | 0.020K                               |                                 | 0.02K                               | 0.039                       | 0.023                              |
| 80/08/04           | 09 27             | 0002          | 5                                    | 0.04K                            | 2.1                           | 0.020K                               |                                 | 0.02K                               | 0.011                       | 0.010K                             |
|                    | 09 27             | 0091          | 20                                   | 0.3                              | 1.4                           | 0.052                                |                                 | 0.02K                               | 0.047                       | 0.035                              |
| 80/08/13           | 13 38             | 0002          | 2                                    | 0.04K                            | 4.6                           | 0.031                                |                                 | 0.02K                               | 0.041                       | 0.015                              |
|                    | 13 38             | 0091          | 22                                   | 0.2                              | 4.2                           | 0.064                                |                                 | 0.02K                               | 0.064                       | 0.040                              |



SECRET RETRIEVAL DATE 81/03/03

NYB45 NYB-45

40 25 00.0 073 45 00.0 2

10.5MI SOUTH OF ATLANTIC BEACH

36C59 NEW YORK

ATLANTIC OCEAN

NEW YORK BIGHT SURV SGE SLUDGE GROUNDS

1111H030

/TYP/AMBNT/OCEAN

0090 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00010 | 31501    | 31613    |
|----------|-------|-------|-------|-------|----------|----------|
| FROM     | CF    |       | CO    | WATER | TOT COLI | FEC COLI |
| TC       | DAY   | FEET  | MG/L  | TEMP  | PFINENDO | M-FCAGAR |
|          |       |       |       | CENT  | /100ML   | /100ML   |
| 80/06/02 | 11 30 | 0002  | 8.6   |       | 3        | 1        |
|          | 11 30 | 0088  | 9.5   |       | 0        | 0        |
| 80/06/10 | 11 09 | 0002  | 9.2   |       | 1        | 0        |
|          | 11 09 | 0088  | 8.5   |       | 2        | 0        |
| 80/06/16 | 10 10 | 0002  | 10.3  | 15.1  | 1        | 0        |
|          | 10 10 | 0088  | 7.8   | 10.2  | 1600L    | 24       |
| 80/06/24 | 09 35 | 0002  | 8.5   | 18.0  | 0        | 0        |
|          | 09 35 | 0088  | 7.0   | 11.4  | 28       | 3        |
| 80/07/02 | 09 59 | 0002  | 8.2   | 19.7  | 9        | 0        |
|          | 09 59 | 0088  | 6.6   | 13.0  | 600      | 43       |
| 80/07/07 | 15 25 | 0002  | 8.3   | 21.4  | 0        | 0        |
|          | 15 25 | 0088  | 6.4   | 14.6  | 43       | 2        |
| 80/07/21 | 12 47 | 0002  | 9.3   | 23.1  | 0        | 0        |
|          | 12 47 | 0088  | 5.7   | 14.5  | 180      | 7        |
| 80/08/01 | 10 10 | 0002  | 7.8   | 23.3  | 1        | 0        |
|          | 10 10 | 0088  | 6.9   | 15.2  | 3        | 1        |
| 80/08/04 | 09 23 | 0002  | 7.5   | 24.2  | 0        | 5        |
|          | 09 23 | 0088  | 5.3   | 13.9  | 44       | 5        |
| 80/08/13 | 13 41 | 0002  | 10.1  | 23.6  | 1        | 0        |
|          | 13 41 | 0088  | 4.4   | 15.3  | 1600L    | 980      |
| 80/08/20 | 14 13 | 0002  | 7.9   | 20.0  | 156      | 3        |
|          | 14 14 | 0088  | 7.7   | 13.2  | 0        | 0        |
| 80/08/26 | 13 00 | 0002  | 6.9   | 22.8  |          |          |
|          | 13 00 | 0088  | 8.0   | 18.8  |          |          |

SECRET RETRIEVAL DATE 81/03/03  
 NYB45 NYB-45  
 40 25 00.0 073 45 00.0 2  
 10.5MI SOUTH OF ATLANTIC BEACH  
 36C59 NEW YORK  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV SGE SLUDGE GROUND  
 1111H030  
 0090 FEET DEPTH CLASS 00

/TYPA/AMBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00530<br>RESIDUE<br>TCT NFLT<br>MG/L | 00956<br>SILICA<br>TCTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHO<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/06/02           | 11 30             | 0002          | 8                                    | 0.1                              | 4.0                           | 0.316                                |                                 | 0.02K                               | 0.074                       | 0.062                              |
|                    | 11 30             | 0088          | 13                                   | 0.1                              | 5.0                           | 0.020K                               |                                 | 0.02K                               | 0.020                       | 0.024                              |
| 80/06/10           | 11 09             | 0002          | 2                                    | 0.04K                            | 3.4                           | 0.021                                |                                 | 0.02K                               | 0.017                       | 0.016                              |
|                    | 11 09             | 0088          | 5                                    | 0.2                              | 3.6                           | 0.031                                |                                 | 0.02K                               | 0.022                       | 0.023                              |
| 80/06/16           | 10 10             | 0088          | 6                                    | 0.1                              | 2.1                           | 0.020K                               |                                 | 0.02K                               | 0.092                       | 0.058                              |
| 80/06/24           | 09 35             | 0002          | 21                                   | 0.1                              | 1.5                           | 0.028                                |                                 | 0.02K                               | 0.013                       | 0.014                              |
|                    | 09 35             | 0088          | 18                                   | 0.3                              | 1.0                           | 0.047                                |                                 | 0.02K                               | 0.058                       | 0.047                              |
| 80/07/02           | 09 59             | 0002          | 7                                    | 0.1                              | 1.8                           | 0.020K                               |                                 | 0.02K                               | 0.033                       | 0.027                              |
|                    | 09 59             | 0088          | 9                                    | 0.3                              | 2.8                           | 0.020K                               |                                 | 0.02K                               | 0.074                       | 0.062                              |
| 80/07/07           | 15 25             | 0002          | 23                                   | 0.1                              | 2.3                           | 0.020K                               |                                 | 0.02K                               | 0.026                       | 0.021                              |
|                    | 15 25             | 0088          | 7                                    | 0.3                              | 1.9                           | 0.020K                               |                                 | 0.02K                               | 0.069                       | 0.051                              |
| 80/07/21           | 12 47             | 0002          | 6                                    | 0.04K                            | 1.9                           | 0.020K                               |                                 | 0.02K                               | 0.045                       | 0.010K                             |
|                    | 12 47             | 0088          | 14                                   | 0.5                              | 2.4                           | 0.037                                |                                 | 0.02K                               | 0.055                       | 0.037                              |
| 80/08/01           | 10 10             | 0002          | 13                                   | 0.04K                            | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.014                       | 0.010K                             |
|                    | 10 10             | 0088          | 63                                   | 0.2                              | 2.9                           | 0.020K                               |                                 | 0.02K                               | 0.059                       | 0.025                              |
| 80/08/04           | 09 23             | 0002          | 8                                    | 0.04K                            | 1.7                           | 0.020K                               |                                 | 0.02K                               | 0.011                       | 0.010K                             |
|                    | 09 23             | 0088          | 7                                    | 0.3                              | 1.4                           | 0.065                                |                                 | 0.02K                               | 0.094                       | 0.061                              |
| 80/08/13           | 13 41             | 0002          | 3                                    | 0.04K                            | 4.8                           | 0.077                                |                                 | 0.02K                               | 0.046                       | 0.021                              |
|                    | 13 41             | 0088          | 240                                  | 0.3                              | 6.2                           | 0.020K                               |                                 | 0.02K                               | 0.292                       | 0.105                              |
| 80/08/20           | 14 13             | 0002          | 8                                    | 0.1                              | 2.1                           | 0.042                                |                                 | 0.03                                | 0.031                       | 0.021                              |
|                    | 14 14             | 0088          | 46                                   | 0.2                              | 2.8                           | 0.056                                |                                 | 0.03                                | 0.071                       | 0.035                              |

SECRET RETRIEVAL DATE 81/03/03  
 NYB46 NYB-46  
 40 22 00.0 073 43 15.0 2  
 11.8MI EAST CF SEA BRIGHT  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV SGE SLUDGE GROUNDS  
 1111H030  
 C084 FEET DEPTH CLASS 00

/TYP/AMBNT/OCEAN

| DATE     | TIME  | DEPTH | C0300 | 00010 | 31501    | 31613    |
|----------|-------|-------|-------|-------|----------|----------|
| FRCM     | CF    |       | CO    | WATER | TOT COLI | FEC COLI |
| TC       | CAY   | FEET  | PG/L  | TEMP  | MFIMENDO | M-FCAGAR |
|          |       |       |       | CENT  | /100ML   | /100ML   |
| 80/06/02 | 09 52 | 0002  | 8.4   |       | 0        | 0        |
|          | 09 52 | 0079  | 9.6   |       | 0        | 0        |
| 80/06/10 | 11 02 | 0002  | 9.0   |       | 0        | 0        |
|          | 11 02 | 0082  | 9.2   |       | 1        | 0        |
| 80/06/16 | 10 04 | 0002  | 8.5   | 15.6  | 0        | 0        |
|          | 10 04 | 0082  | 8.3   | 13.4  | 4        | 0        |
| 80/06/24 | 09 28 | 0002  | 8.6   | 18.2  | 0        | 0        |
|          | 09 28 | 0079  | 8.2   | 11.3  | 5        | 0        |
| 80/07/02 | 09 54 | 0002  | 8.5   | 19.8  | 0        | 0        |
|          | 09 54 | 0079  | 7.3   | 12.5  | 1        | 0        |
| 80/07/07 | 15 30 | 0002  | 8.4   | 21.3  | 0        | 0        |
|          | 15 30 | 0079  | 7.5   | 13.5  | 184      | 1        |
| 80/07/21 | 12 52 | 0002  | 8.3   | 23.7  | 0        | 0        |
|          | 12 52 | 0079  | 6.7   | 15.0  | 38       | 0        |
| 80/08/01 | 10 06 | 0002  | 8.1   | 23.5  | 0        | 0        |
|          | 10 06 | 0079  | 8.8   | 15.4  | 1        | 0        |
| 80/08/04 | 09 18 | 0002  | 7.4   | 23.5  | 1        | 0        |
|          | 09 18 | 0082  | 8.5   | 14.0  | 0        | 0        |
| 80/08/13 | 13 46 | 0002  | 7.8   | 24.4  | 0        | 0        |
|          | 13 46 | 0079  | 8.2   | 14.6  | 5        | 0        |
| 80/08/20 | 14 09 | 0002  | 7.0   | 19.7  | 0        | 0        |
|          | 14 10 | 0079  | 8.6   | 13.5  | 1        | 0        |
| 80/08/27 | 11 45 | 0002  | 7.3   | 23.3  |          |          |
|          | 11 45 | 0082  |       | 19.5  |          |          |

SECRET RETRIEVAL DATE 81/03/03  
 NYB46 NYB-46  
 40 22 00.0 073 43 15.0 2  
 11.8MI EAST OF SEA BRIGHT  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV SGE SLUDGE GROUND  
 1111H030  
 0084 FEET DEPTH CLASS 00

/TYP/A/MBNT/OCEAN

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00530<br>RESIDUE<br>TOT NFLT<br>MG/L | 00956<br>SILICA<br>TOTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>ERTHO<br>MG/L P |
|--------------------|-------------------|---------------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| 80/06/02           | 09 52             | 0002          | 5                                    | 0.04                             | 6.0                           | 0.020K                               |                                 | 0.02K                               | 0.018                       | 0.022                              |
|                    | 09 52             | 0079          | 11                                   | 0.1                              | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.018                       | 0.024                              |
| 80/06/10           | 11 02             | 0002          | 6                                    | 0.1                              | 3.3                           | 0.021                                |                                 | 0.02K                               | 0.017                       | 0.013                              |
|                    | 11 02             | 0082          | 7                                    | 0.1                              | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.022                       | 0.016                              |
| 80/06/16           | 10 04             | 0002          | 7                                    | 0.1                              | 3.0                           | 0.035                                |                                 | 0.02K                               | 0.065                       | 0.071                              |
|                    | 10 04             | 0082          | 3                                    | 0.1                              | 2.5                           | 0.020K                               |                                 | 0.02K                               | 0.015                       | 0.017                              |
| 80/06/24           | 09 28             | 0002          | 9                                    | 0.1                              | 0.8                           | 0.035                                |                                 | 0.02K                               | 0.013                       | 0.016                              |
|                    | 09 28             | 0079          | 15                                   | 0.3                              | 1.9                           | 0.054                                |                                 | 0.02K                               | 0.051                       | 0.028                              |
| 80/07/02           | 09 54             | 0002          | 15                                   | 0.05                             | 1.5                           | 0.020K                               |                                 | 0.02K                               | 0.023                       | 0.017                              |
|                    | 09 54             | 0079          | 8                                    | 0.3                              | 1.9                           | 0.020K                               |                                 | 0.02K                               | 0.037                       | 0.029                              |
| 80/07/07           | 15 30             | 0002          | 2                                    | 0.1                              | 1.6                           | 0.020K                               |                                 | 0.02K                               | 0.024                       | 0.019                              |
|                    | 15 30             | 0079          | 44                                   | 0.3                              | 2.0                           | 0.020K                               |                                 | 0.02K                               | 0.036                       | 0.028                              |
| 80/07/21           | 12 52             | 0002          | 12                                   | 0.05                             | 2.7                           | 0.020K                               |                                 | 0.02K                               | 0.031                       | 0.010K                             |
|                    | 12 52             | 0079          | 36                                   | 0.4                              | 2.5                           | 0.022                                |                                 | 0.02K                               | 0.055                       | 0.019                              |
| 80/08/01           | 10 06             | 0002          | 1K                                   | 0.04K                            | 2.8                           | 0.020K                               |                                 | 0.02K                               | 0.016                       | 0.010K                             |
|                    | 10 06             | 0079          | 48                                   | 0.3                              | 2.3                           | 0.020K                               |                                 | 0.02K                               | 0.033                       | 0.021                              |
| 80/08/04           | 09 18             | 0002          | 11                                   | 0.04K                            | 1.6                           | 0.020K                               |                                 | 0.02K                               | 0.010K                      | 0.010K                             |
|                    | 09 18             | 0082          | 18                                   | 0.1                              | 1.6                           | 0.020K                               |                                 | 0.02K                               | 0.031                       | 0.015                              |
| 80/08/13           | 13 46             | 0002          | 39                                   | 0.04K                            | 7.5                           | 0.020K                               |                                 | 0.02K                               | 0.028                       | 0.012                              |
|                    | 13 46             | 0079          | 2                                    | 0.04                             | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.051                       | 0.023                              |
| 80/08/20           | 14 09             | 0002          | 3                                    | 0.1                              | 1.3                           | 0.037                                |                                 | 0.03                                | 0.029                       | 0.021                              |
|                    | 14 10             | 0079          | 15                                   | 0.2                              | 1.8                           | 0.047                                |                                 | 0.03                                | 0.045                       | 0.029                              |

SECRET RETRIEVAL DATE 81/03/03  
 NYB47 NYB-47  
 40 20 00.0 073 43 15.0 2  
 11.8MI EAST OF MONMOUTH BEACH  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK EIGHT SURV SGE SLUDGE GROUNDS  
 1111H030  
 0081 FEET DEPTH CLASS 00

/TYPA/AMBN1/OCEAN

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | C0300<br>CC<br>MG/L | CCC1C<br>WATER<br>TEMP<br>CENT | 31501<br>TOT COLI<br>MFIMENDO<br>/100ML | 31613<br>FEC COLI<br>M-FCAGAR<br>/100ML |
|--------------------|-------------------|---------------|---------------------|--------------------------------|-----------------------------------------|-----------------------------------------|
| 80/06/02           | 09 46             | 0002          | 8.7                 |                                | 2                                       | 0                                       |
|                    | 09 46             | 0082          | 10.0                |                                | 0                                       | 0                                       |
| 80/06/10           | 10 55             | 0002          | 9.2                 |                                | 5                                       | 0                                       |
|                    | 10 55             | 0079          | 9.2                 |                                | 1                                       | 0                                       |
| 80/06/16           | 10 00             | 0002          | 9.1                 | 15.8                           | 144                                     | 14                                      |
|                    | 10 00             | 0079          | 9.6                 | 10.5                           | 3                                       | 0                                       |
| 80/06/24           | 09 22             | 0002          | 8.6                 | 17.9                           | 0                                       | 0                                       |
|                    | 09 22             | 0082          | 7.4                 | 12.0                           | 17                                      | 0                                       |
| 80/07/02           | 09 51             | 0002          | 8.0                 | 19.7                           | 0                                       | 0                                       |
|                    | 09 51             | 0082          | 7.6                 | 12.0                           | 0                                       | 0                                       |
| 80/07/07           | 15 35             | 0002          | 8.0                 | 21.1                           | 0                                       | 0                                       |
|                    | 15 35             | 0082          | 8.0                 | 14.6                           | 0                                       | 0                                       |
| 80/07/21           | 12 55             | 0002          | 12.0                | 23.5                           | 0                                       | 0                                       |
|                    | 12 55             | 0082          | 7.4                 | 14.8                           | 1                                       | 0                                       |
| 80/08/01           | 10 03             | 0002          | 8.1                 | 23.6                           | 0                                       | 0                                       |
|                    | 10 03             | 0082          | 7.5                 | 12.7                           | 0                                       | 0                                       |
| 80/08/04           | 09 13             | 0002          | 7.4                 | 24.4                           | 0                                       | 0                                       |
|                    | 09 13             | 0079          | 7.4                 | 12.8                           | 3                                       | 0                                       |
| 80/08/13           | 13 48             | 0002          | 7.5                 | 24.1                           | 1                                       | 0                                       |
|                    | 13 48             | 0082          | 8.6                 | 15.3                           | 0                                       | 0                                       |
| 80/08/20           | 14 06             | 0002          | 8.0                 | 19.9                           | 0                                       | 0                                       |
|                    | 14 07             | 0082          | 8.9                 | 13.5                           | 0                                       | 0                                       |
| 80/08/27           | 11 20             | 0002          | 6.4                 | 23.2                           |                                         |                                         |
|                    | 11 20             | 0079          | 6.9                 | 21.6                           |                                         |                                         |

SECRET RETRIEVAL DATE 81/03/03  
 NYB47 NYB-47  
 40 20 00.0 073 43 15.0 2  
 11.8MI EAST OF MCANPCUTH BEACH  
 34C25 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YCRK BIGHT SURV SGE SLUDGE GROUNDS  
 1111H030  
 0081 FEET DEPTH CLASS 00

/TYPA/AMBNY/OCEAN

| DATE     | TIME  | DEPTH | 00530<br>RESICUE<br>TCT AFLT<br>MG/L | 00956<br>SILICA<br>TCTAL<br>MG/L | 00680<br>T ORG C<br>C<br>MG/L | 00610<br>NH3+NH4-<br>N TOTAL<br>MG/L | 00620<br>NO3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P | 70507<br>PHOS-T<br>CRTHO<br>MG/L P |
|----------|-------|-------|--------------------------------------|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|-------------------------------------|-----------------------------|------------------------------------|
| FRCM     | OF    | FEET  |                                      |                                  |                               |                                      |                                 |                                     |                             |                                    |
| TC       | DAY   |       |                                      |                                  |                               |                                      |                                 |                                     |                             |                                    |
| 80/06/02 | 09 46 | 0002  | 30                                   | 0.04K                            | 5.0                           | 0.020K                               |                                 | 0.02K                               | 0.012                       | 0.016                              |
|          | 09 46 | 0082  | 17                                   | 0.04K                            | 4.0                           | 0.020K                               |                                 | 0.02K                               | 0.018                       | 0.021                              |
| 80/06/10 | 10 55 | 0002  | 8                                    | 0.04K                            | 2.8                           | 0.021                                |                                 | 0.02K                               | 0.022                       | 0.016                              |
|          | 10 55 | 0079  | 6                                    | 0.2                              | 2.1                           | 0.021                                |                                 | 0.02K                               | 0.022                       | 0.020                              |
| 80/06/24 | 09 22 | 0002  | 1                                    | 0.1                              | 1.1                           | 0.047                                |                                 | 0.02K                               | 0.013                       | 0.014                              |
|          | 09 22 | 0082  | 4                                    | 0.2                              | 2.4                           | 0.073                                |                                 | 0.02K                               | 0.033                       | 0.026                              |
| 80/07/02 | 09 51 | 0002  | 2                                    | 0.05                             | 2.5                           | 0.020K                               |                                 | 0.02K                               | 0.023                       | 0.017                              |
|          | 09 51 | 0082  | 23                                   | 0.3                              | 1.3                           | 0.020K                               |                                 | 0.02K                               | 0.033                       | 0.027                              |
| 80/07/07 | 15 35 | 0002  | 5                                    | 0.1                              | 1.3                           | 0.020K                               |                                 | 0.02K                               | 0.031                       | 0.016                              |
|          | 15 35 | 0082  | 9                                    | 0.3                              | 0.8                           | 0.020K                               |                                 | 0.02K                               | 0.028                       | 0.026                              |
| 80/07/21 | 12 55 | 0002  | 15                                   | 0.1                              | 1.6                           | 0.020K                               |                                 | 0.02K                               | 0.023                       | 0.010K                             |
|          | 12 55 | 0082  | 17                                   | 0.4                              | 1.7                           | 0.020K                               |                                 | 0.02K                               | 0.043                       | 0.017                              |
| 80/08/01 | 10 03 | 0002  | 18                                   | 0.04K                            | 2.4                           | 0.020K                               |                                 | 0.02K                               | 0.012                       | 0.010K                             |
|          | 10 03 | 0082  | 4                                    | 0.3                              | 2.3                           | 0.020K                               |                                 | 0.02K                               | 0.025                       | 0.015                              |
| 80/08/04 | 09 13 | 0002  | 20                                   | 0.04K                            | 1.4                           | 0.020K                               |                                 | 0.02K                               | 0.011                       | 0.010K                             |
|          | 09 13 | 0079  | 31                                   | 0.2                              | 1.4                           | 0.020K                               |                                 | 0.02K                               | 0.035                       | 0.023                              |
| 80/08/13 | 13 48 | 0002  | 1                                    | 0.04K                            | 2.9                           | 0.020K                               |                                 | 0.02K                               | 0.028                       | 0.010                              |
|          | 13 48 | 0082  | 12                                   | 0.1                              | 4.1                           | 0.020K                               |                                 | 0.02K                               | 0.043                       | 0.017                              |
| 80/08/20 | 14 06 | 0002  | 7                                    | 0.1                              | 2.2                           | 0.042                                |                                 | 0.03                                | 0.029                       | 0.021                              |
|          | 14 07 | 0082  | 41                                   | 0.1                              | 2.7                           | 0.042                                |                                 | 0.03                                | 0.033                       | 0.025                              |

APPENDIX F

Heavy Metals in New York Bight Apex Sediment

1974-1980

NYB20  
 40 23 54.0 073 56 03.0 2  
 2 MILES EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK NIGHT SURVEILLANCE

| DATE     | TIME  | DEPTH | 01028    | 01029    | 01043    | 01052    | 01068    | 71921    | 01003    |
|----------|-------|-------|----------|----------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | CD MUD   | CHROMIUM | COPPER   | LEAD     | NICKEL   | MERCURY  | ARSENIC  |
| TO       | DAY   | FEET  | DRY WGT  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | MG/KG-CD | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 74/05/16 | 09 15 | 0048  | 2.00K    | 3.00K    | 6.00K    | 50.00K   | 7.00K    | 0.2K     | 2.80     |
| 75/07/23 | 09 40 | 0042  | 0.50K    | 5.00K    | 3.00K    | 8.00K    | 2.90     |          |          |
| 75/11/12 | 09 45 | 0052  | 0.50K    | 9.00     | 5.00     | 18.00    | 23.00    |          |          |
| 76/03/23 | 10 00 | 0052  | 0.20K    | 2.80     | 0.80K    | 10.00    | 10.00K   |          |          |
| 78/06/13 | 10 00 | 0052  | 0.40     |          | 1.00     | 6.00     | 1.00     |          |          |
| 80/05/28 | 10 45 | 0050  | 0.70K    | 3.00J    | 0.40K    | 3.00J    | 2.00K    | 0.05K    | 4.00     |

| DATE     | TIME  | DEPTH | 01013    | 01078    | 01093    | 01098    | 01148    |
|----------|-------|-------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | BERYLIUM | SILVER   | ZINC     | ANTIMONY | SELENIUM |
| TO       | DAY   | FEET  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 80/05/28 | 10 45 | 0050  | 0.90K    | 0.40K    | 5.50     | 0.30K    | 0.02K    |



NY821  
 40 23 54.0 073 53 30.0 2  
 4 MILES EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK NIGHT SURVEILLANCE

| DATE     | TIME  | DEPTH | 01028<br>CD MUD<br>FROM OF<br>TO DAY FEET | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | 01043<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|----------|-------|-------|-------------------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| 74/05/16 | 09 30 | 0076  | 2.00K                                     | 33.00                                    | 34.00                                  | 50.00K                               | 10.00                                  | 0.7                                     | 4.70                                    |
| 75/03/10 | 11 50 | 0078  | 5.50                                      | 204.00                                   | 190.00                                 | 223.00                               | 27.00                                  |                                         |                                         |
| 75/07/23 | 10 00 | 0082  | 4.10                                      | 175.00                                   | 160.00                                 | 190.00                               | 39.00                                  |                                         |                                         |
| 75/11/12 | 10 05 | 0080  | 4.40                                      | 180.00                                   | 200.00                                 | 199.00                               | 185.00                                 |                                         |                                         |
| 76/03/23 | 10 45 | 0076  | 0.20K                                     | 68.00                                    | 2.70                                   | 13.00                                | 10.00K                                 |                                         |                                         |
| 78/06/13 | 10 05 | 0082  | 0.30                                      |                                          | 3.00                                   | 4.00                                 | 2.00                                   |                                         |                                         |
| 79/03/21 | 10 50 | 0079  | 0.40J                                     | 2.00K                                    | 1.30                                   | 10.00J                               | 2.00J                                  |                                         |                                         |
| 80/05/28 | 10 55 | 0080  | 0.70K                                     | 5.00                                     | 1.00J                                  | 4.00J                                | 15.00                                  | 0.7                                     | 1.50                                    |

| DATE     | TIME  | DEPTH | 01013<br>BERYLIUM<br>FROM OF<br>TO DAY FEET | 01078<br>SILVER<br>SEDMG/KG<br>DRY WGT | 01093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |
|----------|-------|-------|---------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|
| 80/05/28 | 10 55 | 0080  | 0.90K                                       | 0.40K                                  | 6.30                                 | 0.30K                                    | 0.02K                                    |

NYB22  
 40 23 54.0 073 51 00.0 2  
 6 MILES EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE MUD GROUNDS

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01028<br>CD MUD<br>DRY WGT<br>MG/KG-CD | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | 01043<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|----------------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| 74/04/18           | 09 50             | 0068          | 3.00K                                  | 38.00                                    | 47.00                                  | 58.00                                | 12.00                                  | 3.8                                     | 3.60                                    |
| 74/05/16           | 09 45             | 0078          | 2.00K                                  | 15.00                                    | 35.00                                  | 50.00K                               | 13.00                                  | 0.4                                     | 3.40                                    |
| 75/03/10           | 11 30             | 0078          | 0.40K                                  | 16.00                                    | 19.00                                  | 23.00                                | 8.00                                   |                                         |                                         |
| 75/07/23           | 10 20             | 0074          | 0.50K                                  | 15.90                                    | 14.00                                  | 27.00                                | 7.40                                   |                                         |                                         |
| 75/11/12           | 10 24             | 0072          | 1.00                                   | 81.00                                    | 345.00                                 | 360.00                               | 175.00                                 |                                         |                                         |
| 76/03/23           | 11 15             | 0084          | 0.70                                   | 25.00                                    | 28.00                                  | 27.00                                | 38.00                                  |                                         |                                         |
| 77/05/17           | 12 30             | 0066          | 0.05K                                  | 15.20                                    | 23.00                                  | 18.20                                | 5.40                                   |                                         |                                         |
| 78/06/13           | 10 45             | 0053          | 0.30                                   |                                          | 2.00                                   | 5.00                                 | 3.00                                   |                                         |                                         |
| 79/03/21           | 11 20             | 0092          | 0.90J                                  | 5.00J                                    | 8.50                                   | 20.00J                               | 4.00J                                  |                                         |                                         |
| 80/05/28           | 11 25             | 0068          | 1.00J                                  | 72.00                                    | 66.00                                  | 79.00                                | 18.00                                  | 2.2                                     | 8.80                                    |

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01013<br>BERYLIUM<br>SEDMG/KG<br>DRY WGT | 01078<br>SILVER<br>SEDMG/KG<br>DRY WGT | 01093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|
| 80/05/28           | 11 25             | 0068          | 0.90K                                    | 2.00J                                  | 140.00                               | 2.00J                                    | 0.07J                                    |

NY823  
 40 23 54.0 073 49 12.0 2  
 7.4MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE CELLAR DIRT

| DATE     | TIME  | DEPTH | 01028<br>CD MUD<br>FROM OF<br>TC DAY FEET | 01029<br>CHROMIUM<br>SEC/MG/KG<br>DRY WGT | 01043<br>COPPER<br>SEC/MG/KG<br>DRY WGT | 01052<br>LEAD<br>SEC/MG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEC/MG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEC/MG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEC/MG/KG<br>DRY WGT |
|----------|-------|-------|-------------------------------------------|-------------------------------------------|-----------------------------------------|---------------------------------------|-----------------------------------------|------------------------------------------|------------------------------------------|
| 74/04/18 | 10 20 | 0114  | 3.00                                      | 87.00                                     | 100.00                                  | 126.00                                | 24.00                                   | 4.0                                      | 12.80                                    |
| 75/03/10 | 11 15 | 0112  | 4.80                                      | 170.00                                    | 170.00                                  | 233.00                                | 14.00                                   |                                          |                                          |
| 75/07/23 | 10 30 | 0098  | 0.60                                      | 22.90                                     | 32.00                                   | 120.00                                | 13.30                                   |                                          |                                          |
| 75/11/12 | 10 40 | 0108  | 2.10                                      | 81.00                                     | 65.00                                   | 119.00                                | 23.00                                   |                                          |                                          |
| 76/03/23 | 11 45 | 0108  | 2.80                                      | 114.00                                    | 0.80K                                   | 196.00                                | 43.00                                   |                                          |                                          |
| 80/05/28 | 11 50 | 0107  | 0.70K                                     | 180.00                                    | 36.00                                   | 69.00                                 | 16.00                                   | 0.8                                      | 4.40                                     |

| DATE     | TIME  | DEPTH | 01013<br>BERYLLIUM<br>SEC/MG/KG<br>FROM OF<br>TC DAY FEET | 01078<br>SILVER<br>SEC/MG/KG<br>DRY WGT | 01093<br>ZINC<br>SEC/MG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEC/MG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEC/MG/KG<br>DRY WGT |
|----------|-------|-------|-----------------------------------------------------------|-----------------------------------------|---------------------------------------|-------------------------------------------|-------------------------------------------|
| 80/05/28 | 11 50 | 0107  | 0.90K                                                     | 0.40K                                   | 110.00                                | 0.30J                                     | 0.05J                                     |

NYB24  
 40 23 54.0 073 47 30.0 2  
 8.6MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE

| DATE     | TIME  | DEPTH | 01028    | 01029    | 01043    | 01052    | 01068    | 71921    | 01003    |
|----------|-------|-------|----------|----------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | CO MUD   | CHROMIUM | COPPER   | LEAD     | NICKEL   | MERCURY  | ARSENIC  |
| TC       | DAY   | FEET  | DRY WGT  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | MG/KG-CD | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 74/04/18 | 10 40 | 0122  | 13.00    | 240.00   | 260.00   | 302.00   | 39.00    | 8.7      | 2.40     |
| 75/03/10 | 11 00 | 0124  | 8.90     | 190.00   | 210.00   | 225.00   | 14.00    |          |          |
| 77/05/17 | 12 00 | 0116  | 0.60     | 44.00    | 34.00    | 63.60    | 11.00    |          |          |
| 80/05/28 | 12 10 | 0128  | 11.00    | 32.00    | 220.00   | 280.00   | 45.00    | 1.9      | 28.00    |

| DATE     | TIME  | DEPTH | 01013    | 01078    | 01093    | 01098    | 01148    |
|----------|-------|-------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | BERYLIUM | SILVER   | ZINC     | ANTIMONY | SELENIUM |
| TC       | DAY   | FEET  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 80/05/28 | 12 10 | 0128  | 0.90K    | 7.50     | 440.00   | 15.00    | 0.05J    |

NY825  
 40 23 54.0 073 45 00.0 2  
 10.6MI EAST OF SANCY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE SGE SLUDGE G

| DATE     | TIME  | DEPTH | 01028<br>CD MUD<br>DRY WGT<br>MG/KG-CD | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | 01043<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|----------|-------|-------|----------------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| FROM     | OF    | FEET  |                                        |                                          |                                        |                                      |                                        |                                         |                                         |
| TC       | DAY   | FEET  |                                        |                                          |                                        |                                      |                                        |                                         |                                         |
| 74/04/18 | 11 10 | 0080  | 3.00K                                  | 10.00                                    | 5.00                                   | 40.00K                               | 10.00K                                 | 2.9                                     | 5.00                                    |
| 75/03/10 | 10 45 | 0082  | 0.40K                                  | 14.00                                    | 5.00                                   | 18.00                                | 5.00K                                  |                                         |                                         |
| 77/05/17 | 11 40 | 0076  | 0.40                                   | 20.00                                    | 25.00                                  | 26.90                                | 4.00J                                  |                                         |                                         |
| 80/05/28 | 12 30 | 0077  | 0.70K                                  | 12.00                                    | 3.20                                   | 21.00                                | 2.00K                                  | 0.3                                     | 14.00                                   |

| DATE     | TIME  | DEPTH | 01013<br>BERYLLIUM<br>SEDMG/KG<br>DRY WGT | 01078<br>SILVER<br>SEDMG/KG<br>DRY WGT | 01093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |
|----------|-------|-------|-------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|
| FROM     | OF    | FEET  |                                           |                                        |                                      |                                          |                                          |
| TC       | DAY   | FEET  |                                           |                                        |                                      |                                          |                                          |
| 80/05/28 | 12 30 | 0077  | 0.90K                                     | 0.40K                                  | 34.00                                | 0.30K                                    | 0.02K                                    |

NYB26  
 40 23 54.0 073 43 15.0 2  
 12MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE SGE SLUDGE G

| DATE     | TIME  | DEPTH | 01028<br>CD MUD<br>FROM OF<br>TC DAY FEET | 01029<br>CHROMIUM<br>SEC/MG/KG<br>DRY WGT | 01043<br>COPPER<br>SEC/MG/KG<br>DRY WGT | 01052<br>LEAD<br>SEC/MG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEC/MG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEC/MG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEC/MG/KG<br>DRY WGT |
|----------|-------|-------|-------------------------------------------|-------------------------------------------|-----------------------------------------|---------------------------------------|-----------------------------------------|------------------------------------------|------------------------------------------|
| 74/04/17 | 11 07 | 0080  | 3.00K                                     | 9.00                                      | 5.00                                    | 40.00K                                | 5.00                                    | 2.2                                      | 3.00                                     |
| 77/05/17 | 11 15 | 0074  | 0.30                                      | 41.00                                     | 24.00                                   | 36.70                                 | 3.40J                                   |                                          |                                          |
| 79/03/21 | 12 40 | 0084  | 1.10                                      | 4.00J                                     | 4.20                                    | 820.00                                | 2.00K                                   |                                          |                                          |
| 80/05/28 | 13 00 | 0079  | 3.00J                                     | 70.00                                     | 85.00                                   | 110.00                                | 6.00J                                   | 2.3                                      | 6.00                                     |

| DATE     | TIME  | DEPTH | 01013<br>BERYLIUM<br>FROM OF<br>TC DAY FEET | 01078<br>SILVER<br>SEC/MG/KG<br>DRY WGT | 01093<br>ZINC<br>SEC/MG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEC/MG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEC/MG/KG<br>DRY WGT |
|----------|-------|-------|---------------------------------------------|-----------------------------------------|---------------------------------------|-------------------------------------------|-------------------------------------------|
| 80/05/28 | 13 00 | 0079  | 0.90K                                       | 3.10                                    | 180.00                                | 3.60                                      | 0.02J                                     |

NYB27  
 40 23 54.0 073 40 32.0 2  
 14MI EAST OF SANDY HOOK ST PK  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK RIGHT SURVEILLANCE

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01028<br>CD MUD<br>DRY WGT<br>MG/KG-CD | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | 01043<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|----------------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| 74/05/21           | 10 50             | 0086          | 2.00K                                  | 10.00                                    | 7.00                                   | 50.00K                               | 7.00K                                  | 0.3                                     | 3.70                                    |
| 79/03/21           | 12 15             | 0087          | 0.90J                                  | 16.00                                    | 5.50                                   | 17.00                                | 2.00K                                  |                                         |                                         |
| 80/08/27           | 12 20             | 0081          | 0.60K                                  | 15.00                                    | 9.00J                                  | 31.00                                | 2.00K                                  | 0.2                                     | 2.90                                    |

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01013<br>BERYLIUM<br>SEDMG/KG<br>DRY WGT | 01078<br>SILVER<br>SEDMG/KG<br>DRY WGT | 01093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|
| 80/08/27           | 12 20             | 0081          | 1.00J                                    | 0.40K                                  | 31.00                                | 2.00K                                    | 0.13                                     |

NYE30  
 40 30 25.0 073 58 42.0 2  
 ADJACENT TO AMERCE CHANNEL  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK RIGHT SURVEILLANCE BUOY FL5

| CATE     | TIME | DEPTH | 01028    | 01029    | 01043    | 01052    | 01068    | 71921    | 01003    |
|----------|------|-------|----------|----------|----------|----------|----------|----------|----------|
| FRCP     | CF   |       | CD MUD   | CHROMIUM | COPPER   | LEAD     | NICKEL   | MERCURY  | ARSENIC  |
| TC       | DAY  | FEET  | DRY WGT  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |      |       | MG/KG-CD | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 74/05/21 | 08   | 50    | 0050     | 2.00K    | 3.00     | 6.00K    | 50.00K   | 7.00K    | 0.2      |
| 75/03/10 | 09   | 25    | 0046     | 0.60     | 6.00     | 3.00     | 10.00K   | 5.00K    | 1.40     |
| 75/07/23 | 11   | 40    | 0040     | 0.50K    | 5.00K    | 3.00K    | 8.00K    | 2.00K    |          |
| 75/11/12 | 11   | 36    | 0050     | 0.50K    | 5.00K    | 2.50K    | 5.00K    | 23.00    |          |
| 77/05/03 | 13   | 30    | 0036     | 1.30K    | 5.00J    | 0.30K    | 13.00J   | 9.00J    |          |



NY831  
 40 30 00.0 073 57 36.0 2  
 ADJACENT TO AMBROSE CHANNEL  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE BUOY FL3

| DATE     | TIME  | DEPTH | 01028    | 01029    | 01043    | 01052    | 01068    | 71921    | 01003    |
|----------|-------|-------|----------|----------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | CO MUD   | CHROMIUM | COPPER   | LEAD     | NICKEL   | MERCURY  | ARSENIC  |
| TO       | DAY   | FEET  | DRY WGT  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | MG/KG-CD | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 74/05/21 | 09 00 | 0034  | 2.00K    | 7.00     | 6.00K    | 50.00K   | 7.00K    | 0.5      | 1.80     |

NYB32  
 40 29 25.0 073 56 00.0 2  
 ADJACENT TO AMBRICE CHANNEL  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV FLIA WHISTLE

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01028<br>CD MUD<br>DRY WGT<br>MG/KG-CD | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | 01043<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|----------------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| 74/05/21           | 09 15             | 0038          | 2.00K                                  | 3.00                                     | 6.00K                                  | 50.0CK                               | 7.00K                                  | 0.2K                                    | 0.00                                    |
| 74/07/09           | 12 10             | 0048          | 3.00K                                  | 10.00K                                   | 3.00                                   | 50.00K                               | 24.00                                  | 0.1                                     | 0.80                                    |
| 75/03/10           | 09 36             | 0038          | 0.40K                                  | 6.00                                     | 2.00K                                  | 10.00K                               | 5.00K                                  |                                         |                                         |
| 75/07/23           | 11 20             | 0036          | 0.50K                                  | 5.00K                                    | 3.00K                                  | 8.0CK                                | 2.00K                                  |                                         |                                         |
| 75/11/12           | 11 21             | 0042          | 0.50K                                  | 5.0CK                                    | 2.5CK                                  | 5.00K                                | 13.00                                  |                                         |                                         |
| 76/03/23           | 13 00             | 0052          | 0.20K                                  | 1.40                                     | 0.80K                                  | 5.30                                 | 10.00K                                 |                                         |                                         |
| 77/05/03           | 13 05             | 0034          | 1.30K                                  | 5.00J                                    | 0.30K                                  | 13.00J                               | 1.00K                                  |                                         |                                         |
| 79/03/20           | 10 15             | 0046          | 0.30J                                  | 2.00K                                    | 0.2CK                                  | 3.0CK                                | 2.00K                                  |                                         |                                         |
| 80/08/07           | 10 15             | 0042          | 0.80K                                  | 16.00                                    | 2.50                                   | 5.00J                                | 0.20J                                  | 0.1                                     | 3.30                                    |

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01013<br>BERYLLIUM<br>SEDMG/KG<br>DRY WGT | 01078<br>SILVER<br>SEDMG/KG<br>DRY WGT | 01093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|-------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|
| 80/08/07           | 10 15             | 0042          | 0.80K                                     | 0.40K                                  | 13.00                                | 2.00K                                    | 0.14                                     |

NYB33  
 40 18 36.0 073 53 45.0 2  
 ADJACENT TO AMBROSE CHANNEL  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV BN POA WHISTLE

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01028<br>CO PUD<br>DRY WGT<br>MG/KG-CD | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | 01043<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|----------------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| 74/05/21           | 09 30             | 0050          | 2.00K                                  | 9.00                                     | 8.00                                   | 50.00K                               | 7.00K                                  | 1.1                                     | 0.00                                    |
| 74/07/09           | 11 55             | 0054          | 3.00K                                  | 11.00                                    | 7.00                                   | 50.00K                               | 10.00K                                 | 0.2                                     | 1.80                                    |
| 75/03/10           | 09 50             | 0050          | 0.40K                                  | 14.00                                    | 3.00                                   | 20.00                                | 5.00K                                  |                                         |                                         |
| 75/07/23           | 11 00             | 0050          | 0.50K                                  | 7.60                                     | 3.00K                                  | 19.00                                | 4.30                                   |                                         |                                         |
| 75/10/29           | 11 55             | 0048          | 0.50K                                  | 8.00                                     | 5.00                                   | 22.00                                | 4.00                                   |                                         |                                         |
| 76/03/23           | 12 45             | 0052          | 0.20                                   | 7.40                                     | 0.80K                                  | 17.00                                | 10.00K                                 |                                         |                                         |
| 77/05/03           | 12 50             | 0044          | 1.30K                                  | 6.00                                     | 4.00                                   | 16.00                                | 7.00J                                  |                                         |                                         |
| 79/03/20           | 10 30             | 0051          | 0.20K                                  | 7.00J                                    | 2.30                                   | 20.00J                               | 2.00K                                  |                                         |                                         |
| 80/08/07           | 11 40             | 0048          | 0.80K                                  | 12.00                                    | 4.50                                   | 16.00                                | 3.70                                   | 0.1                                     | 3.80                                    |

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01013<br>BERYLLIUM<br>SEDMG/KG<br>DRY WGT | 01078<br>SILVER<br>SEDMG/KG<br>DRY WGT | 01093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|-------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|
| 80/08/07           | 11 40             | 0048          | 0.80J                                     | 0.40K                                  | 24.00                                | 2.00K                                    | 0.12                                     |

NY834  
 40 27 15.0 073 50 00.0 2  
 ADJACENT SOUTH SIDE OF FERN  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE AMBROSE FERN

| DATE     | TIME  | DEPTH | 01028<br>CO MUD<br>FRCP<br>TO | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | 01043<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|----------|-------|-------|-------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| 74/04/17 | 12 30 | 0082  |                               |                                          |                                        |                                      |                                        | 2.1                                     |                                         |
| 74/05/21 | 09 55 | 0080  | 2.00K                         | 9.00                                     | 42.00                                  | 50.00                                | 8.00                                   | 1.0                                     | 0.00                                    |
| 74/07/09 | 11 25 | 0084  | 3.00K                         | 17.00                                    | 13.00                                  | 50.00K                               | 13.00                                  | 0.3                                     | 2.40                                    |
| 75/03/10 | 10 07 | 0078  | 0.40K                         | 12.00                                    | 7.00                                   | 73.00                                | 5.00K                                  |                                         |                                         |
| 75/07/17 | 12 00 | 0082  | 0.50K                         | 3.50                                     | 7.10                                   | 31.80                                | 17.00                                  |                                         |                                         |
| 75/10/29 | 11 30 | 0080  | 1.00                          | 14.00                                    | 17.00                                  | 51.00                                | 11.00                                  |                                         |                                         |
| 76/03/23 | 12 20 | 0088  | 1.40                          | 73.00                                    | 58.00                                  | 98.00                                | 25.00                                  |                                         |                                         |
| 76/06/23 | 12 15 |       | 0.80K                         | 16.00                                    | 22.00                                  | 38.00                                | 3.00                                   |                                         |                                         |
| 77/05/03 | 12 25 | 0084  | 6.60J                         | 42.00                                    | 45.00                                  | 378.00                               | 28.00J                                 |                                         |                                         |
| 79/03/20 | 11 10 | 0081  | 1.20                          | 36.00                                    | 34.00                                  | 71.00                                | 10.00                                  |                                         |                                         |
| 80/08/26 | 13 50 | 0079  | 0.60J                         | 6.10                                     | 20.00J                                 | 76.00                                | 7.00J                                  | 0.3                                     | 6.00                                    |

| DATE     | TIME  | DEPTH | 01013<br>BERYLIUM<br>FRCP<br>TO | 01078<br>SILVER<br>SEDMG/KG<br>DRY WGT | 01093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |
|----------|-------|-------|---------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|
| 80/08/26 | 13 50 | 0079  | 2.00J                           | 0.40K                                  | 45.00                                | 2.00K                                    | 0.08J                                    |

NY835  
 4C 26 10.0 073 47 12.0 2  
 2.5MI SE CF AMBRCE. HORN  
 34059 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE

| DATE     | TIME  | DEPTH | 01028    | 01029    | 01043    | 01052    | 01068    | 71921    | 01003    |
|----------|-------|-------|----------|----------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | CD MUD   | CHROMIUM | COPPER   | LEAD     | NICKEL   | MERCURY  | ARSENIC  |
| TC       | DAY   | FEET  | DRY WGT  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | MG/KG-CD | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 74/04/17 | 11 50 | 0105  | 3.00     | 74.00    | 82.00    | 134.00   | 17.00    | 4.4      | 2.40     |
| 75/03/10 | 10 22 | 0102  | 2.80     | 81.00    | 70.00    | 120.00   | 8.00     |          |          |
| 75/07/17 | 11 20 | 0092  | 1.20     | 40.40    | 54.10    | 58.00    | 7.00     |          |          |
| 75/10/29 | 11 15 | 0096  | 2.40     | 68.00    | 56.00    | 84.00    | 23.00    |          |          |
| 76/05/13 | 11 45 | 0096  | 1.00J    | 52.00    | 40.00    | 67.00    | 11.00    |          |          |
| 77/05/03 | 12 00 | 0102  | 6.60J    | 36.00    | 47.00    | 81.00    | 27.00J   |          |          |
| 79/03/20 | 11 40 | 0081  | 2.30     | 45.00    | 51.00    | 83.00    | 9.00J    |          |          |
| 80/08/26 | 13 30 | 0093  | 0.60K    | 58.00    | 79.00    | 100.00   | 10.00J   | 0.8      | 12.00    |

| DATE     | TIME  | DEPTH | 01013    | 01078    | 01093    | 01098    | 01148    |
|----------|-------|-------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | BERYLIUM | SILVER   | ZINC     | ANTIMONY | SELENIUM |
| TC       | DAY   | FEET  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 80/08/26 | 13 30 | 0093  | 2.60     | 2.90     | 160.00   | 2.00J    | 0.23     |

NYB40  
 40 33 36.0 073 45 00.0 2  
 1.5 MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YCRK  
 ATLANTIC OCEAN 013391  
 NEW YCRK EIGHT SURVEILLANCE

| DATE     | TIME  | DEPTH | 01028    | 01029    | 01043    | 01052    | 01068    | 71921    | 01003    |
|----------|-------|-------|----------|----------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | CD MUC   | CHROMIUM | COPPER   | LEAD     | NICKEL   | MERCURY  | ARSENIC  |
| IC       | DAY   | FEET  | DRY WGT  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | MG/KG-CD | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 74/04/24 | 09 45 | 0048  | 5.00K    | 13.00    | 4.00     | 40.00K   | 10.00K   | 0.2      | 6.30     |
| 74/07/09 | 09 35 | 0048  | 3.00K    | 12.00    | 5.00     | 50.00K   | 10.00K   | 0.4      | 2.40     |
| 74/10/23 | 09 55 | 0041  | 0.10K    | 6.10     | 12.00    | 4.00K    | 2.30     | 0.2      | 0.50K    |
| 74/12/05 | 12 10 | 0048  |          | 11.00    | 3.00     | 20.00K   | 2.00     |          |          |
| 75/03/11 | 09 50 | 0050  | 0.40K    | 14.00    | 5.00     | 20.00    | 5.00K    |          |          |
| 75/07/17 | 10 00 | 0044  | 0.50K    | 7.61     | 12.60    | 18.20    | 7.00K    |          |          |
| 75/10/29 | 10 18 | 0046  | 0.50K    | 5.00     | 6.00     | 9.50     | 1.00     |          |          |
| 76/05/13 | 10 05 | 0048  | 0.90K    | 9.00     | 0.80K    | 10.00J   | 2.00J    |          |          |
| 76/06/23 | 10 18 |       | 0.80K    | 8.00     | 18.00    | 8.00     | 1.00K    |          |          |
| 77/05/03 | 10 15 | 0044  | 1.30K    | 5.00J    | 2.00J    | 13.00J   | 1.00K    |          |          |
| 79/03/20 | 13 25 | 0048  | 1.00     | 79.00    | 1.90     | 10.00J   | 2.00K    |          |          |
| 80/08/26 | 11 34 | 0045  | 0.60K    | 12.00    | 5.00J    | 38.00    | 2.00J    | 0.4      | 3.40     |

| DATE     | TIME  | DEPTH | 01013    | 01078    | 01093    | 01098    | 01148    |
|----------|-------|-------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | BERYLIUM | SILVER   | ZINC     | ANTIMONY | SELENIUM |
| IC       | DAY   | FEET  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 80/08/26 | 11 34 | 0045  | 1.00J    | 0.50J    | 23.00    | 2.00K    | 0.13     |

NYB41  
 40 31 39.0 073 45 00.0 2  
 3.5 MI SCUTH OF ATLANTIC BEACH  
 36059 NEW YCRK  
 ATLANTIC CCEAN 013391  
 NEW YCRK BIGHT SURVEILLANCE

| DATE     | TIME  | DEPTH | 01028    | 01029    | 01043    | 01052    | 01068    | 71921    | 01003    |
|----------|-------|-------|----------|----------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | CD MUD   | CHROMIUM | COPPER   | LEAD     | NICKEL   | MERCURY  | ARSENIC  |
| TO       | DAY   | FEET  | DRY WGT  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | MG/KG-CD | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 74/04/24 | 10 05 | 0074  | 5.00K    | 9.00     | 4.00     | 40.00K   | 10.00K   | 0.2K     | 5.20     |
| 74/07/09 | 09 50 | 0058  | 3.00K    | 10.00K   | 3.00K    | 50.00K   | 10.00K   | 0.1      | 5.20     |
| 74/10/23 | 10 15 | 0062  | 0.10K    | 5.30     | 11.00    | 4.00K    | 1.30     | 0.2      | 4.10     |
| 74/12/05 | 11 45 | 0076  |          | 10.00    | 2.00     | 20.00    | 3.00     |          |          |
| 75/03/11 | 10 10 | 0068  | 0.40K    | 18.00    | 4.00     | 19.00    | 5.00K    |          |          |
| 75/07/17 | 10 30 | 0068  | 0.50K    | 10.20    | 5.30     | 14.80    | 7.00K    |          |          |
| 75/10/29 | 10 25 | 0060  | 0.50K    | 9.00     | 6.00     | 18.00    | 3.00     |          |          |
| 76/05/13 | 10 30 | 0062  | 0.90K    | 4.00J    | 0.80K    | 11.00    | 1.00K    |          |          |
| 76/06/23 | 10 35 |       | 0.80K    | 9.00     | 2.50K    | 18.00    | 1.00     |          |          |
| 77/05/03 | 10 30 | 0044  | 1.30K    | 5.00     | 2.00J    | 18.00    | 1.00K    |          |          |
| 79/03/20 | 13 00 | 0067  | 0.20J    | 55.00    | 2.50     | 16.00    | 2.00K    |          |          |
| 80/08/26 | 11 55 | 0063  | 0.60K    | 12.00    | 4.00K    | 30.00    | 2.00K    | 0.3      | 9.30     |

NYB41

| DATE     | TIME  | DEPTH | 01013    | 01078    | 01053    | 01098    | 01148    |
|----------|-------|-------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | BERYLIUM | SILVER   | ZINC     | ANTIMONY | SELENIUM |
| TO       | DAY   | FEET  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 80/08/26 | 11 55 | 0063  | 2.00J    | 0.40K    | 28.00    | 2.00K    | 0.06J    |

NY842  
 40 29 42.0 073 45 00.0 2  
 5.5MI SOUTH OF ATLANTIC BEACH  
 36C59 NEW YORK  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01028<br>CO MUD<br>DRY WGT<br>MG/KG-CD | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | 01043<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|----------------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| 74/05/14           | 10 55             | 0080          | 2.00K                                  | 12.00                                    | 9.00                                   | 50.00K                               | 7.00                                   | 0.2K                                    | 17.80                                   |
| 74/07/09           | 10 02             | 0079          | 3.00K                                  | 19.00                                    | 8.00                                   | 50.00K                               | 10.00K                                 | 0.1                                     | 26.00                                   |
| 74/10/23           | 10 40             | 0076          | 0.10                                   | 14.80                                    | 12.00                                  | 6.00                                 | 4.40                                   | 0.1                                     | 18.90                                   |
| 74/12/05           | 11 30             | 0078          |                                        | 16.00                                    | 6.00                                   | 30.00                                | 7.00                                   |                                         |                                         |
| 75/03/11           | 10 20             | 0080          | 0.40K                                  | 21.00                                    | 12.00                                  | 19.00                                | 5.00K                                  |                                         |                                         |
| 75/07/17           | 10 45             | 0078          | 0.50K                                  | 13.90                                    | 8.50                                   | 23.90                                | 7.00K                                  |                                         |                                         |
| 75/10/29           | 10 45             | 0075          | 0.50K                                  | 11.00                                    | 8.00                                   | 18.00                                | 5.00                                   |                                         |                                         |
| 76/05/13           | 10 55             | 0078          | 0.90K                                  | 16.00                                    | 0.80K                                  | 19.00                                | 5.00                                   |                                         |                                         |
| 76/06/23           | 10 50             |               | 0.80K                                  | 11.00                                    | 7.00                                   | 23.00                                | 4.70                                   |                                         |                                         |
| 77/05/03           | 09 55             | 0076          | 1.30K                                  | 12.00                                    | 14.00                                  | 19.00                                | 7.00J                                  |                                         |                                         |
| 79/03/20           | 12 55             | 0082          | 0.70J                                  | 13.00                                    | 3.70                                   | 48.00                                | 3.00J                                  |                                         |                                         |
| 80/08/26           | 12 15             | 0073          | 1.00J                                  | 14.00                                    | 4.00K                                  | 30.00                                | 2.00J                                  | 0.8                                     | 20.00                                   |

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01013<br>BERYLIUM<br>SEDMG/KG<br>DRY WGT | 01078<br>SILVER<br>SEDMG/KG<br>DRY WGT | 01093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|
| 80/08/26           | 12 15             | 0073          | 3.10                                     | 0.40K                                  | 40.00                                | 2.00K                                    | 0.12                                     |



NY843  
 40 27 45.0 073 45 00.0 2  
 7.5MI SCUTH CF ATLANTIC BEACH  
 36059 NEW YCRK  
 ATLANTIC CCEAN  
 NEW YCRK BIGHT SURVEILLANCE

| DATE     | TIME  | DEPTH | 01028    | 01029    | 01043    | 01052    | 01068    | 71921    | 01003    |
|----------|-------|-------|----------|----------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | CO MUD   | CHROMIUM | COPPER   | LEAD     | NICKEL   | MERCURY  | ARSENIC  |
| TC       | DAY   | FEET  | DRY WGT  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | MG/KG-CD | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 74/05/14 | 10 30 | 0098  | 2.00     | 54.00    | 42.00    | 82.00    | 11.00    | 0.8      | 7.80     |
| 74/07/09 | 10 25 | 0092  | 3.00K    | 71.00    | 51.00    | 60.00    | 15.00    | 0.6      | 4.80     |
| 74/10/23 | 11 00 | 0091  | 1.90     | 74.00    | 65.00    | 10.00    | 15.00    | 3.3      | 9.90     |
| 74/12/05 | 11 15 | 0092  |          | 65.00    | 65.00    | 80.00    | 19.00    |          |          |
| 75/03/11 | 10 40 | 0095  | 2.10     | 72.00    | 63.00    | 86.00    | 9.00     |          |          |
| 75/07/17 | 11 00 | 0088  | 1.70     | 48.90    | 53.50    | 62.50    | 10.00    |          |          |
| 75/10/29 | 11 00 | 0092  | 1.90     | 68.00    | 56.00    | 80.00    | 19.00    |          |          |
| 76/05/13 | 11 15 | 0090  | 1.00J    | 67.00    | 52.00    | 77.00    | 19.00    |          |          |
| 76/06/23 | 11 06 |       | 2.00     | 61.00    | 59.00    | 63.00    | 15.00    |          |          |
| 77/05/03 | 11 10 | 0090  | 6.60J    | 59.00    | 8.00     | 648.00   | 30.00J   |          |          |
| 79/03/20 | 12 35 | 0096  | 2.40     | 61.00    | 5.30     | 110.00   | 9.00J    |          |          |
| 80/08/26 | 12 30 | 0079  | 1.00J    | 57.00    | 58.00    | 82.00    | 8.00J    | 0.9      | 11.00    |

| DATE     | TIME  | DEPTH | 01013    | 01070    | 01093    | 01098    | 01148    |
|----------|-------|-------|----------|----------|----------|----------|----------|
| FROM     | OF    |       | BERYLIUM | SILVER   | ZINC     | ANTIMONY | SELENIUM |
| TC       | DAY   | FEET  | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG | SEDMG/KG |
|          |       |       | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  | DRY WGT  |
| 80/08/26 | 12 30 | 0079  | 2.80     | 2.50     | 130.00   | 4.00J    | 0.31     |

KYB44  
 40 25 54.0 073 45 00.0 2  
 9.5MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YORK  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURVEILLANCE

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01028<br>CO MUD<br>DRY WGT<br>MG/KG-CO | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | 01043<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|----------------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| 74/05/14           | 10 20             | 0092          | 2.00K                                  | 30.00                                    | 38.00                                  | 50.00                                | 9.00                                   | 0.7                                     | 6.30                                    |
| 74/07/09           | 10 45             | 0096          | 9.00                                   | 146.00                                   | 156.00                                 | 370.00                               | 27.00                                  | 2.4                                     | 3.60                                    |
| 74/10/23           | 11 15             | 0096          | 1.70                                   | 34.10                                    | 53.00                                  | 20.00                                | 5.40                                   | 2.8                                     | 5.40                                    |
| 74/12/05           | 10 50             | 0095          |                                        | 30.00                                    | 30.00                                  | 60.00                                | 10.00                                  |                                         |                                         |
| 76/06/23           | 11 25             |               | 2.00                                   | 32.00                                    | 36.00                                  | 49.00                                | 6.40                                   |                                         |                                         |
|                    | 11 35             |               | 5.00                                   | 94.00                                    | 115.00                                 | 158.00                               | 15.00                                  |                                         |                                         |
| 77/05/03           | 11 30             | 0092          | 1.30K                                  | 21.00                                    | 29.00                                  | 38.00                                | 27.00J                                 |                                         |                                         |
| 79/03/20           | 12 10             | 0099          | 1.30                                   | 35.00                                    | 4.60                                   | 60.00                                | 8.00J                                  |                                         |                                         |
| 80/08/26           | 12 48             | 0091          | 2.00J                                  | 43.00                                    | 53.00                                  | 110.00                               | 6.00J                                  | 0.5                                     | 5.80                                    |

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 01013<br>BERYLIUM<br>SEDMG/KG<br>DRY WGT | 01078<br>SILVER<br>SEDMG/KG<br>DRY WGT | 01093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |
|--------------------|-------------------|---------------|------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|
| 80/08/26           | 12 48             | 0091          | 2.00J                                    | 2.00J                                  | 110.00                               | 2.00K                                    | 0.24                                     |

NY845  
 40 25 00.0 073 45 00.0 2  
 10.5MI SOUTH OF ATLANTIC BEACH  
 36059 NEW YORK  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV SGE SLUDGE GROUNDS

| DATE       | TIME      | DEPTH | 01028<br>CD MUD<br>DRY WGT<br>MG/KG-CD | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | 01043<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|------------|-----------|-------|----------------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| FROM<br>TC | OF<br>DAY | FEET  |                                        |                                          |                                        |                                      |                                        |                                         |                                         |
| 74/04/18   | 12 15     | 0090  | 9.00                                   | 115.00                                   | 133.00                                 | 208.00                               | 17.00                                  | 1.8                                     | 3.70                                    |
| 74/05/14   | 09 55     | 0096  | 2.00                                   | 48.00                                    | 97.00                                  | 130.00                               | 12.00                                  | 1.1                                     | 4.20                                    |
| 74/07/09   | 11 00     | 0084  | 3.00K                                  | 12.00                                    | 8.00                                   | 50.00K                               | 10.00K                                 | 1.3                                     | 0.80                                    |
| 74/12/05   | 10 30     | 0097  |                                        | 67.00                                    | 50.00                                  | 170.00                               | 20.00                                  |                                         |                                         |
| 76/06/23   | 11 50     |       | 6.00                                   | 92.00                                    | 115.00                                 | 134.00                               | 17.00                                  |                                         |                                         |
| 77/05/03   | 11 45     | 0094  | 6.60J                                  | 20.00                                    | 25.00                                  | 38.00                                | 10.00J                                 |                                         |                                         |
| 79/03/20   | 11 35     | 0091  | 0.80J                                  | 11.00                                    | 8.60                                   | 33.00                                | 2.00K                                  |                                         |                                         |
| 80/08/26   | 13 20     | 0088  | 2.00J                                  | 50.00                                    | 66.00                                  | 96.00                                | 9.00J                                  | 0.8                                     | 2.80                                    |

| DATE       | TIME      | DEPTH | 01013<br>BERYLLIUM<br>SEDMG/KG<br>DRY WGT | 01078<br>SILVER<br>SEDMG/KG<br>DRY WGT | 01093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |
|------------|-----------|-------|-------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|
| FROM<br>TC | OF<br>DAY | FEET  |                                           |                                        |                                      |                                          |                                          |
| 80/08/26   | 13 20     | 0088  | 1.00J                                     | 2.40                                   | 150.00                               | 2.00K                                    | 0.17                                     |

KYB46  
 40 22 00.0 073 43 15.0 2  
 11.8MI EAST OF SEA BRIGHT  
 34025 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV SGE SLUDGE GROUNDS

| DATE     | TIME  | DEPTH | 01028<br>CO MUD<br>DRY WGT<br>PG/KG-CC | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | C1C43<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|----------|-------|-------|----------------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| 74/04/17 | 10 35 | 0084  | 3.00K                                  | 9.00                                     | 5.00                                   | 40.00K                               | 6.00                                   | 5.0                                     | 5.60                                    |
| 80/08/27 | 11 45 | 0082  | 0.60K                                  | 7.40                                     | 4.00K                                  | 0.68                                 | 2.00K                                  | 0.4                                     | 20.00                                   |

| DATE     | TIME  | DEPTH | 01013<br>BERYLIUM<br>SEDMG/KG<br>DRY WGT | C1078<br>SILVER<br>SEDMG/KG<br>DRY WGT | C1093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |
|----------|-------|-------|------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|
| 80/08/27 | 11 45 | 0082  | 2.40                                     | 0.40K                                  | 46.00                                | 2.00K                                    | 0.07J                                    |

NY847  
 40 20 00.0 073 43 15.0 2  
 11.8MI EAST OF MONMOUTH BEACH  
 34C25 NEW JERSEY  
 ATLANTIC OCEAN  
 NEW YORK BIGHT SURV SGE SLUDGE GROUNDS

| DATE     | TIME  | DEPTH | 01028<br>CO MUD<br>FROM<br>TC | 01029<br>CHROMIUM<br>SEDMG/KG<br>DRY WGT | 01043<br>COPPER<br>SEDMG/KG<br>DRY WGT | 01052<br>LEAD<br>SEDMG/KG<br>DRY WGT | 01068<br>NICKEL<br>SEDMG/KG<br>DRY WGT | 71921<br>MERCURY<br>SEDMG/KG<br>DRY WGT | 01003<br>ARSENIC<br>SEDMG/KG<br>DRY WGT |
|----------|-------|-------|-------------------------------|------------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-----------------------------------------|-----------------------------------------|
| 74/04/17 | 10 00 | 0085  |                               | 3.00K                                    | 4.00                                   | 40.00K                               | 5.00                                   | 1.4                                     | 3.00                                    |
| 74/05/21 | 11 20 | 0098  |                               |                                          |                                        |                                      |                                        | 1.0                                     |                                         |
| 77/05/17 | 10 45 | 0080  |                               | 0.05K                                    | 3.00J                                  | 73.60                                | 3.50J                                  |                                         |                                         |
| 80/08/27 | 11 20 | 0085  |                               | 0.60K                                    | 6.00J                                  | 13.00                                | 3.00J                                  | 0.5                                     | 4.40                                    |

| DATE     | TIME  | DEPTH | 01013<br>BERYLLIUM<br>SEDMG/KG<br>FROM<br>TC | 01078<br>SILVER<br>SEDMG/KG<br>DRY WGT | 01093<br>ZINC<br>SEDMG/KG<br>DRY WGT | 01098<br>ANTIMONY<br>SEDMG/KG<br>DRY WGT | 01148<br>SELENIUM<br>SEDMG/KG<br>DRY WGT |      |
|----------|-------|-------|----------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|------|
| 80/08/27 | 11 20 | 0085  |                                              | 1.00J                                  | 2.00J                                | 25.00                                    | 2.00K                                    | 0.11 |

## APPENDIX G

Newark Bay Dissolved Oxygen and Sulfide Data

Summer 1980



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

THE ADMINISTRATOR

Honorable Frank J. Guarini  
House of Representatives  
Washington, D.C. 20515

Dear Mr. Guarini:

This is in response to your letter of August 27, 1980 concerning the diversion of 300+ million gallons per day (mgd) of treated effluent into Newark Bay from the Passaic Valley Sewerage Commissioners' (PVSC's) treatment facilities, located in Newark, New Jersey. As I informed you in my letter of September 24, 1980, on August 15, 1980 all sewage flows were redirected to the Upper New York Harbor. Due to hydraulic limitations, flows are currently discharged into Newark Bay only when the addition of stormwater causes the combined flows (stormwater and sewage) to exceed 300 mgd.

Looking back on the series of events that led to this incident, we have learned a number of lessons which I believe will strengthen our program and which will mitigate a similar occurrence in the future. The overwhelming majority of actions we take on wastewater treatment plant upgradings and repairs do not result in any such unforeseen short- or long-term adverse effects.

To recap the incident, the PVSC primary sewage treatment plant receives wastewater and combined stormwater and wastewater flows from 30 municipalities located within Bergen, Essex, Hudson and Passaic counties and normally discharges these flows into the Upper New York Harbor. Under its hydraulic limitations, depending upon tidal conditions, flows in excess of 300 mgd were diverted to the Newark Bay. Built in the early 1900's most of the present facilities are antiquated and in dire need of replacement. In recognition of this and under the pressure of the National Pollutant Discharge Elimination System permit issued to comply with the Federal Water Pollution Control Act Amendments of 1972, the PVSC has been moving toward the upgrading of the facility to provide secondary treatment for its wastewaters.

In April 1975, PVSC submitted to the Region II office of the Environmental Protection Agency (EPA), and the New Jersey Department of Environmental Protection (NJDEP) a facility plan which included an environmental assessment statement (EAS), engineering reports, etc. for the upgrading of its facilities. These

documents were provided as part of a series of applications which will lead to an estimated federal funding of 75% of the total eligible project cost of 500 million dollars. Thus far, PVSC has received grants of approximately 340 million dollars toward this effort. It was estimated that the construction of the new facilities would take approximately 8 to 10 years. Because of the complexity of the project and the need to keep the existing, antiquated facilities operational during the construction of the new facilities, a phased approach had to be taken for both the design and construction of the new facilities.

Upon their receipt, the facility planning documents were reviewed by both the NJDEP and EPA-Region II personnel. The facility planning documents made no mention of the diversion of primary treated, chlorinated flows from the Upper New York Harbor into the Newark Bay beyond what had been an operational necessity during wet weather periods. Had the diversion been identified in the Step 1 documents it would have been subjected to a full environmental analysis. We would have evaluated secondary as well as primary effects, despite the fact that the bay periodically (during storms) receives discharges of primary treated effluent from the PVSC system, combined sewer overflows, and primary treated effluent from the Jersey City sewerage treatment plant. This omission resulted from the fact that the engineering reports prepared during the facility plan are normally not detailed to such a specific level. Construction phasing details are usually developed during the preparation of plans and specifications when more detailed engineering data are available. This is especially true for the existing plants such as PVSC's where accurate data on existing underground facilities are not normally available until the initial detailed design investigations.

On June 3, 1973 a Step 2 (design) grant was awarded to PVSC for the development of the detailed plans and specifications; and on December 4, 1975 a finding of no significant impact (FNSI) was published by EPA. In May 1976, plans and specifications were submitted to the NJDEP and EPA-Region II for the construction of the effluent facilities at Newark Bay Pumping Station and secondary treatment facilities. Since the new primary treatment tanks have to be constructed in the same place as the existing primary tanks, the construction of the new primary tanks had to be delayed until the secondary treatment portion of the plant was completed and operational.

Based upon our records, these initial plans and specifications did not include provisions for a long-term diversion of flows to Newark Bay. After these documents were reviewed by the State and EPA staff, a Step 3 (construction) grant was awarded on June 30, 1976. Prior to initiation of construction (January 1977) a revised set of plans and specifications was submitted to the State and our regional office.



This set of documents did include the provision for diverting primary treated, chlorinated effluent from the Upper New York Harbor into Newark Bay for a period of approximately 18 months. No special attention was drawn to this diversion requirement, and since it was discussed in only 2 to 3 of well over 1,000 pages of the specifications, it apparently was not discovered during our review. These documents were approved in March 1977. Subsequent to the actual start of construction (January 1977) but prior to the actual initiation of the diversion, the need for the Newark Bay discharge was uncovered by our project engineer and the State. The diversion was found to be necessary to allow the construction of the new outlet facilities and to make the repair to the existing land portion of the outfall to the Upper New York Harbor. Both the State of New Jersey and EPA entered into an agreement with PVSC that required special monitoring of the water quality in Newark Bay and maximum chlorination during the full 18 month diversion period (see enclosure).

As provided in the specifications, the construction of the chamber and repairs to the outfall and building were supposed to be completed between the months of October and May even if it were necessary to work 24-hours per day, 7 days per week. The specifications and plans as developed by the consultant did not provide a means to redirect flows back into the main outfall. Thus, the flows to Newark Bay would have to continue until completion of the secondary treatment portion of the plant some 12 months later.

In June 1979, PVSC submitted a request for a change in the construction procedure that would reduce the proposed diversion from a maximum of 18 months to a maximum of 7 months. This proposed change required the installation of butterfly valves that would allow the flows to be redirected to Upper New York Bay upon completion of the construction of the chamber and outfall repairs. The proposed change was to cost an additional \$450,000, but the cost was to have been more than made up by the savings in the cost of chlorination. In addition, it would allow for the cessation of the diversion some 12 months earlier.

The EPA and State reviewed the proposed change and approved it prior to the scheduled October 1979 start of the diversion to Newark Bay. During the construction activities several changes related to the diversion were submitted to the PVSC by the construction contractor. Under an Interagency Agreement (IAG), the Corps of Engineers (COE) performs on-site construction services, including change order review, for projects like PVSC. These services are observer services only and do not take responsibility away from the grantee to ensure compliance with the plans and specifications and to review justifications for any changes to contract work or schedules.

The first of the change orders affecting the diversion was submitted to EPA-Region II on November 6, 1979 and called for a 37 day extension (thereby extending bypassing to June 6, 1980). This change order was eventually approved by both EPA and the COE. Another two-change order requests, which included extensions of 14 and 21 days, have to-date not been approved by either the EPA or COE. Had they been approved, the authorization for the diversion would have been extended until July 6, 1980. Unfortunately, the clause in the specifications requiring work to proceed 24-hours per day, 7 days per week, was not invoked by PVSC.

Actual bypassing of primary treated effluent began on November 9, 1979. On July 2, 1980, Dr. Richard T. Dewling, Deputy Regional Administrator for Region II, was notified of highly offensive odor problems in connection with diversion at the PVSC construction site. As a result of this notification, a meeting was held on July 3, 1980 with the NJDEP and PVSC to ensure that PVSC took immediate actions to help mitigate the situation. Meetings were held at least weekly from July 3 until the cessation of the diversion.

In an effort to minimize the affects the diversion was having on the dissolved oxygen levels in Newark Bay, several actions were taken by the PVSC.

1. Chlorination of the plant effluent was increased to maximum plant capability on Thursday, July 10.
2. PVSC installed and began operation of air compressors with diffusers on July 11 in an attempt to reduce the oxygen demand of effluent discharged into Newark Bay.
3. Polymers were added to the primary tanks to improve suspended solids removal starting July 17.
4. Hydrogen peroxide was added on a continuous basis (dockside adjacent to the effluent discharge port) beginning July 14.

After investigation of the effectiveness of the above measures it was concluded that the application of the hydrogen peroxide and the polymers were not having a substantial effect. Addition of hydrogen peroxide ceased on July 25, 1980 and the polymer application was stopped on August 10, 1980.

A critical path method (CPM) of the activities required to accelerate the construction was prepared. Under the CPM, PVSC also ordered the contractor to work 7 days per week 24 hours per day to ensure that flows were rerouted to the Upper New York Harbor as soon as possible. A schedule was established and included in a federal court consent decree which required the mitigating measures described above during the discharge to Newark Bay. In addition, increased

monitoring, a rigid construction schedule, and a follow-up study to determine the long-term effects of the diversion were included. Any remedial measures that might be required to ameliorate any long-term negative effects will be undertaken.

This study of the long-term effects and the associated mitigation steps are considered eligible for federal construction grant funds. However, Region II has indicated to me that the eligibility of interim measures undertaken by PVSC during the period of July 10, to August 15, 1980 are currently being investigated since PVSC should have exercised more control over its contractor as provided for in the specifications. The COE has been requested to review the construction events and decisions concerning its phase of the project.

As a result of the in-depth analysis of the events leading to this unfortunate situation, Region II has made changes in both internal project reviews and in the COE/EPA Agreement for construction oversight. These changes can be summarized as follows:

Additional emphasis will be required by grantees and their consultants to evaluate in greater detail any possibilities of plant shutdowns or diversions (during the facility planning phase). In addition, the grantee and their consultants will be required to separately identify and amend the EAS during the Step 2 design phase for any action that will result in a plant by-pass or a reduction-in-treatment efficiency. If any such action is proposed EPA will perform a complete analysis and issue a separate FNSI with a thirty day comment period prior to the issuance of a Step 3 grant. For any major changes, a public hearing will also be required. Under our current IAG with the COE our review of change orders has become perfunctory. At the same time, I have instructed that the provisions in our revised IAG with the COE concerning modifications during construction (that affect reduction in treatment, diversions, or extensions affecting same) be reinforced to insure such changes are reviewed, and highlighted to EPA earlier in the decision making process.

The diversion of the majority of the effluent was stopped on August 1, 1980 and normal operating conditions were restored on August 15, 1980. At the present time, dissolved oxygen levels have been observed to be recovering in the bay but there is still considerable concern over the disposition of solids across the bay.

Region II has assured me that the report on long-term affects will be initiated by PVSC and reviewed by EPA on a first priority basis. The decision as to the funding of any such remedial measures will be made immediately upon completion of the study.

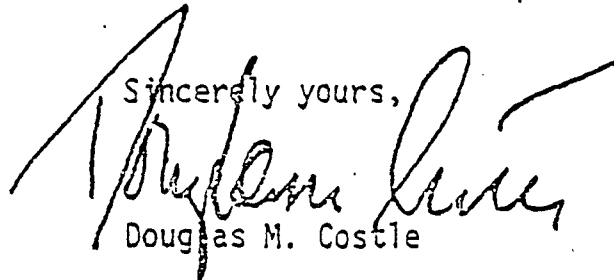
As requested by your letter, I am providing a copy of the following documents:

1. the environmental assessment statement for this project,
2. the most current construction schedule, and
3. the consent decree between EPA, NJDEP, and PVSC.

The Region will monitor the progress of PVSC relative to this construction schedule via the COE. Failure to comply with this schedule (as a result of negligence on the part of PVSC) will result in Region II initiating enforcement action in the federal courts.

Unless you instruct otherwise, we will advise you quarterly of the actions and results of our efforts with regard to the project. Once again, let me assure you that I will take all steps necessary, not only to ensure that this will not occur again, but that whatever remedial measures are required, will be promptly initiated.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Douglas M. Costle", is written over the typed name. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Douglas M. Costle

Enclosures

cc: Commissioner Jerry Fitzgerald English

## Proposed Revised EPA Procedures

### I. Internal:

- a. Special emphasis will be given to the need to specifically address any potential bypassing as part of the Step 1 environmental information document. This guidance will be stressed at all Step 1 planning meetings. This will be especially important where the use of existing wastewater facilities is considered.
- b. Grantees will be required to submit a separate statement along with their detailed plans and specifications which will detail any bypassing proposed. Prior to Step 3 award a detailed impacts analysis will be performed by EPA. A revised Finding of No Significant Impact/Environmental Assessment (FNSI/EA) will be published where significant adverse impacts not originally discussed in the Facility Plan are anticipated. If a revised FNSI/EA is necessary, there will be a 30 day comment period to provide the public opportunity to comment.
- c. Where the Step 3 reviews have been delegated to individual States under the 205(g) program, EPA will require the State to submit a checklist summarizing their review of the plans and specifications. The review checklists will specifically state that either no bypassing is proposed or that bypassing is proposed and that the details of the bypassing have been addressed in the FNSI/EA for the proposed project.
- d. The grantee will be required to formally request approval of any proposed bypassing. Items to be included in request for new or modified bypasses are:
  1. Schedule with strict construction dates
  2. Provisions for 3 shift/day work schedule if necessary to meet strict construction schedules based on primary environmental impacts analysis by EPA.
  3. Detailed monitoring and testing plan.
  4. Monthly progress reports (as a minimum).
- e. EPA Grants Handbook could be modified to specifically highlight construction/operational impacts for upgrading existing wastewater facilities.

### II. Corps Agreement:

- a. The Corps of Engineers will be required to submit progress reports on each project. These reports will require detailing the status of any ongoing or proposed bypassing.
- b. No change orders can be approved which will extend any seasonal construction restrictions (including bypassing) without prior approval of the Regional Administrator of EPA.

STCRET RETRIEVAL DATE 81/03/04

EW81

40 43 53.0 074 07 07.0 2

PASSAIC R-LIFT BR. AT CENTER OF PT. NO PT. REACH

34G17 NEW JERSEY HUDSON

NORTHEAST MAJOR BASIN LG 013309

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

/TYP/AMBNT/STREAM

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00745   |
|----------|-------|-------|-------|---------|
| FROM     | OF    |       | SC    | SULFIDE |
| TC       | DAY   | FEET  | MG/L  | TOTAL   |
|          |       |       |       | MG/L    |
| 80/07/07 | 11 46 | 0002  | 0.5   |         |
|          | 11 46 | 0026  | 0.0   |         |
|          | 18 01 | 0002  | 0.0   |         |
|          | 18 01 | 0026  | 0.0   |         |
| 80/07/08 | 18 08 | 0002  | 0.0   |         |
|          | 18 08 | 0026  | 0.0   |         |
| 80/07/09 | 13 24 | 0002  | 0.3   |         |
|          | 13 24 | 0026  | 0.0   |         |
| 80/07/11 | 14 24 | 0002  | 0.0   |         |
|          | 14 24 | 0026  | 0.0   |         |
| 80/07/15 | 17 50 | 0002  | 0.0   |         |
|          | 17 50 | 0026  | 0.0   |         |
| 80/07/18 | 08 25 | 0002  | 0.0   |         |
|          | 08 25 | 0026  | 0.0   |         |
| 80/07/21 | 10 07 | 0002  | 0.8   |         |
|          | 16 47 | 0002  | 0.4   |         |
| 80/07/30 | 17 25 | 0002  | 0.0   |         |
|          | 17 25 | 0026  | 0.0   |         |
| 80/08/06 | 11 55 | 0002  | 0.2   |         |
|          | 11 55 | 0026  | 0.0   |         |
|          | 17 46 | 0002  | 0.0   |         |
|          | 17 46 | 0026  | 0.0   |         |
| 80/08/08 | 13 44 | 0002  | 0.0   |         |
|          | 13 44 | 0026  | 0.0   |         |
| 80/08/14 | 17 24 | 0002  | 3.3   |         |
|          | 17 24 | 0026  | 0.0   |         |
| 80/08/19 | 09 02 | 0002  | 1.3   |         |
|          | 09 02 | 0026  | 0.0   |         |
| 80/08/23 | 13 38 | 0002  | 2.1   |         |
|          | 13 38 | 0026  | 0.0   |         |
| 80/09/17 | 08 09 | 0002  | 2.0   |         |
|          | 08 09 | 0026  | 1.1   |         |
| 80/10/04 | 12 10 | 0002  | 1.8   |         |
|          | 12 10 | 0026  | 1.7   |         |

SECRET RETRIEVAL DATE 81/03/04

Ew82

40 43 35.0 074 06 01.0 2

HACKENSACK R-BRIDGE AT NORTH END DROYERS PT REAC

34017 NEW JERSEY HUDSON

NORTHEAST MAJOR BASIN LC 013310

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

/TYP/AMBNT/STREAM

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00745   |
|----------|-------|-------|-------|---------|
| FRCM     | OF    |       | CO    | SULFIDE |
| TC       | DAY   | FEET  | MG/L  | TOTAL   |
|          |       |       |       | MG/L    |
| 80/07/07 | 11 49 | 0002  | 2.0   |         |
|          | 11 49 | 0025  | 0.3   |         |
|          | 18 03 | 0002  | 0.0   |         |
|          | 18 03 | 0025  | 0.0   |         |
| 80/07/08 | 18 00 | 0002  | 0.0   |         |
|          | 18 00 | 0025  | 0.0   |         |
| 80/07/09 | 13 27 | 0002  | 2.3   |         |
|          | 13 27 | 0025  | 0.3   |         |
| 80/07/11 | 14 15 | 0002  | 0.4   |         |
|          | 14 22 | 0025  | 0.0   |         |
| 80/07/15 | 17 40 | 0002  | 1.8   |         |
|          | 17 40 | 0025  | 0.7   |         |
| 80/07/18 | 08 23 | 0002  | 0.3   |         |
|          | 08 23 | 0025  | 0.3   |         |
| 80/07/21 | 10 09 | 0002  | 0.8   |         |
|          | 16 50 | 0002  | 0.0   |         |
| 80/07/30 | 17 15 | 0002  | 0.1   |         |
|          | 17 15 | 0025  | 0.0   |         |
| 80/08/06 | 11 50 | 0002  | 1.0   |         |
|          | 11 50 | 0025  | 0.0   |         |
|          | 17 41 | 0002  | 0.0   |         |
|          | 17 41 | 0025  | 0.1   |         |
| 80/08/08 | 13 37 | 0002  | 1.0   |         |
|          | 13 37 | 0025  | 0.4   |         |
| 80/08/14 | 17 19 | 0002  | 1.2   |         |
|          | 17 19 | 0025  | 2.0   |         |
| 80/08/19 | 08 58 | 0002  | 2.3   |         |
|          | 08 58 | 0025  | 1.6   |         |
| 80/08/23 | 13 32 | 0002  | 1.9   |         |
|          | 13 32 | 0025  | 1.4   |         |
| 80/09/17 | 08 05 | 0002  | 1.7   |         |
|          | 08 05 | 0025  | 1.3   |         |
| 80/10/04 | 12 05 | 0002  | 2.8   |         |
|          | 12 05 | 0025  | 2.2   |         |

SECRET RETRIEVAL DATE 81/03/04

Ew83

40 43 02.0 074 07 20.0 2

PASSAIC RIVER-KEARNY PT. REACH-BUOY N\*4\*

34017 NEW JERSEY HUDSON

NORTHEAST MAJOR BASIN LC 013309

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

0000 FEET DEPTH CLASS 00

/TYPA/AMBT/STREAM

| DATE     | TIME  | DEPTH | 00300 | 00745   |
|----------|-------|-------|-------|---------|
| FROM     | OF    |       | DO    | SULFIDE |
| TO       | DAY   | FEET  | MG/L  | TOTAL   |
|          |       |       |       | MG/L    |
| 80/07/07 | 11 56 | 0002  | 0.0   |         |
|          | 11 56 | 0028  | 0.0   |         |
|          | 17 59 | 0002  | 0.0   |         |
|          | 17 59 | 0028  | 0.05  |         |
| 80/07/08 | 18 10 | 0002  | 0.0   |         |
|          | 18 10 | 0028  | 0.0   |         |
| 80/07/09 | 13 22 | 0002  | 0.0   |         |
|          | 13 22 | 0028  | 0.0   |         |
| 80/07/10 | 14 05 | 0002  | 0.0   | 1.96    |
|          | 14 05 | 0022  | 0.0   | 2.80    |
| 80/07/11 | 14 18 | 0028  | 0.0   |         |
|          | 14 22 | 0002  | 0.0   |         |
|          | 14 22 | 0028  | 0.0   |         |
| 80/07/15 | 17 46 | 0002  | 0.0   | 1.30J   |
|          | 17 46 | 0028  | 0.0   | 3.80J   |
| 80/07/18 | 08 28 | 0002  | 0.0   | 0.70    |
|          | 08 28 | 0028  | 0.0   | 2.20    |
| 80/07/21 | 10 05 | 0002  | 0.2   |         |
|          | 16 45 | 0002  | 0.0   |         |
| 80/07/30 | 17 22 | 0002  | 0.0   | 2.70    |
|          | 17 22 | 0028  | 0.0   | 7.90    |
| 80/08/06 | 11 56 | 0002  | 0.0   | 1.80    |
|          | 11 56 | 0028  | 0.0   | 4.10    |
|          | 17 49 | 0002  | 0.0   |         |
|          | 17 49 | 0028  | 0.0   |         |
| 80/08/08 | 13 46 | 0002  | 0.0   | 1.50    |
|          | 13 46 | 0028  | 0.0   | 4.40    |
| 80/08/14 | 17 25 | 0002  | 1.9   | 0.44    |
|          | 17 25 | 0028  | 0.0   | 2.20    |
| 80/08/19 | 09 04 | 0002  | 0.4   | 0.13    |
|          | 09 04 | 0028  | 0.0   | 1.00    |
| 80/08/23 | 13 40 | 0002  | 2.0   | 0.11    |
|          | 13 40 | 0028  | 1.0   | 0.16    |
| 80/09/17 | 08 11 | 0002  | 1.3   |         |
|          | 08 11 | 0028  | 0.8   |         |
| 80/10/04 | 12 12 | 0002  | 1.1   |         |



STCRET RETRIEVAL DATE 81/03/04  
EW83

40 43 02.0 074 07 20.0 2

PASSAIC RIVER-KEARNY PT. REACH-BUOY N°4'

34017 NEW JERSEY HUDSON

NORTHEAST MAJOR BASIN LO 013309

WER HUDSON-NY METROPOLITAN AREA

1111HJ30 801004

0000 FEET DEPTH CLASS 00

/TYP A/AMBNT/STREAM

| DATE     | TIME | DEPTH | 00300 | 00745   |
|----------|------|-------|-------|---------|
| FROM     | OF   |       | 00    | SULFIDE |
| TC       | DAY  | FEET  | MG/L  | TOTAL   |
|          |      |       |       | MG/L    |
| 80/10/04 | 12   | 12    | 0028  | 1.5     |

STCRET RETRIEVAL DATE 81/03/04

EWB4

40 42 57.0 074 06 27.0 2

HACKENSACK RIVER-ORCYERS PT REACH BUOY '9' 27FT

34017 NEW JERSEY HUDSON

NORTHEAST MAJOR BASIN LC 013310

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/STREAM

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00745<br>SULFIDE<br>TOTAL<br>MG/L |
|--------------------|-------------------|---------------|---------------------|-----------------------------------|
| 80/07/07           | 11 51             | 0002          | 1.3                 |                                   |
|                    | 11 51             | 0028          | 0.0                 |                                   |
|                    | 18 05             | 0002          | 0.0                 |                                   |
|                    | 18 05             | 0028          | 0.0                 |                                   |
| 80/07/08           | 18 04             | 0002          | 0.0                 |                                   |
|                    | 18 04             | 0028          | 0.0                 |                                   |
| 80/07/09           | 13 29             | 0002          | 2.1                 |                                   |
|                    | 13 29             | 0028          | 0.5                 |                                   |
| 80/07/11           | 14 18             | 0002          | 0.0                 |                                   |
| 80/07/15           | 17 42             | 0002          | 0.2                 |                                   |
|                    | 17 42             | 0028          | 0.0                 |                                   |
| 80/07/18           | 08 24             | 0002          | 0.0                 |                                   |
|                    | 08 24             | 0028          | 0.0                 |                                   |
| 80/07/21           | 10 04             | 0002          | 0.3                 |                                   |
|                    | 16 53             | 0002          | 0.0                 |                                   |
| 80/07/30           | 17 18             | 0002          | 0.05                |                                   |
|                    | 17 18             | 0028          | 0.1                 |                                   |
| 80/08/06           | 11 52             | 0002          | 0.2                 |                                   |
|                    | 11 52             | 0028          | 0.0                 |                                   |
|                    | 17 43             | 0002          | 0.0                 |                                   |
|                    | 17 43             | 0028          | 0.0                 |                                   |
| 80/08/08           | 13 41             | 0002          | 0.3                 |                                   |
|                    | 13 41             | 0028          | 0.0                 |                                   |
| 80/08/14           | 17 21             | 0002          | 1.0                 |                                   |
|                    | 17 21             | 0028          | 0.5                 |                                   |
| 80/08/19           | 09 00             | 0002          | 1.7                 |                                   |
|                    | 09 00             | 0028          | 0.9                 |                                   |
| 80/08/23           | 13 35             | 0002          | 1.8                 |                                   |
|                    | 13 35             | 0028          | 1.0                 |                                   |
| 80/09/17           | 08 07             | 0002          | 1.6                 |                                   |
|                    | 08 07             | 0028          | 1.6                 |                                   |
| 80/10/04           | 12 07             | 0002          | 2.3                 |                                   |
|                    | 12 07             | 0028          | 1.3                 |                                   |

STCRET RETRIEVAL DATE 81/03/04

Ew85

40 42 44.0 074 07 22.0 2

PASSAIC RIVER-MID KEARNY PT REAH BUOY R'2' FL

34013 NEW JERSEY ESSEX

NORTHEAST MAJOR BASIN LO 013309

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

/TYPA/AMBNT/STREAM

0000 FEET DEPTH CLASS 00

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00745<br>SULFIDE<br>TOTAL<br>MG/L |
|--------------------|-------------------|---------------|---------------------|-----------------------------------|
| 80/07/07           | 11 54             | 0002          | 0.3                 |                                   |
|                    | 11 54             | 0025          | 0.0                 |                                   |
|                    | 17 57             | 0002          | 0.0                 |                                   |
|                    | 17 57             | 0025          | 0.0                 |                                   |
| 80/07/08           | 18 12             | 0002          | 1.0                 |                                   |
|                    | 18 12             | 0025          | 0.0                 |                                   |
| 80/07/09           | 13 20             | 0002          | 1.3                 |                                   |
|                    | 13 20             | 0025          | 0.0                 |                                   |
| 80/07/11           | 14 20             | 0002          | 0.0                 |                                   |
|                    | 14 20             | 0025          | 0.0                 |                                   |
| 80/07/15           | 17 44             | 0002          | 0.0                 |                                   |
|                    | 17 44             | 0025          | 0.0                 |                                   |
| 80/07/18           | 08 33             | 0002          | 0.3                 |                                   |
|                    | 08 33             | 0025          | 0.0                 |                                   |
| 80/07/30           | 17 20             | 0002          | 0.3                 |                                   |
|                    | 17 20             | 0025          | 0.0                 |                                   |
| 80/08/06           | 11 59             | 0002          | 1.1                 |                                   |
|                    | 11 59             | 0025          | 0.0                 |                                   |
|                    | 17 51             | 0002          | 0.0                 |                                   |
|                    | 17 51             | 0025          | 0.0                 |                                   |
| 80/08/08           | 13 48             | 0002          | 0.0                 |                                   |
|                    | 13 48             | 0025          | 0.0                 |                                   |
| 80/08/14           | 17 28             | 0002          | 1.3                 |                                   |
|                    | 17 28             | 0025          | 0.0                 |                                   |
| 80/08/19           | 09 06             | 0002          | 0.4                 |                                   |
|                    | 09 06             | 0025          | 0.05                |                                   |
| 80/08/23           | 13 42             | 0002          | 1.5                 |                                   |
|                    | 13 42             | 0025          | 0.5                 |                                   |
| 80/09/17           | 08 13             | 0002          | 1.3                 |                                   |
|                    | 08 13             | 0025          | 2.1                 |                                   |
| 80/10/04           | 12 13             | 0002          | 1.5                 |                                   |
|                    | 12 13             | 0025          | 2.4                 |                                   |

STCRET RETRIEVAL DATE 81/03/04

Ew86

40 42 24.0 074 07 10.0 2

NEWARK BAY TIP OF NORTH REACH AT BUOY QK FL 25FT

34013 NEW JERSEY ESSEX

NORTHEAST MAJOR BASIN LO 013308

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/ESTURY

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>00<br>MG/L | 00745<br>SULFIDE<br>TOTAL<br>MG/L |
|--------------------|-------------------|---------------|---------------------|-----------------------------------|
| 80/07/07           | 11 58             | 0002          | 0.3                 |                                   |
|                    | 11 58             | 0015          | 0.0                 |                                   |
|                    | 17 55             | 0002          | 0.0                 |                                   |
|                    | 17 55             | 0015          | 0.05                |                                   |
| 80/07/08           | 18 15             | 0002          | 0.0                 |                                   |
|                    | 18 15             | 0015          | 0.1                 |                                   |
| 80/07/09           | 13 18             | 0002          | 0.0                 |                                   |
|                    | 13 18             | 0015          | 0.0                 |                                   |
| 80/07/11           | 14 22             | 0002          | 0.0                 |                                   |
|                    | 14 22             | 0015          | 0.0                 |                                   |
| 80/07/15           | 17 53             | 0002          | 0.0                 |                                   |
|                    | 17 53             | 0015          | 0.0                 |                                   |
| 80/07/18           | 08 37             | 0002          | 0.1                 |                                   |
|                    | 08 37             | 0015          | 0.0                 |                                   |
| 80/07/30           | 17 29             | 0002          | 0.0                 |                                   |
|                    | 17 29             | 0015          | 0.0                 |                                   |
| 80/08/06           | 12 01             | 0002          | 0.0                 |                                   |
|                    | 12 01             | 0015          | 0.0                 |                                   |
|                    | 17 53             | 0015          | 0.0                 |                                   |
| 80/08/08           | 13 51             | 0002          | 0.0                 |                                   |
|                    | 13 51             | 0015          | 0.0                 |                                   |
| 80/08/14           | 17 30             | 0002          | 1.1                 |                                   |
|                    | 17 30             | 0015          | 0.9                 |                                   |
| 80/08/19           | 09 08             | 0002          | 1.8                 |                                   |
|                    | 09 08             | 0015          | 1.0                 |                                   |
| 80/08/23           | 13 47             | 0002          | 1.9                 |                                   |
|                    | 13 47             | 0015          | 1.3                 |                                   |
| 80/09/17           | 08 15             | 0002          | 1.8                 |                                   |
|                    | 08 15             | 0015          | 1.6                 |                                   |
| 80/10/04           | 12 15             | 0002          | 2.6                 |                                   |
|                    | 12 15             | 0015          | 0.0                 |                                   |

STCRET RETRIEVAL DATE 81/03/04  
 EW87  
 40 42 29.0 074 06 32.0 2  
 NEWARK BAY EAST SHORE OFF DRYERS PT. DOCK  
 34017 NEW JERSEY HUDSON  
 NORTHEAST MAJOR BASIN LC 013308  
 NEW HUDSON-NY METROPOLITAN AREA  
 1111H030 801G04  
 0000 FEET DEPTH CLASS 00

/TYP4/AMBNT/ESTURY

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00745<br>SULFIDE<br>TOTAL<br>MG/L |
|--------------------|-------------------|---------------|---------------------|-----------------------------------|
| 80/07/07           | 12 01             | 0002          | 0.1                 |                                   |
|                    | 12 01             | 0008          | 0.1                 |                                   |
|                    | 18 08             | 0002          | 0.0                 |                                   |
|                    | 18 08             | 0008          | 0.0                 |                                   |
| 80/07/08           | 18 17             | 0002          | 0.2                 |                                   |
|                    | 18 17             | 0008          | 0.0                 |                                   |
| 80/07/09           | 13 31             | 0002          | 0.0                 |                                   |
|                    | 13 31             | 0008          | 0.0                 |                                   |
| 80/07/10           | 14 11             | 0002          | 0.2                 |                                   |
|                    | 14 11             | 0005          |                     | 0.34                              |
| 80/07/11           | 14 24             | 0002          | 0.0                 |                                   |
|                    | 14 24             | 0008          | 0.0                 |                                   |
| 80/07/15           | 17 56             | 0002          | 0.0                 | 0.20J                             |
|                    | 17 56             | 0008          | 0.1                 | 0.70J                             |
| 80/07/18           | 08 41             | 0002          | 0.1                 | 3.40J                             |
|                    | 08 41             | 0008          | 0.0                 | 1.10                              |
| 80/07/30           | 17 32             | 0002          | 0.2                 | 0.42                              |
|                    | 17 32             | 0008          | 0.0                 | 1.10                              |
| 80/08/06           | 12 03             | 0002          | 0.1                 | 0.48                              |
|                    | 12 03             | 0008          | 0.0                 | 1.10                              |
|                    | 17 55             | 0002          | 0.0                 |                                   |
|                    | 17 55             | 0008          | 0.0                 |                                   |
| 80/08/08           | 13 53             | 0002          | 0.0                 | 1.90                              |
|                    | 13 53             | 0008          | 0.0                 | 2.20                              |
| 80/08/14           | 17 31             | 0002          | 1.0                 | 0.33                              |
|                    | 17 31             | 0008          | 0.8                 | 0.48                              |
| 80/08/19           | 09 10             | 0002          | 1.4                 | 0.24                              |
|                    | 09 10             | 0008          | 1.1                 | 0.16                              |
| 80/08/23           | 13 44             | 0002          | 2.0                 | 0.26                              |
| 80/09/17           | 08 17             | 0002          | 1.9                 |                                   |
|                    | 08 17             | 0008          | 2.0                 |                                   |
| 80/10/04           | 12 17             | 0002          | 2.3                 |                                   |
|                    | 12 17             | 0008          | 2.2                 |                                   |

STCRET RETRIEVAL DATE 81/03/04

EWB8

40 42 07.0 074 06 57.0 2

NEWARK BAY OUTSIDE CHANNEL-TO EAST OF BUOY N'24'

34017 NEW JERSEY HUDSON

NORTHEAST MAJOR BASIN LG 013308

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/ESTURY

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00745<br>SULFIDE<br>TOTAL<br>MG/L |
|--------------------|-------------------|---------------|---------------------|-----------------------------------|
| 80/07/07           | 12 13             | 0002          | 0.0                 |                                   |
|                    | 12 13             | 0008          | 0.0                 |                                   |
|                    | 17 53             | 0002          | 1.0                 |                                   |
|                    | 17 53             | 0008          | 0.7                 |                                   |
| 80/07/08           | 18 21             | 0002          | 0.0                 |                                   |
|                    | 18 21             | 0008          | 0.0                 |                                   |
| 80/07/09           | 13 16             | 0002          | 0.0                 |                                   |
|                    | 13 16             | 0008          | 0.0                 |                                   |
| 80/07/11           | 14 26             | 0002          | 0.0                 |                                   |
|                    | 14 26             | 0008          | 0.0                 |                                   |
| 80/07/15           | 18 05             | 0002          | 0.0                 |                                   |
|                    | 18 05             | 0008          | 0.0                 |                                   |
| 80/07/18           | 08 39             | 0002          | 0.1                 |                                   |
|                    | 08 39             | 0008          | 0.0                 |                                   |
| 80/07/30           | 17 37             | 0002          | 0.0                 |                                   |
| 80/08/06           | 12 06             | 0008          | 0.0                 |                                   |
|                    | 18 00             | 0002          | 0.0                 |                                   |
|                    | 18 00             | 0008          | 0.0                 |                                   |
| 80/08/08           | 13 57             | 0002          | 0.0                 |                                   |
|                    | 13 57             | 0008          | 0.0                 |                                   |
| 80/08/14           | 17 34             | 0002          | 1.5                 |                                   |
|                    | 17 34             | 0008          | 0.2                 |                                   |
| 80/08/19           | 09 14             | 0002          | 3.4                 |                                   |
|                    | 09 14             | 0008          | 1.1                 |                                   |
| 80/08/23           | 13 49             | 0002          | 2.6                 |                                   |
| 80/09/17           | 08 21             | 0002          | 2.0                 |                                   |
|                    | 08 21             | 0008          | 1.7                 |                                   |
| 80/10/04           | 12 20             | 0002          | 2.3                 |                                   |
|                    | 12 20             | 0008          | 0.0                 |                                   |

STCRET RETRIEVAL CATE 81/03/04  
 EW89  
 40 42 06.0 074 06 22.0 2  
 NEWARK BAY EAST SHORE PARALLEL TO STA EW88  
 34C17 NEW JERSEY HUDSON  
 NORTHEAST MAJOR BASIN LG 013308  
 WER HUDSON-NY METROPOLITAN AREA  
 1111H030 801004  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/ESTURY

| CATE     | TIME  | DEPTH | 00300 | 00745   |
|----------|-------|-------|-------|---------|
| FROM     | OF    |       | CO    | SULFIDE |
| TC       | DAY   | FEET  | MG/L  | TOTAL   |
|          |       |       |       | MG/L    |
| 80/07/07 | 12 03 | 0002  | 0.1   |         |
|          | 12 03 | 0008  | 2.6   |         |
|          | 17 51 | 0002  | 0.0   |         |
|          | 17 51 | 0008  | 0.0   |         |
| 80/07/08 | 18 19 | 0002  | 0.6   |         |
|          | 18 19 | 0008  | 0.0   |         |
| 80/07/09 | 13 14 | 0002  | 0.0   |         |
|          | 13 14 | 0008  | 0.0   |         |
| 80/07/11 | 14 32 | 0002  | 0.0   |         |
|          | 14 32 | 0008  | 0.0   |         |
| 80/07/15 | 18 00 | 0002  | 0.0   |         |
|          | 18 00 | 0008  | 0.0   |         |
| 80/07/18 | 08 45 | 0002  | 0.0   |         |
|          | 08 45 | 0008  | 0.0   |         |
| 80/07/30 | 17 35 | 0002  | 0.0   |         |
| 80/08/06 | 12 04 | 0008  | 0.0   |         |
|          | 17 57 | 0002  | 0.0   |         |
|          | 17 57 | 0008  | 0.0   |         |
| 80/08/08 | 13 55 | 0002  | 0.4   |         |
|          | 13 55 | 0008  | 0.4   |         |
| 80/08/14 | 17 33 | 0002  | 3.9   |         |
|          | 17 33 | 0008  | 1.3   |         |
| 80/08/19 | 09 12 | 0002  | 1.9   |         |
|          | 09 12 | 0008  | 1.7   |         |
| 80/08/23 | 13 45 | 0002  | 3.3   |         |
| 80/09/17 | 08 19 | 0002  | 3.3   |         |
|          | 08 19 | 0008  | 3.7   |         |
| 80/10/04 | 12 18 | 0002  | 2.3   |         |
|          | 12 18 | 0008  | 3.5   |         |

STCRET RETRIEVAL DATE 81/03/04

EWB10

40 41 01.0 074 07 33.0 2

NEWARK BAY WEST SHGRE PARALLEL TO STA. EWB11

34013 NEW JERSEY ESSEX

NORTHEAST MAJCR BASIN LC 013308

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/ESTURY

| DATE     | TIME  | DEPTH | 00300 | 00745   |
|----------|-------|-------|-------|---------|
| FROM     | OF    |       | CO    | SULFIDE |
| TO       | DAY   | FEET  | MG/L  | TOTAL   |
|          |       |       |       | MG/L    |
| 80/07/07 | 12 17 | 0002  | 0.0   |         |
|          | 12 17 | 0005  | 0.0   |         |
|          | 17 49 | 0002  | 0.0   |         |
|          | 17 49 | 0005  | 0.0   |         |
| 80/07/08 | 18 28 | 0002  | 0.1   |         |
|          | 18 28 | 0005  | 0.1   |         |
| 80/07/09 | 13 10 | 0002  | 0.0   |         |
|          | 13 10 | 0005  | 0.0   |         |
| 80/07/10 | 14 25 | 0002  | 0.0   | 1.70    |
| 80/07/11 | 14 29 | 0002  | 0.0   |         |
|          | 14 29 | 0005  | 0.0   |         |
| 80/07/15 | 18 14 | 0002  | 0.0   | 1.40J   |
|          | 18 14 | 0005  | 0.0   | 1.40J   |
| 80/07/18 | 08 57 | 0002  | 0.0   | 1.90    |
|          | 08 57 | 0005  | 0.0   | 1.60    |
| 80/07/30 | 17 44 | 0002  | 0.0   | 1.90    |
|          | 17 44 | 0005  | 0.0   | 2.10    |
| 80/08/06 | 12 11 | 0002  | 0.0   | 3.00    |
|          | 12 11 | 0005  | 0.0   | 3.10    |
|          | 18 06 | 0002  | 0.3   |         |
|          | 18 06 | 0005  | 0.0   |         |
| 80/08/08 | 14 03 | 0002  | 0.0   | 2.30    |
|          | 14 03 | 0005  | 0.0   | 2.30    |
| 80/08/14 | 17 39 | 0002  | 1.4   | 0.18    |
|          | 17 39 | 0005  | 1.3   | 0.13    |
| 80/08/19 | 09 19 | 0002  | 1.0   | 0.12    |
|          | 09 19 | 0005  | 0.3   | 0.20    |
| 80/08/23 | 13 53 | 0002  | 2.0   | 0.18    |
|          | 13 53 | 0005  | 0.3   | 2.17    |
| 80/09/17 | 08 26 | 0002  | 2.0   |         |
|          | 08 26 | 0005  | 1.6   |         |
| 80/10/04 | 12 26 | 0002  | 2.3   |         |
|          | 12 26 | 0005  | 2.3   |         |



STCRET RETRIEVAL DATE 81/03/04  
 EWB11  
 40 41 38.0 074 07 24.0 2  
 NEWARK BAY-NORTH REACH-BUGY FL R'22' 26FT  
 34013 NEW JERSEY ESSEX  
 NORTHEAST MAJOR BASIN LO 013308  
 WER HUDSON-NY METROPOLITAN AREA  
 1111H030 801004  
 0000 FEET DEPTH CLASS 00

/TPA/AMBNT/ESTURY

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>00<br>MG/L | 00745<br>SULFIDE<br>TOTAL<br>MG/L |
|--------------------|-------------------|---------------|---------------------|-----------------------------------|
| 80/07/07           | 12 18             | 0002          | 0.0                 |                                   |
|                    | 12 18             | 0025          | 0.0                 |                                   |
|                    | 17 48             | 0002          | 0.3                 |                                   |
|                    | 17 48             | 0025          | 0.0                 |                                   |
| 80/07/08           | 18 26             | 0002          | 0.1                 |                                   |
|                    | 18 26             | 0025          | 0.1                 |                                   |
| 80/07/09           | 13 11             | 0002          | 0.0                 |                                   |
|                    | 13 11             | 0025          | 0.0                 |                                   |
| 80/07/10           | 14 19             | 0002          | 0.0                 | 1.46                              |
|                    | 14 19             | 0026          | 0.0                 | 2.00                              |
| 80/07/11           | 14 38             | 0002          | 0.0                 |                                   |
|                    | 14 38             | 0025          | 0.0                 |                                   |
| 80/07/15           | 18 10             | 0002          | 0.0                 | 0.10J                             |
|                    | 18 10             | 0025          | 0.0                 | 0.80J                             |
| 80/07/18           | 08 54             | 0002          | 0.0                 | 1.30                              |
|                    | 08 54             | 0025          | 0.0                 | 1.60                              |
| 80/07/21           | 10 03             | 0002          | 0.0                 |                                   |
|                    | 16 43             | 0002          | 0.0                 |                                   |
| 80/07/30           | 17 41             | 0002          | 0.0                 | 1.60                              |
|                    | 17 41             | 0025          | 0.0                 | 1.50                              |
| 80/08/06           | 12 10             | 0002          | 0.0                 | 3.00                              |
|                    | 12 10             | 0025          | 0.0                 | 2.60                              |
|                    | 18 04             | 0002          | 0.0                 |                                   |
|                    | 18 04             | 0025          | 0.0                 |                                   |
| 80/08/08           | 14 01             | 0002          | 0.0                 | 1.90                              |
|                    | 14 01             | 0025          | 0.0                 | 2.30                              |
| 80/08/14           | 17 38             | 0002          | 1.2                 | 0.30                              |
|                    | 17 38             | 0025          | 0.6                 | 0.24                              |
| 80/08/19           | 09 17             | 0002          | 2.1                 | 0.05                              |
|                    | 09 17             | 0025          | 2.0                 | 0.12                              |
| 80/08/23           | 13 51             | 0002          | 2.7                 | 0.23                              |
|                    | 13 51             | 0025          | 1.5                 | 0.24                              |
| 80/09/17           | 08 24             | 0002          | 1.9                 |                                   |
|                    | 08 24             | 0025          | 2.3                 |                                   |
| 80/10/04           | 12 24             | 0002          | 2.2                 |                                   |
|                    | 12 24             | 0025          | 2.4                 |                                   |

STCRET RETRIEVAL DATE 81/03/04

EW812

40 41 30.0 074 07 04.0 2

NEWARK BAY EAST SHORE PARALLEL TO STA. EW811

34G17 NEW JERSEY HUDSON

NORTHEAST MAJOR BASIN LO 013308

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/ESTURY

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CC<br>MG/L | 00745<br>SULFIDE<br>TOTAL<br>MG/L |
|--------------------|-------------------|---------------|---------------------|-----------------------------------|
| 80/07/07           | 12 21             | 0002          | 0.0                 |                                   |
|                    | 12 21             | 0005          | 0.0                 |                                   |
|                    | 17 46             | 0002          | 0.0                 |                                   |
|                    | 17 46             | 0005          | 0.0                 |                                   |
| 80/07/08           | 18 24             | 0002          | 0.0                 |                                   |
| 80/07/09           | 13 13             | 0002          | 0.0                 |                                   |
|                    | 13 13             | 0005          | 0.0                 |                                   |
| 80/07/10           | 14 15             | 0002          | 0.0                 | 1.00                              |
|                    | 14 15             | 0006          | 0.0                 | 1.70                              |
| 80/07/11           | 14 36             | 0002          | 0.0                 |                                   |
|                    | 14 36             | 0005          | 0.0                 |                                   |
| 80/07/15           | 18 08             | 0002          | 0.0                 | 0.10J                             |
|                    | 18 08             | 0005          | 0.0                 | 0.80J                             |
| 80/07/18           | 08 50             | 0002          | 0.0                 | 1.10                              |
|                    | 08 50             | 0005          | 0.0                 | 1.60                              |
| 80/07/30           | 17 38             | 0002          | 0.0                 | 1.10                              |
|                    | 17 38             | 0005          | 0.0                 | 1.10                              |
| 80/08/06           | 12 09             | 0005          | 0.0                 | 2.40                              |
|                    | 18 02             | 0002          | 0.0                 |                                   |
|                    | 18 02             | 0005          | 0.0                 |                                   |
| 80/08/08           | 13 59             | 0002          | 0.0                 | 0.56                              |
|                    | 13 59             | 0005          | 0.0                 | 0.54                              |
| 80/08/14           | 17 36             | 0002          | 3.9                 | 0.10                              |
|                    | 17 36             | 0005          | 2.4                 | 0.13                              |
| 80/08/19           | 09 16             | 0002          | 1.4                 | 0.15                              |
|                    | 09 16             | 0005          | 1.3                 | 0.19                              |
| 80/08/23           | 13 50             | 0002          | 3.3                 | 0.08                              |
| 80/09/17           | 08 22             | 0002          | 2.5                 |                                   |
|                    | 08 22             | 0005          | 2.5                 |                                   |
| 80/10/04           | 12 22             | 0002          | 3.4                 |                                   |
|                    | 12 22             | 0005          | 3.3                 |                                   |

STCRET RETRIEVAL DATE 81/03/04  
 EW813  
 40 40 20.0 074 08 05.0 2  
 NEWARK BAY-MIDDLE REACH-BUGY R\*14'  
 34017 NEW JERSEY HUDSON  
 NORTHEAST MAJOR BASIN LO 013308  
 WER HUDSON-NY METROPOLITAN AREA  
 1111H030 801004  
 0000 FEET DEPTH CLASS 00

/TYP/AMBNT/ESTURY

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00745<br>SULFIDE<br>TOTAL<br>MG/L |
|--------------------|-------------------|---------------|---------------------|-----------------------------------|
| 80/07/07           | 12 24             | 0002          | 0.0                 |                                   |
|                    | 12 24             | 0020          | 0.0                 |                                   |
|                    | 17 41             | 0002          | 0.1                 |                                   |
|                    | 17 41             | 0020          | 1.5                 |                                   |
| 80/07/08           | 18 33             | 0002          | 0.0                 |                                   |
|                    | 18 33             | 0020          | 1.5                 |                                   |
| 80/07/09           | 13 07             | 0002          | 0.0                 |                                   |
|                    | 13 07             | 0020          | 0.05                |                                   |
| 80/07/11           | 14 41             | 0002          | 0.0                 |                                   |
|                    | 14 41             | 0020          | 0.0                 |                                   |
| 80/07/15           | 18 14             | 0002          | 0.0                 |                                   |
|                    | 18 14             | 0020          | 0.0                 |                                   |
| 80/07/18           | 09 00             | 0002          | 0.4                 |                                   |
|                    | 09 00             | 0020          | 0.0                 |                                   |
| 80/07/30           | 17 51             | 0002          | 0.0                 |                                   |
|                    | 17 51             | 0020          | 0.0                 |                                   |
| 80/08/06           | 12 19             | 0002          | 0.3                 |                                   |
|                    | 12 19             | 0020          | 0.0                 |                                   |
|                    | 18 09             | 0002          | 0.0                 |                                   |
|                    | 18 09             | 0020          | 0.3                 |                                   |
| 80/08/08           | 14 05             | 0002          | 0.0                 |                                   |
|                    | 14 05             | 0020          | 0.0                 |                                   |
| 80/08/14           | 17 41             | 0002          | 2.3                 |                                   |
|                    | 17 41             | 0020          | 0.8                 |                                   |
| 80/08/19           | 09 19             | 0002          | 2.5                 |                                   |
|                    | 09 19             | 0020          | 3.0                 |                                   |
| 80/08/23           | 13 54             | 0002          | 3.2                 |                                   |
|                    | 13 54             | 0020          | 3.0                 |                                   |
| 80/09/17           | 08 28             | 0002          | 3.0                 |                                   |
|                    | 08 28             | 0020          | 2.9                 |                                   |
| 80/10/04           | 12 28             | 0002          | 3.0                 |                                   |
|                    | 12 28             | 0020          | 2.9                 |                                   |

STCRET RETRIEVAL DATE 81/03/04  
 EW814  
 40 40 17.0 074 07 43.0 2  
 NEWARK BAY-EAST SHORE PARALLEL TO EW813  
 34017 NEW JERSEY HUDSON  
 NORTHEAST MAJOR BASIN LC 013308  
 WER HUDSON-NY METROPOLITAN AREA  
 1111H030 801004  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/ESTURY

| DATE<br>FROM<br>TO | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>00<br>MG/L | 00745<br>SULFIDE<br>TOTAL<br>MG/L |
|--------------------|-------------------|---------------|---------------------|-----------------------------------|
| 80/07/07           | 12 27             | 0002          | 0.0                 |                                   |
|                    | 12 27             | 0005          | 0.0                 |                                   |
|                    | 17 43             | 0002          | 0.05                |                                   |
|                    | 17 43             | 0005          | 0.0                 |                                   |
| 80/07/08           | 18 30             | 0002          | 0.5                 |                                   |
|                    | 18 30             | 0005          | 0.3                 |                                   |
| 80/07/09           | 13 05             | 0002          | 0.0                 |                                   |
|                    | 13 05             | 0005          | 0.0                 |                                   |
| 80/07/10           | 14 28             | 0002          | 0.0                 |                                   |
|                    | 14 28             | 0003          |                     | 1.00                              |
| 80/07/11           | 14 44             | 0002          | 0.0                 |                                   |
|                    | 14 44             | 0005          | 0.0                 |                                   |
| 80/07/15           | 18 16             | 0002          | 0.4                 | 0.10J                             |
|                    | 18 16             | 0005          | 0.0                 | 0.10J                             |
| 80/07/18           | 09 05             | 0002          | 0.0                 | 2.00                              |
|                    | 09 05             | 0005          | 0.0                 | 2.10                              |
| 80/07/30           | 17 47             | 0002          | 0.0                 | 0.61                              |
|                    | 17 47             | 0005          | 0.0                 | 0.71                              |
| 80/08/06           | 12 15             | 0002          | 0.0                 | 0.87                              |
|                    | 12 15             | 0005          | 0.0                 | 9.00                              |
|                    | 18 11             | 0002          | 0.0                 |                                   |
|                    | 18 11             | 0005          | 0.05                |                                   |
| 80/08/08           | 14 07             | 0002          | 0.1                 | 0.25                              |
|                    | 14 07             | 0005          | 0.0                 | 0.60                              |
| 80/08/14           | 17 43             | 0002          | 2.8                 | 0.33                              |
|                    | 17 43             | 0005          | 3.6                 | 0.15                              |
| 80/08/19           | 09 21             | 0002          | 3.6                 | 0.33                              |
|                    | 09 21             | 0005          | 2.9                 | 0.40                              |
| 80/08/23           | 13 56             | 0002          | 4.5                 | 0.16                              |
|                    | 13 56             | 0005          | 5.3                 | 0.18                              |
| 80/09/17           | 08 30             | 0002          | 3.9                 |                                   |
|                    | 08 30             | 0005          | 3.4                 |                                   |
| 80/10/04           | 12 30             | 0002          | 4.3                 |                                   |
|                    | 12 30             | 0005          | 5.0                 |                                   |

STCRET RETRIEVAL DATE 81/03/04  
 EW815  
 40 39 54.0 074 08 34.0 2  
 NEWARK BAY-WEST SHCRE PARALLEL TO STA EW816  
 34013 NEW JERSEY ESSEX  
 NORTHEAST MAJOR BASIN LO 013308  
 WER HUDSON-NY METROPOLITAN AREA  
 1111H030 801004  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBN/ESTURY

| DATE     | TIME  | DEPTH | 00300 | 00745   |
|----------|-------|-------|-------|---------|
| FRCM     | CF    |       | CO    | SULFIDE |
| TC       | DAY   | FEET  | MG/L  | TOTAL   |
|          |       |       |       | MG/L    |
| 80/07/07 | 12 29 | 0002  | 0.0   |         |
|          | 12 29 | 0005  | 0.0   |         |
|          | 17 39 | 0002  | 0.7   |         |
|          | 17 39 | 0005  | 1.4   |         |
| 80/07/08 | 18 40 | 0002  | 1.3   |         |
|          | 18 40 | 0005  | 1.9   |         |
| 80/07/09 | 13 00 | 0002  | 0.5   |         |
|          | 13 00 | 0005  | 0.8   |         |
| 80/07/11 | 14 50 | 0002  | 0.0   |         |
| 80/07/15 | 18 28 | 0002  | 0.0   |         |
|          | 18 28 | 0005  | 0.0   |         |
| 80/07/18 | 09 13 | 0002  | 0.0   |         |
|          | 09 13 | 0005  | 0.2   |         |
| 80/07/30 | 17 53 | 0002  | 0.0   |         |
|          | 17 53 | 0005  | 0.0   |         |
| 80/08/06 | 12 21 | 0002  | 0.0   |         |
|          | 12 21 | 0005  | 0.0   |         |
|          | 18 17 | 0002  | 0.5   |         |
|          | 18 17 | 0005  | 1.0   |         |
| 80/08/08 | 14 12 | 0002  | 0.0   |         |
|          | 14 12 | 0005  | 0.2   |         |
| 80/08/14 | 17 47 | 0002  | 2.4   |         |
|          | 17 47 | 0005  | 1.8   |         |
| 80/08/19 | 09 29 | 0002  | 2.1   |         |
|          | 09 29 | 0005  | 3.2   |         |
| 80/08/23 | 14 02 | 0002  | 3.3   |         |
|          | 14 02 | 0005  | 3.3   |         |
| 80/09/17 | 08 36 | 0002  | 3.2   |         |
|          | 08 36 | 0005  | 3.0   |         |
| 80/10/04 | 12 34 | 0002  | 3.6   |         |
|          | 12 34 | 0005  | 2.8   |         |

STGRET RETRIEVAL DATE 81/03/04

EW816

40 39 49.0 074 08 20.0 2

NEWARK BAY-SOUTH REACH-CENTER CHANNEL-BUOY 25FT'

34017 NEW JERSEY HUDSON

NORTHEAST MAJOR BASIN LG 013308

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

/TYPA/AMBNT/ESTURY

0000 FEET DEPTH CLASS 00

| DATE     | TIME  | DEPTH | 00300 | 00745   |
|----------|-------|-------|-------|---------|
| FROM     | OF    |       | CO    | SULFIDE |
| TC       | DAY   | FEET  | MG/L  | TOTAL   |
|          |       |       |       | MG/L    |
| 80/07/07 | 12 31 | 0002  | 0.1   |         |
|          | 12 31 | 0015  | 0.05  |         |
|          | 17 37 | 0002  | 0.2   |         |
|          | 17 37 | 0015  | 1.5   |         |
| 80/07/08 | 18 37 | 0002  | 1.1   |         |
|          | 18 37 | 0015  | 1.8   |         |
| 80/07/09 | 13 01 | 0002  | 0.1   |         |
|          | 13 01 | 0015  | 0.05  |         |
| 80/07/11 | 14 48 | 0002  | 0.0   |         |
|          | 14 48 | 0015  | 0.0   |         |
| 80/07/15 | 18 26 | 0002  | 0.0   |         |
|          | 18 26 | 0015  | 0.0   |         |
| 80/07/18 | 09 11 | 0002  | 0.0   |         |
|          | 09 11 | 0015  | 0.0   |         |
| 80/07/21 | 10 02 | 0002  | 0.0   |         |
|          | 16 40 | 0002  | 0.5   |         |
| 80/07/30 | 17 55 | 0002  | 0.0   |         |
|          | 17 55 | 0015  | 0.0   |         |
| 80/08/06 | 12 23 | 0002  | 0.0   |         |
|          | 12 23 | 0015  | 0.0   |         |
|          | 18 15 | 0002  | 0.1   |         |
|          | 18 15 | 0015  | 0.5   |         |
| 80/08/08 | 14 11 | 0002  | 0.0   |         |
|          | 14 11 | 0015  | 0.0   |         |
| 80/08/14 | 17 46 | 0002  | 2.5   |         |
|          | 17 46 | 0015  | 1.0   |         |
| 80/08/19 | 09 26 | 0002  | 2.9   |         |
|          | 09 26 | 0015  | 3.3   |         |
| 80/08/23 | 14 00 | 0002  | 4.2   |         |
|          | 14 00 | 0015  | 3.2   |         |
| 80/09/17 | 08 34 | 0002  | 3.3   |         |
|          | 08 34 | 0015  | 3.2   |         |
| 80/10/04 | 12 33 | 0002  | 3.6   |         |
|          | 12 33 | 0015  | 2.4   |         |

STCRET RETRIEVAL DATE 81/03/04  
 EW817  
 40 39 45.C 074 08 07.0 2  
 NEWARK BAY EAST SHORE PARALLEL TO STA EW816  
 34017 NEW JERSEY HUDSON  
 NORTHEAST MAJOR BASIN LG 013308  
 WER HUDSON-NY METROPOLITAN AREA  
 1111H030 801004  
 0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/ESTURY

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>CO<br>MG/L | 00745<br>SULFIDE<br>TOTAL<br>MG/L |
|--------------------|-------------------|---------------|---------------------|-----------------------------------|
| 80/07/07           | 12 33             | 0002          | 0.0                 |                                   |
|                    | 12 33             | 0015          | 0.0                 |                                   |
|                    | 17 35             | 0002          | 0.1                 |                                   |
|                    | 17 35             | 0015          | 0.0                 |                                   |
| 80/07/08           | 18 35             | 0002          | 0.6                 |                                   |
|                    | 18 35             | 0015          | 0.4                 |                                   |
| 80/07/09           | 13 04             | 0002          | 0.0                 |                                   |
|                    | 13 04             | 0015          | 0.0                 |                                   |
| 80/07/10           | 14 35             | 0002          | 0.0                 | 0.34                              |
|                    | 14 35             | 0007          | 0.0                 | 1.46                              |
| 80/07/11           | 14 46             | 0002          | 0.0                 |                                   |
| 80/07/15           | 18 24             | 0002          | 0.1                 | 0.20J                             |
|                    | 18 24             | 0015          | 0.0                 | 0.40J                             |
| 80/07/18           | 09 09             | 0002          | 0.0                 | 1.60                              |
|                    | 09 09             | 0015          | 0.0                 | 2.00                              |
| 80/07/30           | 17 57             | 0002          | 0.0                 | 0.67                              |
|                    | 17 57             | 0015          | 0.0                 | 1.10                              |
| 80/08/06           | 12 24             | 0015          | 0.0                 | 2.40                              |
|                    | 18 13             | 0002          | 0.05                |                                   |
|                    | 18 13             | 0015          | 0.05                |                                   |
| 80/08/08           | 14 09             | 0002          | 0.2                 | 0.24                              |
|                    | 14 09             | 0015          | 0.1                 | 0.40                              |
| 80/08/14           | 17 44             | 0002          | 2.5                 | 0.41                              |
|                    | 17 44             | 0015          | 2.3                 | 1.00                              |
| 80/08/19           | 09 24             | 0002          | 3.5                 | 0.05                              |
|                    | 09 24             | 0015          | 4.3                 | 1.10                              |
| 80/08/23           | 13 57             | 0002          | 4.8                 | 0.16                              |
| 80/09/17           | 08 32             | 0002          | 3.6                 |                                   |
|                    | 08 32             | 0015          | 3.5                 |                                   |
| 80/10/04           | 12 32             | 0002          | 4.8                 |                                   |
|                    | 12 32             | 0015          | 3.6                 |                                   |

STCRET RETRIEVAL DATE 81/03/04

EW818

40 39 12.0 074 08 48.0 2

NEWARK BAY-SOUTH REACH-BELOW CRR BR. BUOY C '3A'

34017 NEW JERSEY HUDSON

NORTHEAST MAJOR BASIN LC 013308

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/ESTURY

| DATE     | TIME  | DEPTH | 00300 | 00745   |
|----------|-------|-------|-------|---------|
| FROM     | OF    |       | CO    | SULFIDE |
| TC       | DAY   | FEET  | MG/L  | TOTAL   |
|          |       |       |       | MG/L    |
| 80/07/07 | 12 35 | 0002  | 0.05  |         |
|          | 12 35 | 0035  | 0.05  |         |
|          | 17 33 | 0002  | 0.3   |         |
|          | 17 33 | 0035  | 2.9   |         |
| 80/07/08 | 18 42 | 0002  | 0.5   |         |
|          | 18 42 | 0035  | 3.1   |         |
| 80/07/09 | 12 57 | 0002  | 0.0   |         |
|          | 12 57 | 0035  | 0.1   |         |
| 80/07/11 | 14 52 | 0002  | 0.0   |         |
|          | 14 52 | 0035  | 0.0   |         |
| 80/07/15 | 18 30 | 0002  | 0.0   |         |
|          | 18 30 | 0035  | 0.0   |         |
| 80/07/18 | 09 15 | 0002  | 0.0   |         |
|          | 09 15 | 0035  | 0.0   |         |
| 80/07/21 | 16 38 | 0002  | 0.0   |         |
| 80/07/30 | 18 00 | 0002  | 0.0   |         |
|          | 18 00 | 0035  | 0.0   |         |
| 80/08/06 | 12 25 | 0002  | 0.0   |         |
|          | 12 25 | 0035  | 0.0   |         |
|          | 18 19 | 0002  | 1.5   |         |
|          | 18 19 | 0035  | 0.0   |         |
| 80/08/08 | 14 14 | 0002  | 0.2   |         |
|          | 14 14 | 0035  | 0.0   |         |
| 80/08/14 | 17 49 | 0002  | 2.3   |         |
|          | 17 49 | 0035  | 1.6   |         |
| 80/08/19 | 09 32 | 0002  | 3.1   |         |
|          | 09 32 | 0035  | 3.2   |         |
| 80/08/23 | 14 08 | 0002  | 3.8   |         |
|          | 14 08 | 0035  | 3.3   |         |
| 80/09/17 | 08 37 | 0002  | 3.2   |         |
|          | 08 37 | 0035  | 3.3   |         |
| 80/10/04 | 12 35 | 0002  | 4.0   |         |
|          | 12 35 | 0035  | 3.4   |         |



STCRET RETRIEVAL DATE 81/03/04

EW819

40 38 47.0 074 10 09.0 2

ARTHUR KILL-NCRTH SHOOTERS IS REACH-BUOY QK FL G

34039 NEW JERSEY UNION

NORTHEAST MAJCR BASIN LG 013305

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

/TYPA/AMBNT/ESTURY

0000 FEET DEPTH CLASS 00

| CATE     | TIME  | DEPTH | 00300 | 00745   |
|----------|-------|-------|-------|---------|
| FRCM     | OF    |       | DC    | SULFIDE |
| TC       | DAY   | FEET  | MG/L  | TOTAL   |
|          |       |       |       | MG/L    |
| 80/07/07 | 12 41 | 0002  | 0.0   |         |
|          | 12 41 | 0035  | 0.0   |         |
|          | 17 31 | 0002  | 0.5   |         |
|          | 17 31 | 0035  | 2.4   |         |
| 80/07/08 | 18 49 | 0002  | 0.7   |         |
|          | 18 49 | 0035  | 3.3   |         |
| 80/07/09 | 12 52 | 0002  | 0.1   |         |
|          | 12 52 | 0035  | 0.05  |         |
| 80/07/11 | 14 56 | 0002  | 0.1   |         |
|          | 14 56 | 0035  | 0.0   |         |
| 80/07/15 | 18 34 | 0002  | 0.1   |         |
|          | 18 34 | 0035  | 0.0   |         |
| 80/07/18 | 09 22 | 0002  | 0.0   |         |
|          | 09 22 | 0035  | 0.0   |         |
| 80/07/30 | 18 02 | 0002  | 0.3   |         |
|          | 18 02 | 0035  | 0.1   |         |
| 80/08/06 | 12 31 | 0002  | 0.0   |         |
|          | 12 31 | 0035  | 0.0   |         |
|          | 18 21 | 0002  | 0.5   |         |
|          | 18 21 | 0035  | 0.0   |         |
| 80/08/08 | 14 16 | 0002  | 0.3   |         |
|          | 14 16 | 0035  | 0.0   |         |
| 80/08/14 | 17 51 | 0002  | 2.8   |         |
|          | 17 51 | 0035  | 2.6   |         |
| 80/08/19 | 09 35 | 0002  | 3.0   |         |
|          | 09 35 | 0035  | 3.3   |         |
| 80/08/23 | 14 02 | 0002  | 4.2   |         |
|          | 14 02 | 0035  | 3.6   |         |
| 80/09/17 | 08 39 | 0002  | 3.4   |         |
|          | 08 39 | 0035  | 3.1   |         |
| 80/10/04 | 12 37 | 0002  | 4.7   |         |
|          | 12 37 | 0035  | 2.3   |         |

STORET RETRIEVAL DATE 81/03/04

EW820

40 38 30.0 074 08 37.0 2

KILL VAN KULL - BAYONNE BRIDGE-CENTER CHANNEL

34017 NEW JERSEY HUDSON

NORTHEAST MAJOR BASIN LC 013311

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

CC00 FEET DEPTH CLASS 00

/TYPA/AMBNT/ESTURY

| DATE<br>FROM<br>TC | TIME<br>OF<br>DAY | DEPTH<br>FEET | 00300<br>00<br>MG/L | 00745<br>SULFIDE<br>TOTAL<br>MG/L |
|--------------------|-------------------|---------------|---------------------|-----------------------------------|
| 80/07/07           | 12 38             | 0002          | 0.8                 |                                   |
|                    | 12 38             | 0035          | 0.3                 |                                   |
|                    | 17 28             | 0002          | 1.7                 |                                   |
|                    | 17 28             | 0035          | 3.8                 |                                   |
| 80/07/08           | 18 44             | 0002          | 1.6                 |                                   |
|                    | 18 44             | 0035          | 3.9                 |                                   |
| 80/07/09           | 12 55             | 0002          | 0.05                |                                   |
|                    | 12 55             | 0035          | 0.05                |                                   |
| 80/07/11           | 14 54             | 0002          | 0.3                 |                                   |
|                    | 14 54             | 0035          | 0.0                 |                                   |
| 80/07/15           | 18 32             | 0002          | 0.2                 |                                   |
|                    | 18 32             | 0035          | 0.2                 |                                   |
| 80/07/18           | 09 18             | 0002          | 0.5                 |                                   |
|                    | 09 18             | 0035          | 0.3                 |                                   |
| 80/07/21           | 10 00             | 0002          | 0.0                 |                                   |
|                    | 16 55             | 0002          | 0.3                 |                                   |
| 80/07/30           | 18 04             | 0002          | 0.05                |                                   |
|                    | 18 04             | 0035          | 0.1                 |                                   |
| 80/08/06           | 12 28             | 0002          | 0.0                 |                                   |
|                    | 12 28             | 0035          | 0.0                 |                                   |
|                    | 18 23             | 0002          | 0.05                |                                   |
|                    | 18 23             | 0035          | 1.4                 |                                   |
| 80/08/08           | 14 18             | 0002          | 0.0                 |                                   |
|                    | 14 18             | 0035          | 0.1                 |                                   |
| 80/08/14           | 17 54             | 0002          | 3.0                 |                                   |
|                    | 17 54             | 0035          | 2.5                 |                                   |
| 80/08/19           | 09 37             | 0002          | 3.7                 |                                   |
|                    | 09 37             | 0035          | 3.3                 |                                   |
| 80/08/23           | 14 05             | 0002          | 4.3                 |                                   |
|                    | 14 05             | 0035          | 3.9                 |                                   |
| 80/09/17           | 08 41             | 0002          | 3.2                 |                                   |
|                    | 08 41             | 0035          | 3.2                 |                                   |
| 80/10/04           | 12 40             | 0002          | 4.3                 |                                   |
|                    | 12 40             | 0035          | 3.7                 |                                   |

STCRET RETRIEVAL DATE 81/03/04

EW821

40 38 34.0 074 07 31.0 2

KILL VAN KULL BERGEN PT. EAST REACH BUOY FG 12'

36C85 NEW YORK RICHMOND

NORTHEAST MAJOR BASIN LC 013311

WER HUDSON-NY METROPOLITAN AREA

1111H030 801004

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/ESTURY

| DATE     | TIME  | DEPTH | 00300 | 00745   |
|----------|-------|-------|-------|---------|
| FROM     | OF    |       | CO    | SULFIDE |
| TC       | DAY   | FEET  | MG/L  | TOTAL   |
|          |       |       |       | MG/L    |
| 80/07/21 | 09 55 | 0002  | 0.3   |         |
|          | 16 35 | 0002  | 4.5   |         |

STCRET RETRIEVAL DATE 81/03/04

EW822

40 38 50.0 074 05 38.0 2

KILL VAN KULL-CONSTABLE HOOK REACH BUOY R'4'

36C85 NEW YORK RICHMOND

NORTHEAST MAJOR BASIN LC 013311

WER HUDSON-NY METROPOLITAN AREA

1111H030 801018

0000 FEET DEPTH CLASS 00

/TYPA/AMBNT/ESTURY

| DATE     | TIME  | DEPTH | 00300 | 00745   |
|----------|-------|-------|-------|---------|
| FROM     | OF    |       | CO    | SULFIDE |
| TC       | DAY   | FEET  | MG/L  | TOTAL   |
|          |       |       |       | MG/L    |
| 80/07/21 | 09 50 | 0002  | 0.6   |         |
|          | 16 30 | 0002  | 5.0   |         |