



WATER QUALITY STUDY  
ITT PALM COAST  
FLORIDA

904-R-76101

UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
SCIENCE AND ECOSYSTEM SUPPORT DIVISION  
REGION 4



**EPA**

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August 1976  
Environmental Protection Agency  
Surveillance and Analysis Division  
Athens, Georgia



## IT&T - PALM COAST

### INTRODUCTION

The U.S. EPA, Surveillance and Analysis Division, Region IV, conducted water quality investigations of the International Telephone and Telegraph Corporation's Palm Coast Development south of St. Augustine, Florida during August 2-4, 1976. The study was initiated at the request of the EPA's Region IV Enforcement Division in Atlanta, Georgia for the purpose of monitoring existing water quality conditions and to document any violations of applicable water quality standards.

### STUDY FINDINGS

1. Salinity values in the ITT canal system generally mimicked those of the ambient waters, i.e., ICW.
2. The most significant salinity stratification occurred near ITT-installed aerators at Stations 13 and 14. The aerators, designed to break up haloclines and to reaerate the water column, did not effectively complete their designed function.
3. Dissolved oxygen (DO) standards, i.e., mean of 5.0 ppm, and minimum of 4.0 ppm, were violated at all canal stations.
4. Mean DO levels for the eleven canal stations progressively dropped with depth to levels below 4.0 ppm and with a minimum value of 1.6 ppm recorded. In contrast, the three ICW stations revealed a nearly constant DO profile of 5.5 ppm, with a minimum value of 4.8 ppm recorded.

5. Mean DO levels for the eleven canal stations fell below 5.0 ppm at three feet and fell below 4.0 ppm at six feet. Mean DO levels at the three ICW stations did not fall below 5.0 ppm.
6. Nutrient, i.e., nitrogen, carbon, and phosphorus concentrations in the combined canal stations were 1.2 to 1.8 times those of the ICW stations. Some canal stations had concentrations that exceeded ICW concentrations by more than 100 percent.

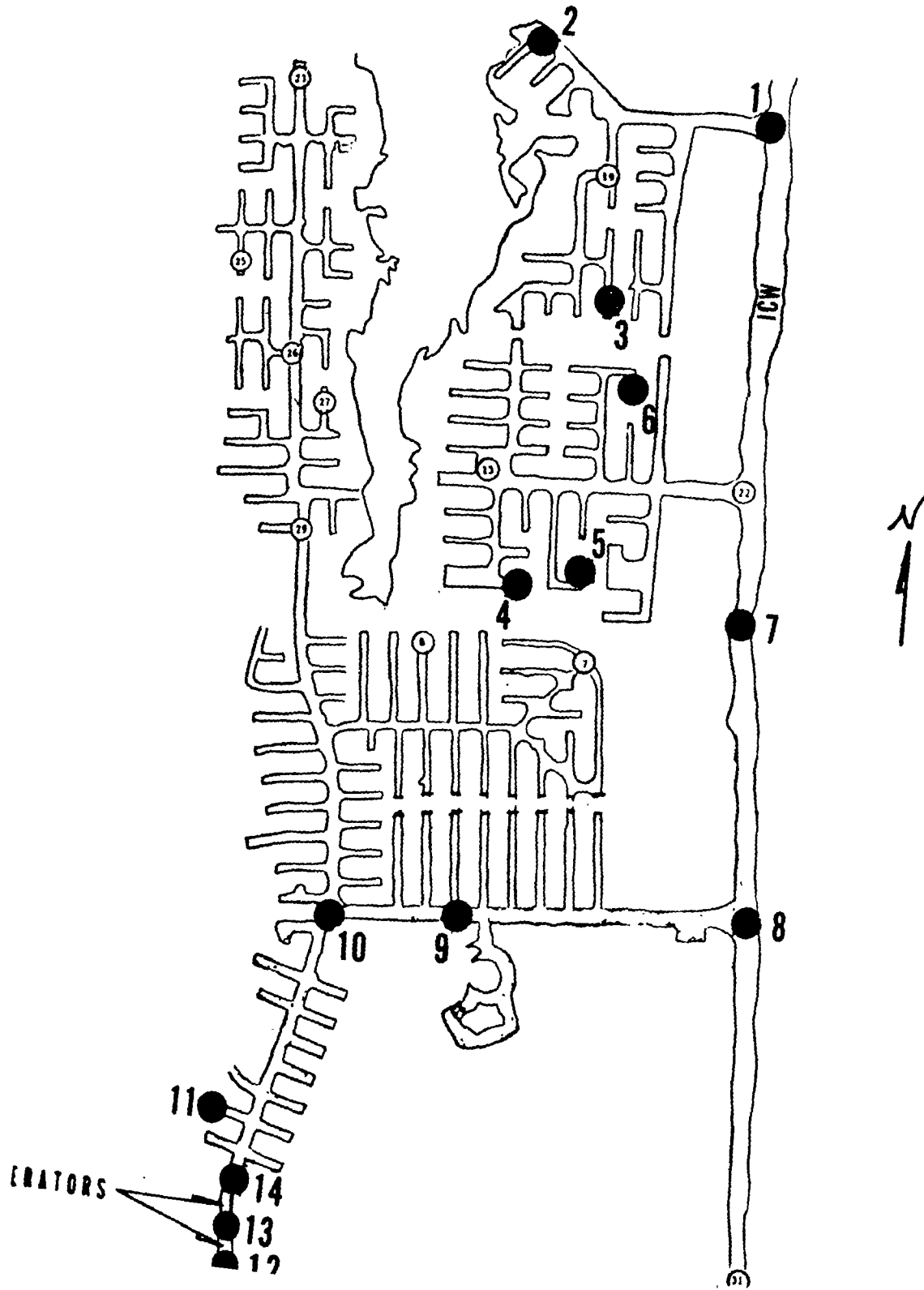
#### METHODS

Sampling was conducted over a diel cycle including various stations within the canal system as well as nearshore waters. Inasmuch as the study was related to potential enforcement actions, particular emphasis was placed upon dissolved oxygen concentrations and associated salinity stratification, as DO is a major consideration of water quality standards. Comparison of canal derived data with that of nearshore stations revealed the inherent differences between waters confined by the canal system and that of the open Atlantic Intracoastal Waterway.

#### WATER QUALITY

Physical water quality parameters consisting of temperature, dissolved oxygen, and salinity were profiled in one-foot increments from surface to bottom at 12 stations (see Figure 1). Such sampling was conducted at six-hour intervals over a 36-hour period. Two additional stations (Stations 13 and 14) were profiled once during the study in order to ascertain the effectiveness of two aerators installed

FIGURE 1  
ITT STATIONS



in the canal system. Bathymetric traces preceded the sampling program while tidal recordings proceeded simultaneously throughout the sampling period.

Water quality samples were collected from mid-channel and mid-depth during one 24-hour period. When stratification occurred, an additional sample was taken from the lower stratum.

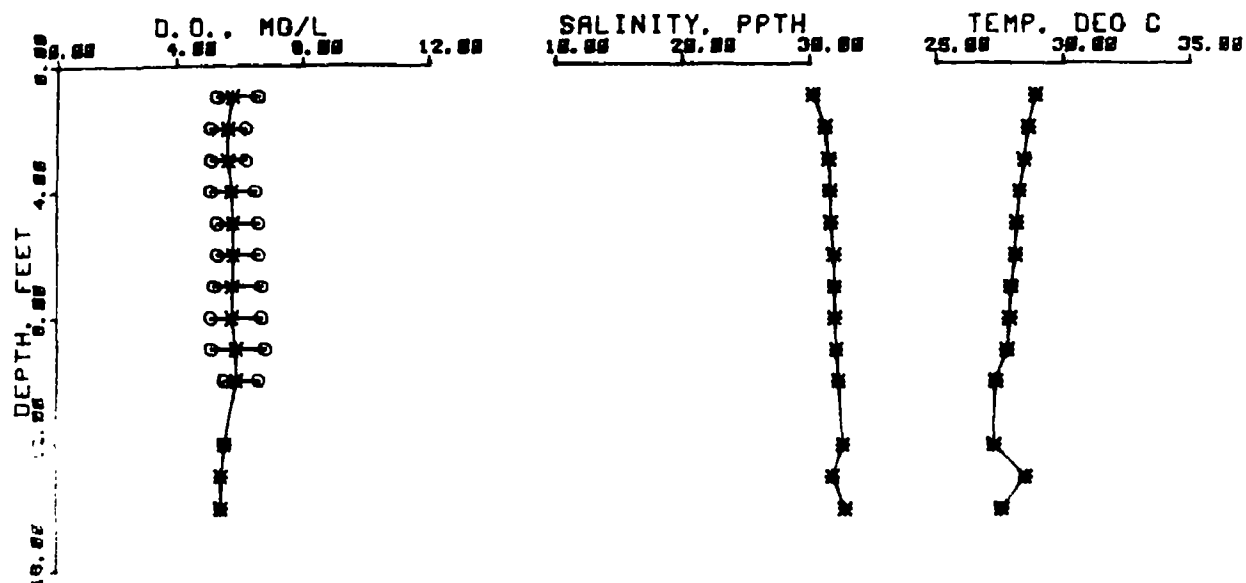
All chemical samples were preserved and returned to the EPA laboratory in Athens, Georgia, where analyses were conducted for TOC, DOC, TKN, and total-P. Chain of custody was maintained.

## RESULTS

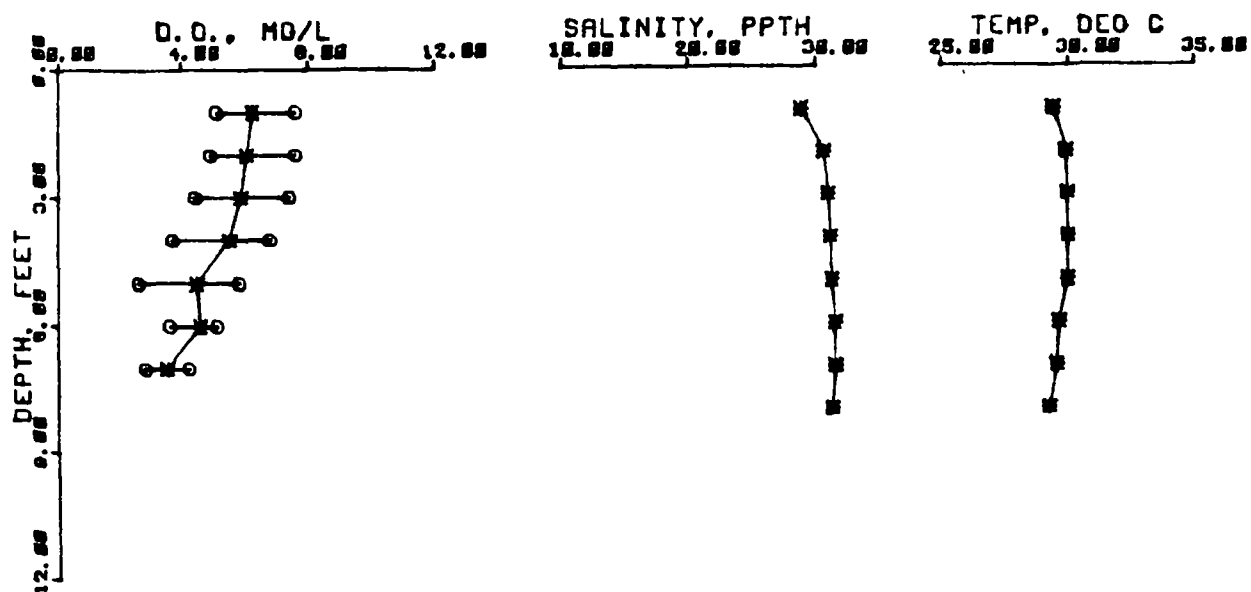
Dissolved oxygen, salinity and temperature (DST) profiles carried out on a six-hour basis over a 36-hour sampling period are depicted on Figures 2 through 8. Profiles at Stations 13 and 14 shown on Figure 8 were taken one time during the study period. Individual measurements can be found in the appendices.

No DO levels below 4.0 ppm were recorded in the background stations in the intracoastal waterway, i.e., Stations ITT 1, 7, and 8. In contrast, DO values less than 4.0 ppm were recorded at all of the canal stations. Although the canal depths were less than eight feet, the flushing and reaeration capacities did not mimic those of the ICW, which had depths to 14 feet. Salinity profiles reveal a minimal degree of stratification in the canal system. Unexpectedly, Stations 3 and 14 had the most significant salinity stratification, even though they were near the aerators. The aerators were positioned to break up haloclines and to reaerate the water column.

FIGURE 2  
DST PROFILES  
ITT  
AUGUST 1976

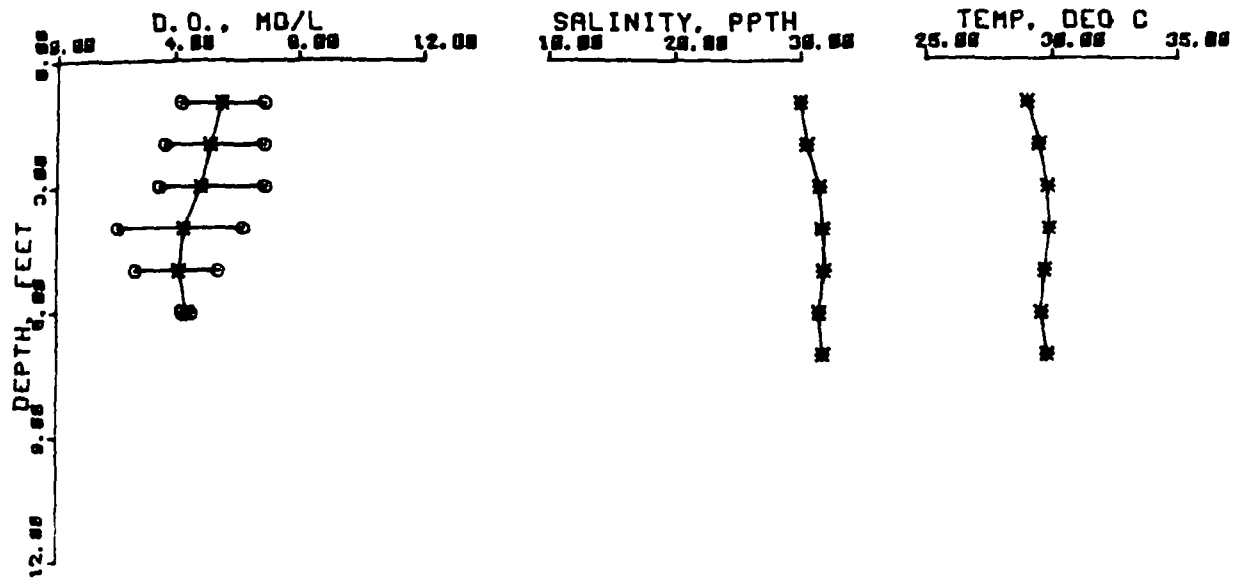


ITT-01

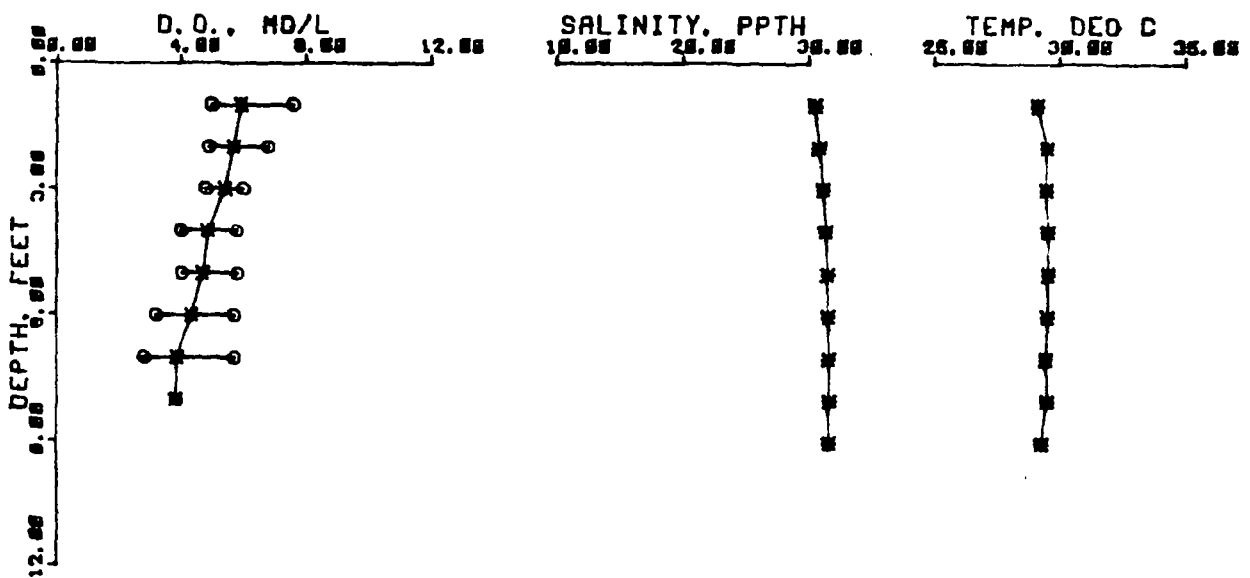


ITT-02

FIGURE 3  
DST PROFILES  
ITT  
AUGUST 1976

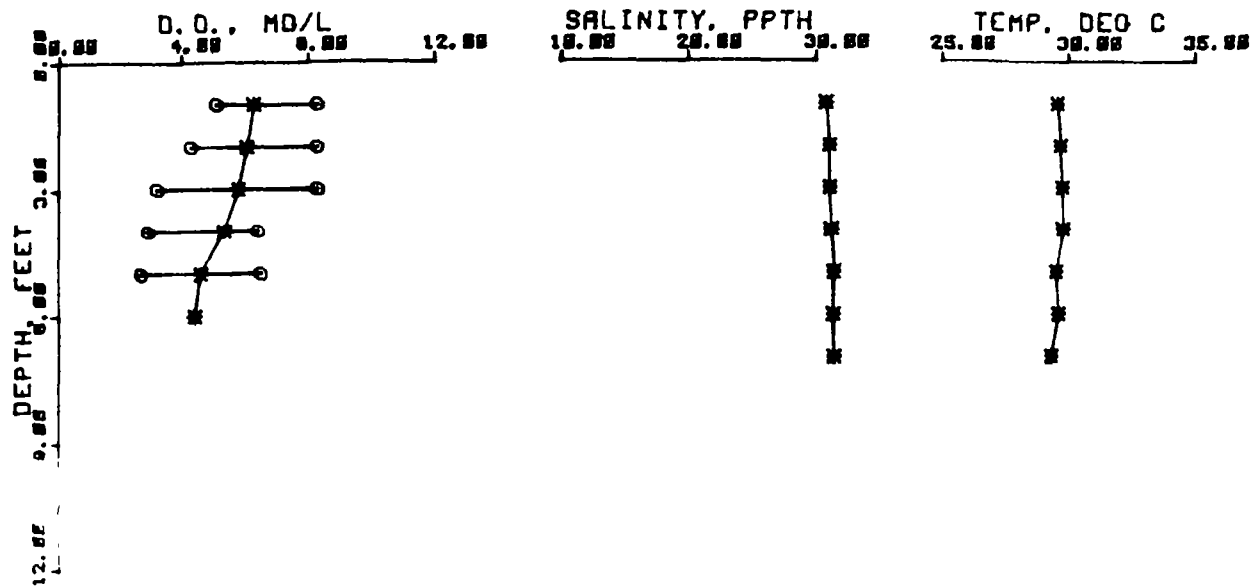


ITT-03

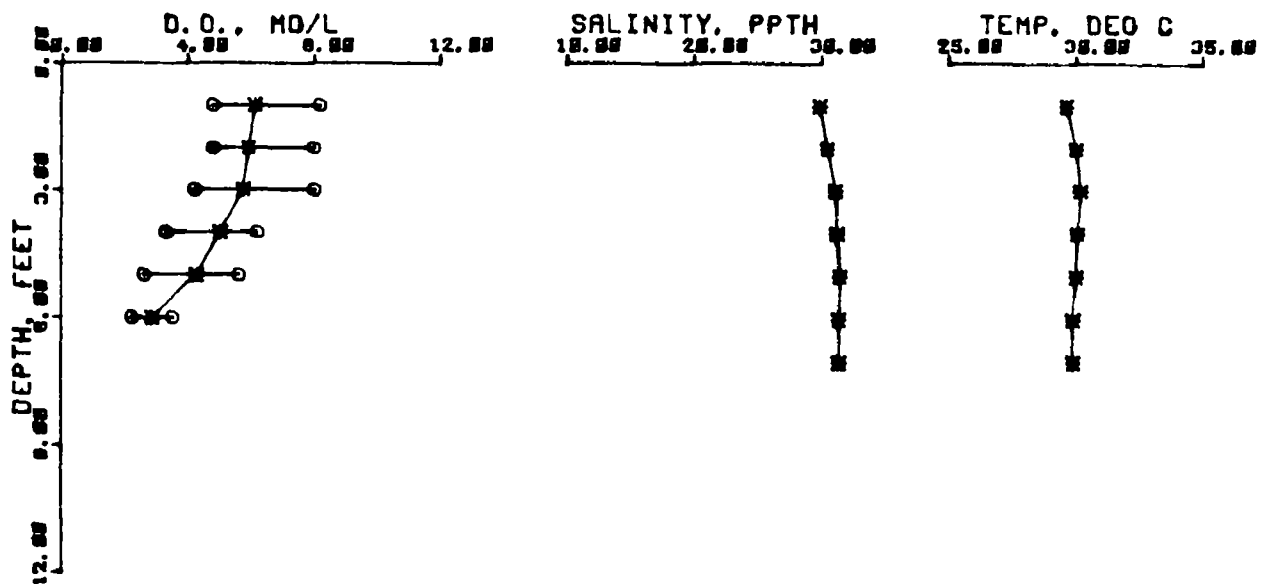


ITT-04

FIGURE 4  
DST PROFILES  
ITT  
AUGUST 1976



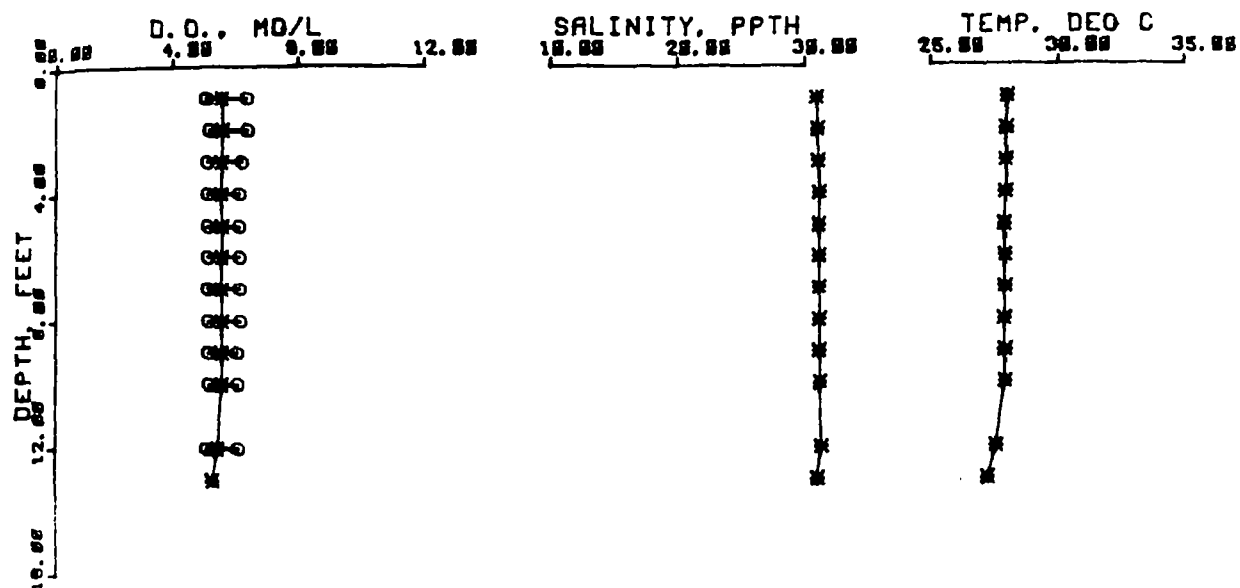
ITT-05



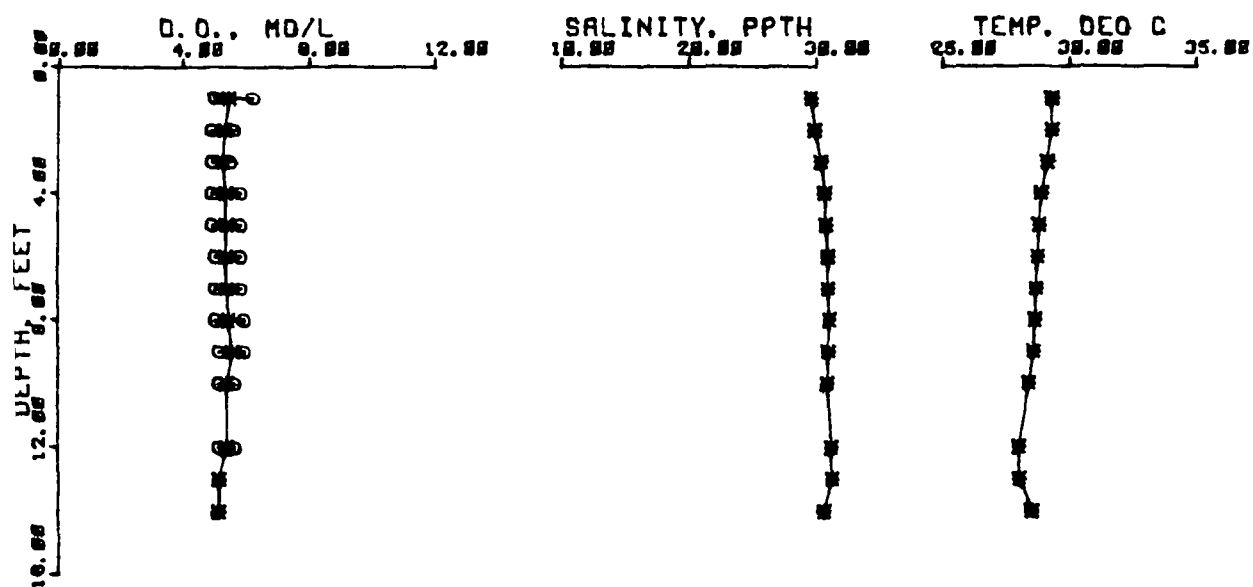
ITT-06



FIGURE 5  
DST PROFILES  
ITT  
AUGUST 1976

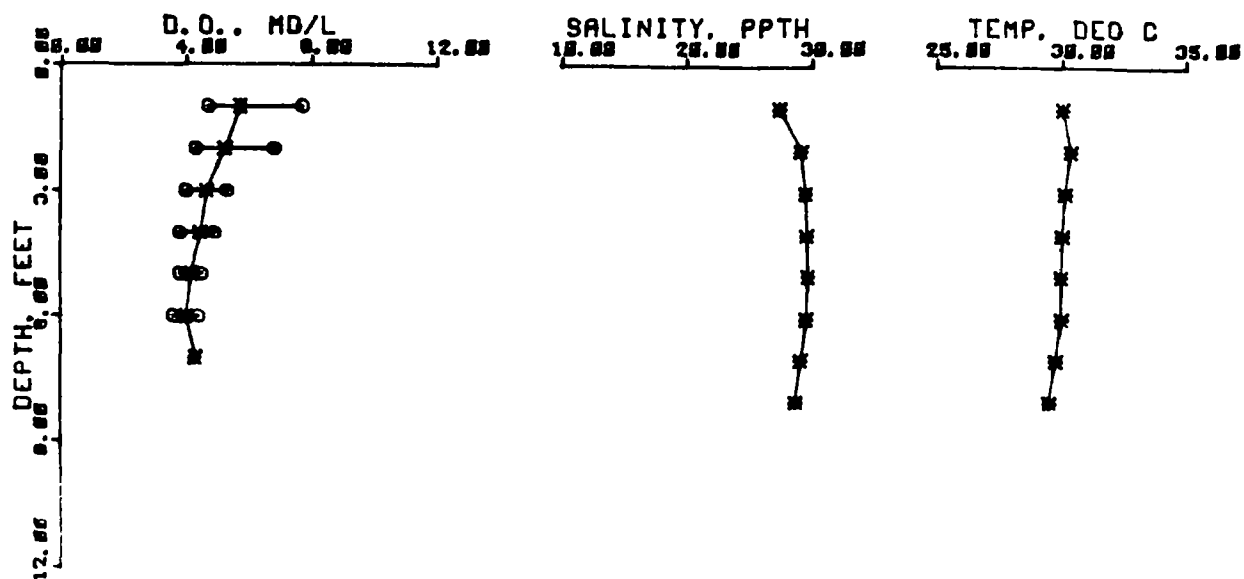


ITT-07

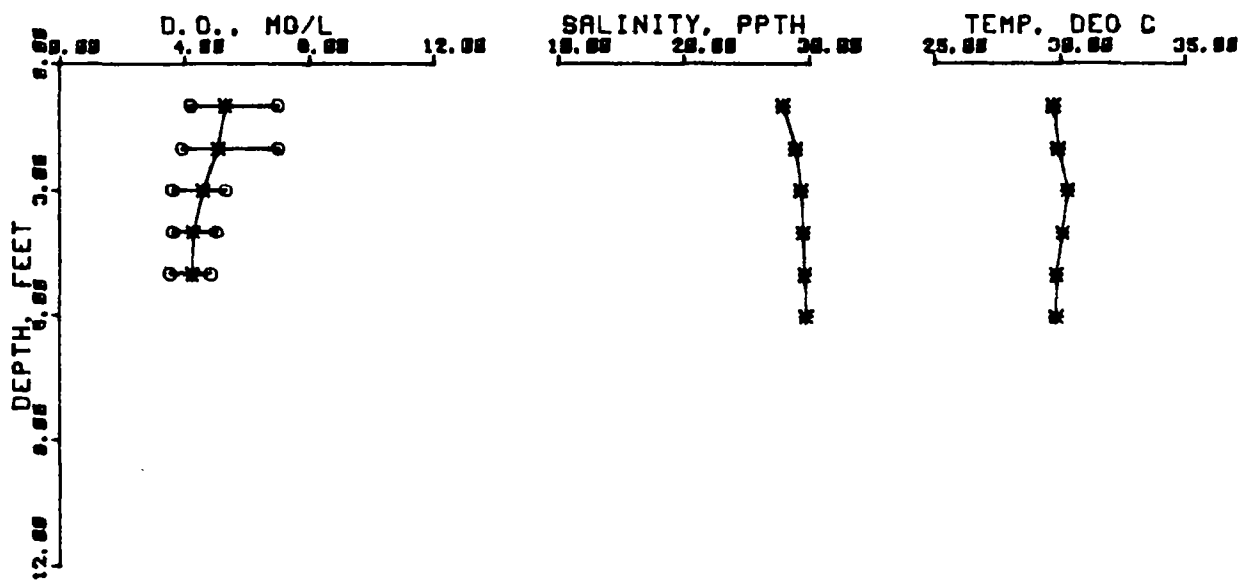


ITT-08

FIGURE 6  
DST PROFILES  
ITT  
AUGUST 1976

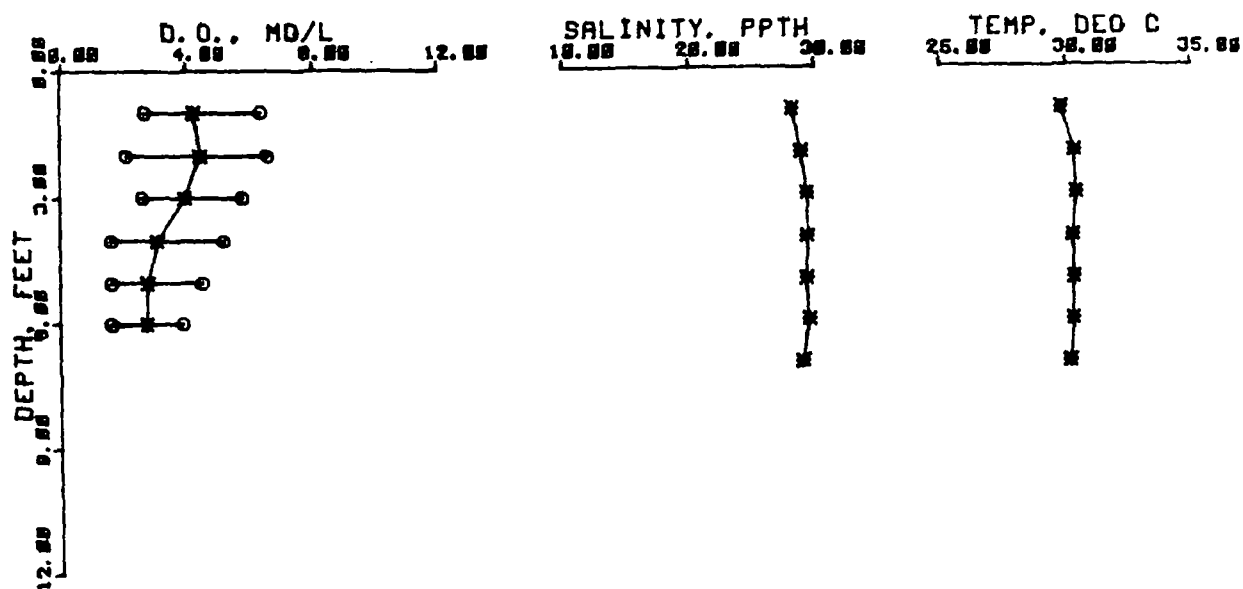


ITT-09

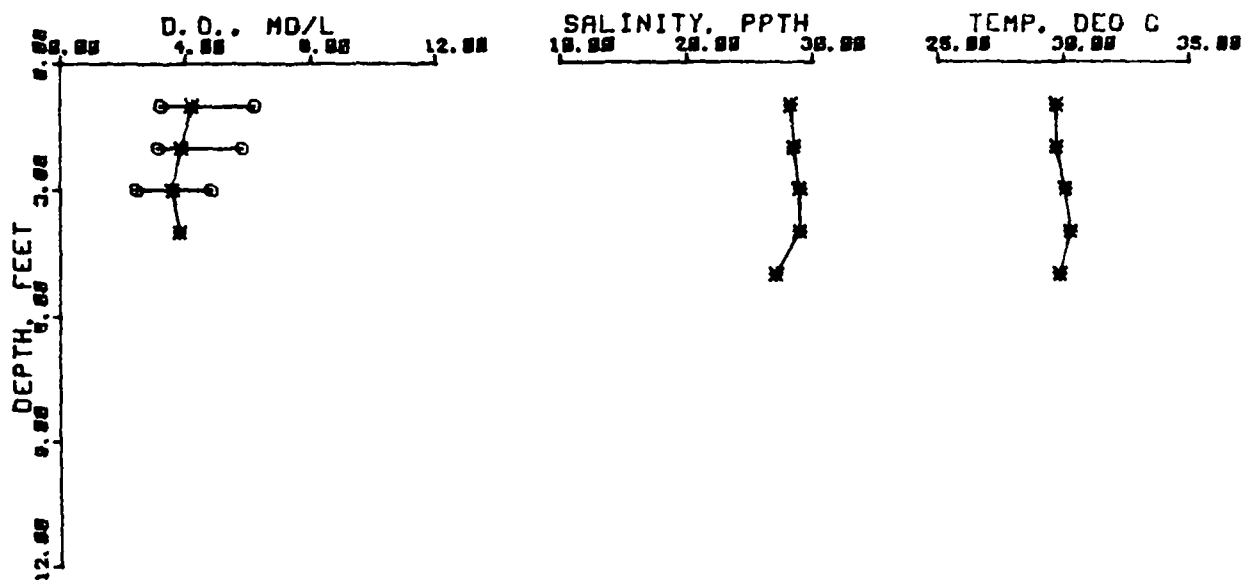


ITT-10

FIGURE 7  
DST PROFILES  
ITT  
AUGUST 1976

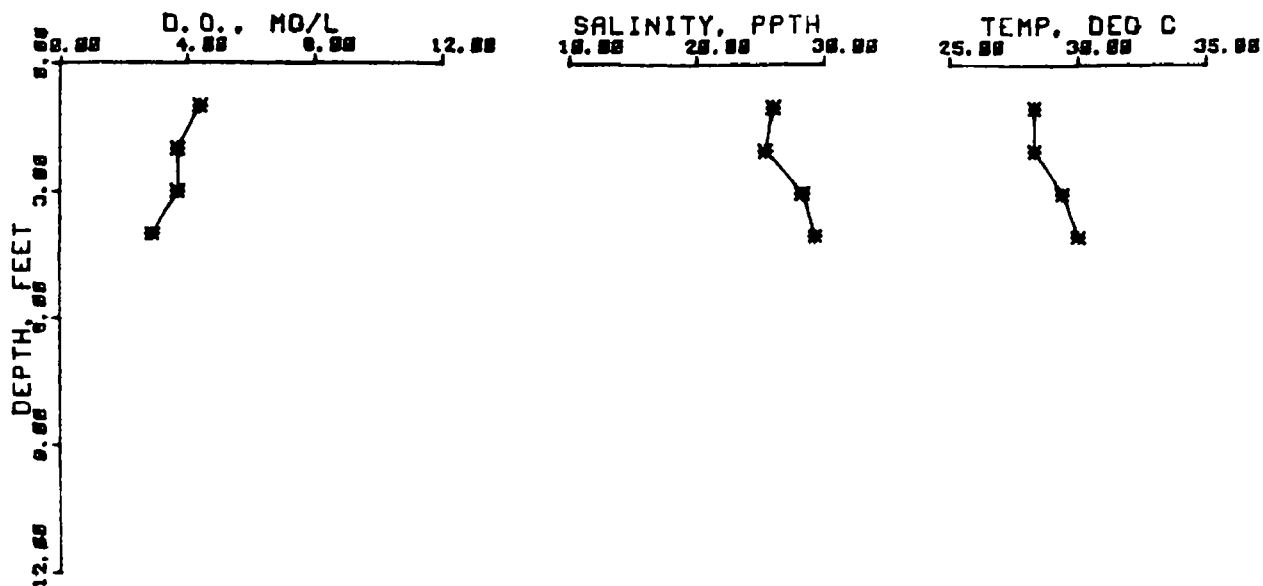


ITT-11

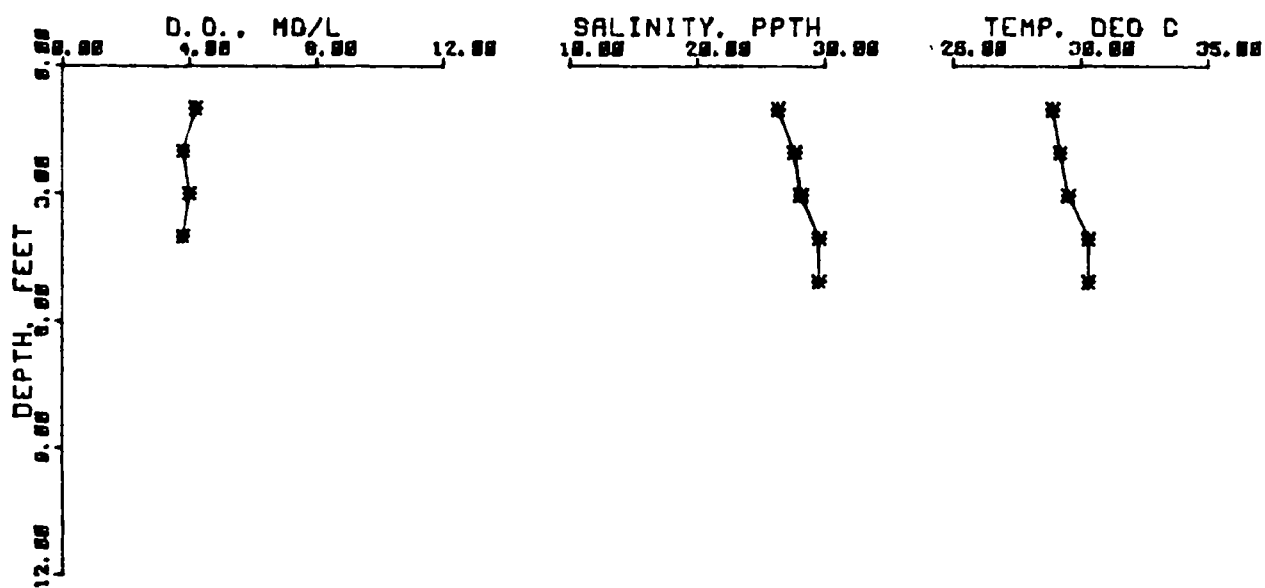


ITT-12

FIGURE 8  
DST PROFILES  
ITT  
AUGUST 1976



ITT-13



ITT-14

Their effectiveness for either function appears to be incomplete. Company representatives, however, indicated that the aerators are, in fact, an asset to the system.

Figure 9 is an overall comparison of all canal and background stations. Two principal points are depicted in the figure. The background stations reveal a nearly constant DO profile at about 5.5 ppm, whereas the canal DO values progressively drop with depth to DO levels below 4.0 ppm. However, average canal DO levels by depth do not significantly fall below 4.0 ppm. Secondly, the range of DO levels at each depth differs considerably between background and canal stations. Minimum DO values in the background stations did not fall below 4.8 ppm, whereas values as low as 1.6 ppm were recorded in the canal stations. In addition, DO ranges of less than 2.0 ppm in the background stations and ranges up to 6.0 ppm in the canal stations are depicted in Figure 9.

Samples for chemical analysis were taken once or twice during the study from a mid-depth location at each station by means of a Van Dorn sampler. Following appropriate preservation, the samples were returned to the Environmental Protection Agency, Athens, Georgia laboratory for TKN,  $\text{NH}_3$ ,  $\text{NO}_2\text{-NO}_3$ , T-P, TOC, and DOC analyses. Water chemistry results are given in the Appendix and are summarized in Table 1.

The Nutrient Data Summation (Table 1) readily describes the nutrient enrichment occurring in the canal system. Nutrient levels in the canal water averaged 123 to 182 percent of background levels, with the greatest values above background generally occurring at the most populated canals, i.e., stations ITT-10 through ITT-12.



**FIGURE 9**  
**ITT DISSOLVED OXYGEN**

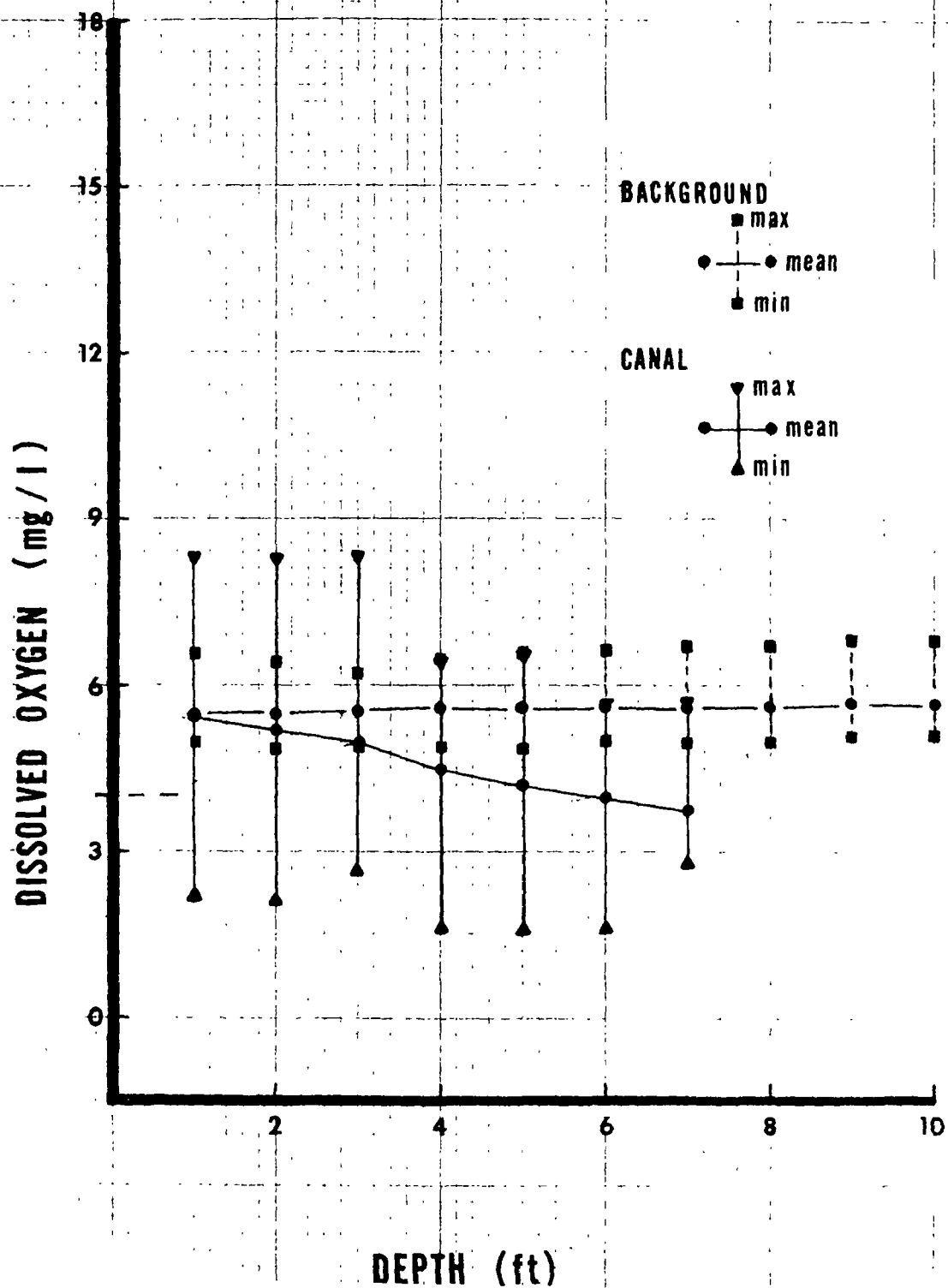


TABLE 1  
NUTRIENT DATA SUMMATION  
ITT PALM COAST  
AUGUST 1976

|               | <u>DEPTH</u> | <u>AVG</u><br><u>TKN</u> | <u>% of</u><br><u>BACKGROUND</u> | <u>AVG</u><br><u>NH<sub>3</sub></u> | <u>% of</u><br><u>BACKGROUND</u> | <u>AVG</u><br><u>T-P</u> | <u>% of</u><br><u>BACKGROUND</u> | <u>AVG</u><br><u>TOC</u> | <u>% of</u><br><u>BACKGROUND</u> |
|---------------|--------------|--------------------------|----------------------------------|-------------------------------------|----------------------------------|--------------------------|----------------------------------|--------------------------|----------------------------------|
| -2            | 4            | 0.32                     | 145                              | 0.22                                | 169                              | 0.09                     | 113                              | 6.1                      | 107                              |
| -3            | 3            | 0.38                     | 173                              | 0.35                                | 269                              | 0.12                     | 150                              | 7.0                      | 123                              |
| -4            | 4            | 0.50                     | 227                              | 0.34                                | 262                              | 0.08                     | 100                              | 6.5                      | 114                              |
| -5            | 3            | 0.39                     | 177                              | 0.28                                | 215                              | 0.08                     | 100                              | 6.5                      | 114                              |
| -6            | 3            | 0.42                     | 191                              | 0.14                                | 108                              | 0.09                     | 113                              | 8.5                      | 149                              |
| -9            | 4            | 0.32                     | 145                              | 0.10                                | 77                               | 0.12                     | 150                              | 7.0                      | 123                              |
| -10           | 3            | 0.40                     | 182                              | 0.09                                | 69                               | 0.12                     | 150                              | 6.0                      | 103                              |
| -11           | 4            | 0.39                     | 177                              | 0.04                                | 31                               | 0.17                     | 213                              | 6.9                      | 121                              |
| -12           | 2            | 0.44                     | 200                              | 0.06                                | 46                               | 0.23                     | 288                              | 8.6                      | 151                              |
| <hr/>         |              |                          |                                  |                                     |                                  |                          |                                  |                          |                                  |
| AL AVG        |              | 0.40                     | 182                              | 0.18                                | 138                              | 0.12                     | 150                              | 7.0                      | 123                              |
| <hr/>         |              |                          |                                  |                                     |                                  |                          |                                  |                          |                                  |
| -1            | 5            | 0.26                     |                                  | 0.16                                |                                  | 0.09                     |                                  | 5.9                      |                                  |
| -7            | 6            | 0.16                     |                                  | 0.14                                |                                  | 0.07                     |                                  | 5.5                      |                                  |
| -8            | 7            | 0.23                     |                                  | 0.10                                |                                  | 0.09                     |                                  | 5.7                      |                                  |
| <hr/>         |              |                          |                                  |                                     |                                  |                          |                                  |                          |                                  |
| GROUND<br>AVG |              | 0.22                     |                                  | 0.13                                |                                  | 0.08                     |                                  | 5.7                      |                                  |

| PARAM | PARAMETER | DESCRIPTION                                    |
|-------|-----------|------------------------------------------------|
| 1     | 00249     | OXYGEN, DISSOLVED (ELECTRODE) (MG/L)           |
| 1     | 00010     | TEMPERATURE, WATER (DEGREES CENTIGRADE)        |
| 1     | 00480     | SALINITY - PARTS PER THOUSAND                  |
| 1     | 00680     | CARBON, TOTAL ORGANIC (MG/L AS C)              |
| 1     | 00681     | CARBON, DISSOLVED ORGANIC (MG/L AS C)          |
| 1     | 00610     | NITROGEN, AMMONIA, TOTAL (MG/L AS N)           |
| 1     | 00630     | NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N) |
| 1     | 00625     | NITROGEN, KJELDAHL, TOTAL, (MG/L AS N)         |
| 1     | 00665     | PHOSPHORUS, TOTAL (MG/L AS P)                  |
| 1     | 00003     | DEPTH IN FEET                                  |

ENVIRONMENTAL PROTECTION AGENCY REGION IV  
SURVEILLANCE AND ANALYSIS DIVISION ATHENS, GEORGIA  
FINGER HILL CANAL STUDY JULY - AUGUST, 1976  
WATER QUALITY DATA

| AGENCY | PRIMARY STATION | SECONDARY   | STATION LOCATION                  | STATE      | MINOR BASIN              |
|--------|-----------------|-------------|-----------------------------------|------------|--------------------------|
|        | 120900-D        | FF-ITT-01-D | PALM COAST ICW N FRM CLUB HSE WW  | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120905-D        | FF-ITT-02-D | PALM COAST ICW N FRM CLUB HSE WW  | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120910-D        | FF-ITT-03-D | PALM COAST ICW N FRM CLUB HSE WW  | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120915-D        | FF-ITT-04-D | PALM COAST ICW N FRM CLUB HSE WW  | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120920-D        | FF-ITT-05-D | PALM COAST ICW N FRM CLUB HSE WW  | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120925-D        | FF-ITT-06-D | PALM COAST ICW N FRM CLUB HSE WW  | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120930-D        | FF-ITT-07-D | PALM COAST ICW N CLUB HSE WW ENT  | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120935-D        | FF-ITT-08-D | PALM COAST JUNC. CLB HSE WW & ICW | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120940-D        | FF-ITT-09-D | PALM COAST CLB HSE WW INLND ICW   | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120945-D        | FF-ITT-10-D | PALM COAST CLB HSE WW INLND ICW   | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120950-D        | FF-ITT-11-D | PALM CAOST 100' FRM HEAD C.H. WW  | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120955-D        | FF-ITT-12-D | PALM COAST 200' FRM HEAD C.H. WW  | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120960-D        | FF-ITT-13-D | PALM COAST 400' FRM HEAD C.H. WW  | 35 FLORIDA | LOWER FLORIDA FINGER FIL |
|        | 120965-D        | FF-ITT-14-D | PALM COAST 1000' FRM HEAD C.H. WW | 35 FLORIDA | LOWER FLORIDA FINGER FIL |

| STATION - 99-197-01-0 |      |      |      | PALM BEACH ICE N FREE CLIM STN NO 10000 FLUMIDA |                              |                                |                           | FINGER FILL CANAL STATION |                          |                                 |                                     |                                |                             |
|-----------------------|------|------|------|-------------------------------------------------|------------------------------|--------------------------------|---------------------------|---------------------------|--------------------------|---------------------------------|-------------------------------------|--------------------------------|-----------------------------|
| DATE                  | TIME | DATE | TIME | 00003<br>DEPTH<br>FEET                          | 00004<br>DO<br>PROBE<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 00009<br>SALINITY<br>PPTH | 00000<br>T OHC C<br>MG/L  | 00001<br>D OHC C<br>MG/L | 00010<br>NH3-N<br>TOTAL<br>MG/L | 00000<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00005<br>TOT KjEL<br>N<br>MG/L | 00005<br>PHOS-TOT<br>MG/L P |
| 760802                | 0001 |      |      | 7                                               | 5.6                          | 29.2                           | 31.3                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 0002 |      |      | 8                                               | 5.6                          | 29.3                           | 31.3                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 0003 |      |      | 9                                               |                              | 29.3                           | 31.4                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 1820 |      |      | 1                                               | 6.6                          | 30.2                           | 31.3                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 1821 |      |      | 2                                               | 6.2                          | 29.3                           | 32.0                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 1822 |      |      | 3                                               | 6.2                          | 28.8                           | 32.5                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 1823 |      |      | 4                                               | 6.5                          | 28.4                           | 32.8                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 1824 |      |      | 5                                               | 6.6                          | 28.1                           | 33.0                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 1825 |      |      | 6                                               | 6.6                          | 27.9                           | 33.2                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 1826 |      |      | 7                                               | 6.7                          | 27.5                           | 33.3                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 1827 |      |      | 8                                               | 6.7                          | 27.1                           | 33.6                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 1828 |      |      | 9                                               | 6.8                          | 27.0                           | 33.6                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 1829 |      |      | 10                                              |                              | 26.9                           | 33.6                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 1830 |      |      | 11                                              |                              | 26.9                           | 33.5                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 2355 |      |      | 1                                               | 5.7                          | 29.3                           | 31.4                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 2356 |      |      | 2                                               | 5.6                          | 29.2                           | 31.4                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 2357 |      |      | 3                                               | 5.6                          | 29.3                           | 31.3                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 2358 |      |      | 4                                               | 5.6                          | 29.0                           | 31.5                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 2359 |      |      | 5                                               | 5.6                          | 29.0                           | 31.3                      |                           |                          |                                 |                                     |                                |                             |
| 760802                | 2400 |      |      | 6                                               | 5.6                          | 29.3                           | 31.3                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0630 |      |      | 1                                               | 5.3                          | 28.5                           | 31.7                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0631 |      |      | 2                                               | 5.3                          | 28.3                           | 31.8                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0632 |      |      | 3                                               | 5.3                          | 28.3                           | 31.7                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0633 |      |      | 4                                               | 5.3                          | 28.3                           | 31.7                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0634 |      |      | 5                                               | 5.3                          | 28.3                           | 31.7                      | 3.1                       | 3.8                      | 0.26                            | 0.02                                | 0.26                           | 0.070                       |
| 760803                | 0635 |      |      | 6                                               | 5.4                          | 28.0                           | 32.4                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0636 |      |      | 7                                               | 5.4                          | 27.7                           | 32.5                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0637 |      |      | 8                                               | 5.4                          | 27.7                           | 32.5                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0638 |      |      | 9                                               | 5.5                          | 27.6                           | 32.5                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0639 |      |      | 10                                              | 5.5                          | 27.6                           | 32.7                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0640 |      |      | 11                                              | 5.5                          | 27.6                           | 32.7                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0641 |      |      | 12                                              | 5.4                          | 27.6                           | 32.7                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0642 |      |      | 13                                              | 5.4                          | 27.5                           | 32.7                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 0643 |      |      | 14                                              |                              | 27.5                           | 32.7                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 1235 |      |      | 1                                               | 5.8                          | 29.3                           | 30.5                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 1236 |      |      | 2                                               | 5.8                          | 29.3                           | 30.5                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 1237 |      |      | 3                                               | 5.8                          | 29.3                           | 30.5                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 1238 |      |      | 4                                               | 5.8                          | 29.3                           | 30.5                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 1239 |      |      | 5                                               | 5.8                          | 29.3                           | 30.6                      | 8.7                       |                          | 0.06                            | 0.01K                               | 0.26                           | 0.100                       |
| 760803                | 1240 |      |      | 6                                               | 5.7                          | 29.3                           | 30.6                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 1241 |      |      | 7                                               | 5.6                          | 29.3                           | 30.6                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 1242 |      |      | 8                                               | 5.6                          | 29.3                           | 30.6                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 1243 |      |      | 9                                               | 5.6                          | 29.3                           | 30.7                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 1244 |      |      | 10                                              | 5.6                          | 29.3                           | 30.7                      |                           |                          |                                 |                                     |                                |                             |
| 760803                | 1245 |      |      | 11                                              | 5.5                          | 29.3                           | 30.7                      |                           |                          |                                 |                                     |                                |                             |

FINDING - FULL CANAL STUMP

[illegible]

| STATION - 00-111-00-01 |      |      |      | WATER TEMPERATURE      |                      |                                | FINDER FILE CANAL STUDY   |                                  |                                  |                                 |                                     |                                |                             |
|------------------------|------|------|------|------------------------|----------------------|--------------------------------|---------------------------|----------------------------------|----------------------------------|---------------------------------|-------------------------------------|--------------------------------|-----------------------------|
| DATE                   | TIME | DATE | TIME | 00001<br>DEPTH<br>FEET | 00002<br>DO<br>PHU/L | 00010<br>WATER<br>TEMP<br>CENT | 00000<br>SALINITY<br>PPTH | 00000<br>T<br>OHU C<br>C<br>MG/L | 00001<br>D<br>OHU C<br>C<br>MG/L | 00010<br>NH3-N<br>TOTAL<br>MG/L | 00030<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00025<br>TOT KJEL<br>N<br>MG/L | 00005<br>PHOS-TOT<br>MG/L P |
| 760802                 | 1835 |      |      | 1                      | 7.6                  | 31.0                           | 31.4                      |                                  |                                  |                                 |                                     |                                |                             |
| 760802                 | 1836 |      |      | 2                      | 7.6                  | 31.0                           | 31.4                      |                                  |                                  |                                 |                                     |                                |                             |
| 760802                 | 1837 |      |      | 3                      | 7.4                  | 30.9                           | 31.5                      |                                  |                                  |                                 |                                     |                                |                             |
| 760802                 | 1838 |      |      | 4                      | 6.6                  | 31.1                           | 31.8                      |                                  |                                  |                                 |                                     |                                |                             |
| 760802                 | 1839 |      |      | 5                      | 5.8                  | 30.7                           | 32.0                      |                                  |                                  |                                 |                                     |                                |                             |
| 760802                 | 1840 |      |      | 6                      | 5.0                  | 30.4                           | 31.9                      |                                  |                                  |                                 |                                     |                                |                             |
| 760802                 | 1841 |      |      | 7                      |                      | 30.2                           | 31.9                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0005 |      |      | 1                      | 6.9                  | 30.2                           | 31.6                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0006 |      |      | 2                      | 6.8                  | 30.3                           | 31.6                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0007 |      |      | 3                      | 6.8                  | 30.3                           | 31.5                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0008 |      |      | 4                      | 6.8                  | 30.2                           | 31.6                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0009 |      |      | 5                      |                      | 30.3                           | 31.6                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0645 |      |      | 1                      | 5.5                  | 29.4                           | 31.6                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0646 |      |      | 2                      | 5.5                  | 29.4                           | 31.6                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0647 |      |      | 3                      | 5.5                  | 29.6                           | 31.6                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0648 |      |      | 4                      | 5.4                  | 29.6                           | 31.7                      | 4.7                              | 4.5                              | 0.34                            | 0.01K                               | 0.36                           | 0.080                       |
| 760803                 | 0649 |      |      | 5                      | 5.1                  | 29.5                           | 31.7                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0650 |      |      | 6                      | 5.1                  | 29.5                           | 31.7                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0651 |      |      | 7                      | 4.2                  | 29.5                           | 31.7                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 0652 |      |      | 8                      |                      | 29.7                           | 31.7                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 1249 |      |      | 1                      | 6.7                  | 30.6                           | 29.9                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 1250 |      |      | 2                      | 6.7                  | 30.7                           | 30.0                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 1251 |      |      | 3                      | 6.5                  | 30.8                           | 30.0                      | 5.5                              |                                  | 0.10                            | 0.01K                               | 0.28                           | 0.100                       |
| 760803                 | 1252 |      |      | 4                      | 6.4                  | 30.4                           | 30.0                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 1253 |      |      | 5                      |                      | 30.4                           | 30.1                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 1835 |      |      | 1                      | 6.3                  | 26.4                           | 17.9                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 1836 |      |      | 2                      | 5.8                  | 29.3                           | 29.7                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 1837 |      |      | 3                      | 5.6                  | 29.3                           | 30.6                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 1838 |      |      | 4                      | 5.4                  | 29.4                           | 31.1                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 1839 |      |      | 5                      | 5.0                  | 29.6                           | 31.1                      |                                  |                                  |                                 |                                     |                                |                             |
| 760803                 | 1840 |      |      | 6                      |                      | 29.6                           | 31.3                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 0001 |      |      | 2                      | 5.1                  | 29.2                           | 29.9                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 0002 |      |      | 3                      | 4.4                  | 29.3                           | 31.0                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 0003 |      |      | 4                      | 3.7                  | 29.6                           | 31.4                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 0004 |      |      | 5                      | 2.6                  | 29.6                           | 31.7                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 0005 |      |      | 6                      |                      | 29.5                           | 31.7                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 1000 |      |      | 1                      | 5.1                  | 29.0                           | 29.9                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 1001 |      |      | 2                      | 4.9                  | 29.3                           | 30.3                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 1002 |      |      | 3                      | 4.8                  | 29.2                           | 30.3                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 1003 |      |      | 4                      | 4.3                  | 29.2                           | 30.3                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 1004 |      |      | 5                      | 3.8                  | 29.2                           | 30.3                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 1005 |      |      | 6                      | 3.6                  | 28.7                           | 30.7                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 1006 |      |      | 7                      | 2.8                  | 28.6                           | 30.7                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 1007 |      |      | 8                      |                      | 28.6                           | 30.7                      |                                  |                                  |                                 |                                     |                                |                             |
| 760804                 | 2400 |      |      | 1                      | 5.6                  | 29.2                           | 29.6                      |                                  |                                  |                                 |                                     |                                |                             |

## PAGE 99

| STATION - FF-ITT-02-D |      |      |      | PALM COAST ICW N FRM CLUB HSE WW |       | LOWER FLORIDA |          | FINGER FILL CANAL STUDY |         |       |         |          |          |
|-----------------------|------|------|------|----------------------------------|-------|---------------|----------|-------------------------|---------|-------|---------|----------|----------|
|                       |      |      |      | 00003                            | 00299 | 00010         | 00480    | 00680                   | 00681   | 00610 | 00630   | 00625    | 00665    |
|                       |      |      |      | DEPTH                            | DO    | WATER         | SALINITY | T ORG C                 | D ORG C | NH3-N | NO2&NO3 | TOT KJEL | PHOS-TOT |
|                       |      |      |      | PROBE                            | TEMP  |               |          | C                       | C       | TOTAL | N-TOTAL | N        |          |
| DATE                  | TIME | DATE | TIME | FEET                             | MG/L  | CENT          | PPTH     | MG/L                    | MG/L    | MG/L  | MG/L    | MG/L     | MG/L P   |
| 760802                |      |      |      |                                  |       |               |          |                         |         |       |         |          |          |
| NUMBER                |      |      |      | 45                               | 38    | 45            | 45       | 2                       | 1       | 2     | 2       | 2        | 2        |
| MAXIMUM               |      |      |      | 8                                | 7.6   | 31.1          | 32.0     | 5.5                     |         | 0.34  | 0.01K   | 0.36     | 0.100    |
| MINIMUM               |      |      |      | 1                                | 2.6   | 26.4          | 17.9     | 4.7                     |         | 0.10  | 0.01K   | 0.28     | 0.080    |
| MEAN                  |      |      |      | 4                                | 5.5   | 29.7          | 30.7     | 5.1                     |         | 0.22  | 0.01    | 0.32     | 0.090    |
| 760804                |      |      |      |                                  |       |               |          |                         |         |       |         |          |          |



| STATION - PP-111-01-D |      |      |      | PALM COAST ICB N FMM CLOM MSP WW |                              |                                |                           | LOWER FLORIDA                 |                               | FINGER HILL CANAL STUDY         |                                     |                                |                             |  |
|-----------------------|------|------|------|----------------------------------|------------------------------|--------------------------------|---------------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------------|--------------------------------|-----------------------------|--|
| DATE                  | TIME | DATE | TIME | 00003<br>DEPTH<br>FEET           | 00299<br>UU<br>PHUHE<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 00480<br>SALINITY<br>PPTH | 00680<br>T ORG C<br>C<br>MG/L | 00681<br>D ORG C<br>C<br>MG/L | 00610<br>NH3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00625<br>TOT KJEL<br>N<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P |  |
| 760802                | 1845 |      |      | 1                                | 6.9                          | 31.5                           | 32.1                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1846 |      |      | 2                                | 6.9                          | 31.5                           | 32.0                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1847 |      |      | 3                                | 6.9                          | 31.5                           | 32.0                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1848 |      |      | 4                                | 6.2                          | 31.4                           | 32.0                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1849 |      |      | 5                                | 5.4                          | 30.7                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1850 |      |      | 6                                | 4.5                          | 30.2                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1851 |      |      | 7                                |                              | 30.0                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |  |
| 760803                | 0025 |      |      | 1                                | 4.4                          | 29.7                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |  |
| 760803                | 0026 |      |      | 2                                | 4.4                          | 29.8                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |  |
| 760803                | 0027 |      |      | 3                                | 4.6                          | 29.8                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |  |
| 760803                | 0028 |      |      | 4                                | 4.5                          | 30.0                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |  |
| 760803                | 0029 |      |      | 5                                | 4.3                          | 29.9                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |  |
| 760803                | 0030 |      |      | 6                                |                              | 29.7                           | 30.9                      |                               |                               |                                 |                                     |                                |                             |  |
| 760803                | 0655 |      |      | 1                                | 4.2                          | 28.7                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |  |
| 760803                | 0656 |      |      | 2                                | 3.7                          | 28.7                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |  |
| 760803                | 0657 |      |      | 3                                | 3.6                          | 29.0                           | 31.8                      | 7.0                           | 5.0                           | 0.30                            | 0.01K                               | 0.32                           | 0.120                       |  |
| 760803                | 0658 |      |      | 4                                | 3.6                          | 28.9                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |  |
| 760803                | 0659 |      |      | 5                                | 3.6                          | 28.8                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |  |
| 760803                | 0700 |      |      | 6                                |                              | 28.8                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1255 |      |      | 1                                | 6.3                          | 30.1                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1256 |      |      | 2                                | 6.2                          | 30.1                           | 31.9                      | 7.0                           |                               | 0.39                            | 0.01K                               | 0.44                           | 0.120                       |  |
| 60803                 | 1257 |      |      | 3                                | 6.0                          | 30.1                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1258 |      |      | 4                                | 5.5                          | 30.0                           | 32.1                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1259 |      |      | 5                                |                              | 29.6                           | 32.2                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1845 |      |      | 1                                | 5.9                          | 29.5                           | 29.6                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1846 |      |      | 2                                | 5.8                          | 29.7                           | 30.3                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1847 |      |      | 3                                | 5.6                          | 29.6                           | 30.9                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1848 |      |      | 4                                | 4.8                          | 29.7                           | 31.1                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1849 |      |      | 5                                | 4.6                          | 29.8                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1850 |      |      | 6                                | 4.2                          | 29.6                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1851 |      |      | 7                                |                              | 29.5                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0010 |      |      | 1                                | 5.8                          | 26.9                           | 26.1                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0011 |      |      | 2                                | 4.8                          | 29.2                           | 28.6                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0012 |      |      | 3                                | 3.8                          | 29.5                           | 31.0                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0013 |      |      | 4                                | 3.2                          | 29.4                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0014 |      |      | 5                                | 2.7                          | 29.5                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0015 |      |      | 6                                |                              | 29.4                           | 30.8                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0955 |      |      | 1                                | 5.2                          | 26.6                           | 26.6                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0956 |      |      | 2                                | 4.4                          | 27.4                           | 26.9                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0957 |      |      | 3                                | 3.5                          | 29.2                           | 30.8                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0958 |      |      | 4                                | 2.1                          | 29.7                           | 31.4                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0959 |      |      | 5                                |                              | 29.5                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |  |

## FINGER FILL CANAL STUDY

[illegible]

STATION - FF-ITT-04-D

PALM COAST ICW N FRM CLUB HSE WW LOWER FLORIDA

FINGER HILL CANAL STUDY

| DATE   | TIME | DATE | TIME | 00003<br>DEPTH<br>FEET | 00299<br>UO<br>PROBE<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 00480<br>SALINITY<br>PPTH | 00680<br>T ORG C<br>C<br>MG/L | 00681<br>U ORG C<br>C<br>MG/L | 00610<br>NHJ-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00625<br>TOT KJEL<br>N<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P |
|--------|------|------|------|------------------------|------------------------------|--------------------------------|---------------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------------|--------------------------------|-----------------------------|
| 760802 | 1900 |      |      | 1                      | 7.6                          | 30.9                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |
| 760802 | 1901 |      |      | 2                      | 6.8                          | 31.0                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760802 | 1902 |      |      | 3                      | 5.8                          | 30.2                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760802 | 1903 |      |      | 4                      | 4.0                          | 29.9                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760802 | 1904 |      |      | 5                      | 4.0                          | 29.8                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760802 | 1905 |      |      | 6                      | 3.2                          | 29.8                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760802 | 1906 |      |      | 7                      | 3.0                          | 29.7                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760802 | 1907 |      |      | 8                      |                              | 29.7                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0050 |      |      | 1                      | 5.6                          | 29.7                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0051 |      |      | 2                      | 5.6                          | 29.9                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0052 |      |      | 3                      | 5.8                          | 30.0                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0053 |      |      | 4                      | 5.8                          | 29.8                           | 31.4                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0054 |      |      | 5                      | 5.8                          | 29.9                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0055 |      |      | 6                      | 5.7                          | 29.8                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0056 |      |      | 7                      | 5.7                          | 29.7                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0057 |      |      | 8                      |                              | 29.7                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0704 |      |      | 1                      | 5.0                          | 28.9                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0705 |      |      | 2                      | 4.9                          | 28.9                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0706 |      |      | 3                      | 4.9                          | 29.0                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0707 |      |      | 4                      | 4.9                          | 28.9                           | 31.7                      | 6.5                           | 5.5                           | 0.34                            | 0.01K                               | 0.50                           | 0.080                       |
| 760803 | 0708 |      |      | 5                      | 4.8                          | 28.9                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0709 |      |      | 6                      | 4.8                          | 28.9                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 0710 |      |      | 7                      |                              | 29.0                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 1905 |      |      | 1                      | 6.4                          | 29.0                           | 29.5                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 1906 |      |      | 2                      | 6.0                          | 29.2                           | 30.1                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 1907 |      |      | 3                      | 6.0                          | 29.3                           | 30.5                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 1908 |      |      | 4                      | 5.5                          | 29.7                           | 31.0                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 1909 |      |      | 5                      | 5.2                          | 29.7                           | 31.3                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 1910 |      |      | 6                      | 4.8                          | 29.7                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 1911 |      |      | 7                      | 4.4                          | 29.5                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 1912 |      |      | 8                      | 3.8                          | 29.3                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803 | 1913 |      |      | 9                      |                              | 29.3                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0020 |      |      | 1                      | 5.7                          | 28.6                           | 29.6                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0021 |      |      | 2                      | 5.4                          | 29.2                           | 30.3                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0022 |      |      | 3                      | 5.2                          | 29.3                           | 30.8                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0023 |      |      | 4                      | 4.4                          | 29.6                           | 31.4                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0024 |      |      | 5                      | 4.1                          | 29.6                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0025 |      |      | 6                      | 3.6                          | 29.6                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0026 |      |      | 7                      | 2.8                          | 29.4                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0027 |      |      | 8                      |                              | 29.4                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0925 |      |      | 1                      | 5.4                          | 27.7                           | 28.8                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0926 |      |      | 2                      | 5.5                          | 28.8                           | 29.6                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0927 |      |      | 3                      | 4.8                          | 29.1                           | 30.8                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0928 |      |      | 4                      | 4.5                          | 29.4                           | 30.9                      |                               |                               |                                 |                                     |                                |                             |
| 760804 | 0929 |      |      | 5                      | 4.2                          | 29.5                           | 31.2                      |                               |                               |                                 |                                     |                                |                             |

PAGE 68

| STATION - FF-ITT-04-D |      |      |      | PALM COAST ICW N FRM CLUB HSE WW | LOWER FLORIDA                |                                | FINGER FILL CANAL STUDY   |                               |                               |                                 |                                     |                                |                             |
|-----------------------|------|------|------|----------------------------------|------------------------------|--------------------------------|---------------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------------|--------------------------------|-----------------------------|
| DATE                  | TIME | DATE | TIME | 00003<br>DEPTH<br>FEET           | 00299<br>DO<br>PROBE<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 00460<br>SALINITY<br>PPTH | 00680<br>T ORG C<br>C<br>MG/L | 00681<br>D ORG C<br>C<br>MG/L | 00610<br>NH3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00625<br>TOT KJEL<br>N<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P |
| 760804                | 0930 |      |      | 6                                | 3.8                          | 29.5                           | 31.3                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0931 |      |      | 7                                | 3.3                          | 29.5                           | 31.3                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0932 |      |      | 8                                |                              | 29.5                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |
| <b>760802</b>         |      |      |      |                                  |                              |                                |                           |                               |                               |                                 |                                     |                                |                             |
| NUMBER                |      |      |      | 48                               |                              | 48                             | 48                        | 1.                            | 1                             | 1                               | 1                                   | 1                              | 1                           |
| MAXIMUM               |      |      |      | 9                                | 7.6                          | 31.0                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |
| MINIMUM               |      |      |      | 1                                | 2.8                          | 27.7                           | 28.8                      |                               |                               |                                 |                                     |                                |                             |
| MEAN                  |      |      |      | 5                                | 5.0                          | 29.5                           | 31.2                      |                               |                               |                                 |                                     |                                |                             |
| <b>760804</b>         |      |      |      |                                  |                              |                                |                           |                               |                               |                                 |                                     |                                |                             |

## WATER QUALITY DATA

PALM COAST ICW N FRM CLUB HSE WW LOWER FLORIDA

[illegible]

ENVIRONMENTAL PROTECTION AGENCY REGION IV  
SURVEILLANCE AND ANALYSIS DIVISION ATHENS, GEORGIA  
FINGER FILL CANAL STUDY JULY - AUGUST, 1976  
WATER QUALITY DATA

| STATION - FF-ITT-06-D |         |      |      | PALM COAST ICW N FRM CLUB HSE NW |                              |                                |                           | LOWER FLORIDA                 |                               | FINGER FILL CANAL STUDY         |                                     |                                |                             |  |
|-----------------------|---------|------|------|----------------------------------|------------------------------|--------------------------------|---------------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------------|--------------------------------|-----------------------------|--|
| DATE                  | TIME    | DATE | TIME | 00003<br>DEPTH<br>FEET           | 00299<br>DO<br>PROBE<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 00480<br>SALINITY<br>PPTH | 00680<br>T ORG C<br>C<br>MG/L | 00681<br>D ORG C<br>C<br>MG/L | 00610<br>NH3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00625<br>TOT KJEL<br>N<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P |  |
| 760802                | 1930    |      |      | 1                                | 8.2                          | 31.8                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1931    |      |      | 2                                | 8.0                          | 31.8                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1932    |      |      | 3                                | 8.0                          | 31.8                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1933    |      |      | 4                                | 6.2                          | 31.0                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1934    |      |      | 5                                | 4.7                          | 30.7                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1935    |      |      | 6                                | 3.5                          | 30.4                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 760802                | 1936    |      |      | 7                                |                              | 30.3                           | 31.2                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 0115    |      |      | 1                                | 5.7                          | 30.3                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 0116    |      |      | 2                                | 5.7                          | 30.3                           | 31.4                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 0117    |      |      | 3                                | 5.7                          | 30.2                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 0118    |      |      | 4                                | 5.6                          | 30.1                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 0119    |      |      | 5                                | 5.6                          | 30.3                           | 31.4                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 0120    |      |      | 6                                |                              | 30.2                           | 30.6                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 0718    |      |      | 1                                | 4.8                          | 29.5                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 0719    |      |      | 2                                | 4.8                          | 29.5                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 0720    |      |      | 3                                | 4.8                          | 29.4                           | 31.6                      | 8.5                           |                               | 0.14                            | 0.01K                               | 0.42                           | 0.090                       |  |
| 60803                 | 0721    |      |      | 4                                | 4.8                          | 29.4                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 0722    |      |      | 5                                | 4.8                          | 29.5                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 0723    |      |      | 6                                |                              | 29.5                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1915    |      |      | 1                                | 6.9                          | 28.2                           | 27.7                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1916    |      |      | 2                                | 6.6                          | 29.6                           | 29.0                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1917    |      |      | 3                                | 6.2                          | 30.0                           | 30.0                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1918    |      |      | 4                                | 5.7                          | 30.2                           | 30.7                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1919    |      |      | 5                                | 4.4                          | 30.0                           | 31.3                      |                               |                               |                                 |                                     |                                |                             |  |
| 60803                 | 1920    |      |      | 6                                |                              | 29.8                           | 31.4                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0035    |      |      | 1                                | 6.0                          | 28.9                           | 27.3                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0036    |      |      | 2                                | 5.6                          | 29.4                           | 28.8                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0037    |      |      | 3                                | 5.5                          | 30.0                           | 30.8                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0038    |      |      | 4                                | 4.5                          | 30.0                           | 30.9                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0039    |      |      | 5                                | 3.5                          | 29.9                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0040    |      |      | 6                                |                              | 29.7                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0915    |      |      | 1                                | 5.2                          | 29.2                           | 29.7                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0916    |      |      | 2                                | 4.8                          | 29.5                           | 30.4                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0917    |      |      | 3                                | 4.2                          | 29.7                           | 31.0                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0918    |      |      | 4                                | 3.3                          | 29.8                           | 31.3                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0919    |      |      | 5                                | 2.6                          | 29.7                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0920    |      |      | 6                                | 2.2                          | 29.7                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 | 0921    |      |      | 7                                |                              | 29.5                           | 31.5                      |                               |                               |                                 |                                     |                                |                             |  |
| 60802                 | NUMBER  |      |      | 38                               | 32                           | 38                             | 38                        | 1                             | 0                             | 1                               | 1                                   | 1                              | 1                           |  |
| 60802                 | MAXIMUM |      |      | 7                                | 8.2                          | 31.8                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |  |
| 60802                 | MINIMUM |      |      | 1                                | 2.2                          | 28.2                           | 27.3                      |                               |                               |                                 |                                     |                                |                             |  |
| 60802                 | MEAN    |      |      | 4                                | 5.3                          | 30.0                           | 30.9                      |                               |                               |                                 |                                     |                                |                             |  |
| 60804                 |         |      |      |                                  |                              |                                |                           |                               |                               |                                 |                                     |                                |                             |  |

ENVIRONMENTAL PROTECTION AGENCY REGION IV  
SURVEILLANCE AND ANALYSIS DIVISION ATHENS, GEORGIA  
FINGER HILL CANAL STUDY JULY - AUGUST, 1976  
WATER QUALITY DATA

| STATION - FF-ITT-07-D |      |      |      | PALM COAST ICW N CLUB HSE WW ENT LOWER FLORIDA |                              |                                |                           | FINGER HILL CANAL STUDY       |                               |                                 |                                     |                                |                             |
|-----------------------|------|------|------|------------------------------------------------|------------------------------|--------------------------------|---------------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------------|--------------------------------|-----------------------------|
| DATE                  | TIME | DATE | TIME | 00003<br>DEPTH<br>FEET                         | 00299<br>DO<br>PROBE<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 00480<br>SALINITY<br>PPTH | 00680<br>T ORG C<br>C<br>MG/L | 00681<br>D ORG C<br>C<br>MG/L | 00610<br>NH3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00625<br>TOT KJEL<br>N<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P |
| 760802                | 1945 |      |      | 1                                              | 6.4                          | 29.9                           | 32.3                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 1946 |      |      | 2                                              | 6.4                          | 29.0                           | 32.2                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 1947 |      |      | 3                                              | 6.2                          | 29.0                           | 32.3                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 1948 |      |      | 4                                              | 6.1                          | 29.0                           | 32.4                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 1949 |      |      | 5                                              | 6.1                          | 28.9                           | 32.4                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 1950 |      |      | 6                                              | 6.1                          | 28.8                           | 32.4                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 1951 |      |      | 7                                              | 6.0                          | 28.8                           | 32.4                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 1952 |      |      | 8                                              | 6.0                          | 28.7                           | 32.4                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 1953 |      |      | 9                                              | 6.0                          | 28.8                           | 32.5                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 1954 |      |      | 10                                             | 6.0                          | 28.8                           | 32.5                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 1955 |      |      | 11                                             |                              | 28.8                           | 32.5                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0125 |      |      | 1                                              | 5.6                          | 29.0                           | 30.7                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0126 |      |      | 2                                              | 5.6                          | 29.4                           | 30.7                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0127 |      |      | 3                                              | 5.6                          | 29.5                           | 30.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0128 |      |      | 4                                              | 5.6                          | 29.5                           | 30.7                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0129 |      |      | 5                                              | 5.6                          | 29.5                           | 30.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0130 |      |      | 6                                              | 5.6                          | 29.7                           | 30.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0131 |      |      | 7                                              | 5.6                          | 29.6                           | 30.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0132 |      |      | 8                                              | 5.6                          | 29.6                           | 30.7                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0133 |      |      | 9                                              | 5.6                          | 29.6                           | 30.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0134 |      |      | 10                                             |                              | 29.5                           | 30.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0726 |      |      | 1                                              | 5.2                          | 28.0                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0727 |      |      | 2                                              | 5.2                          | 28.2                           | 32.0                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0728 |      |      | 3                                              | 5.2                          | 28.0                           | 32.0                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0729 |      |      | 4                                              | 5.2                          | 28.3                           | 32.0                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0730 |      |      | 5                                              | 5.2                          | 28.1                           | 32.0                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0731 |      |      | 6                                              | 5.2                          | 28.1                           | 31.9                      | 5.5                           | 4.0                           | 0.14                            | 0.01K                               | 0.16                           | 0.070                       |
| 760803                | 0732 |      |      | 7                                              | 5.2                          | 28.2                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0733 |      |      | 8                                              | 5.2                          | 28.2                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0734 |      |      | 9                                              | 5.2                          | 28.2                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0735 |      |      | 10                                             | 5.2                          | 28.2                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0736 |      |      | 11                                             | 5.2                          | 28.2                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0737 |      |      | 12                                             | 5.2                          | 28.2                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0738 |      |      | 13                                             |                              | 28.2                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1925 |      |      | 1                                              | 6.0                          | 27.2                           | 31.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1926 |      |      | 2                                              | 6.0                          | 27.2                           | 31.7                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1927 |      |      | 3                                              | 6.1                          | 27.1                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1928 |      |      | 4                                              | 6.0                          | 26.8                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1929 |      |      | 5                                              | 6.1                          | 26.8                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1930 |      |      | 6                                              | 6.1                          | 26.7                           | 31.8                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1931 |      |      | 7                                              | 6.1                          | 26.8                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1932 |      |      | 8                                              | 6.1                          | 26.7                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1933 |      |      | 9                                              | 6.0                          | 26.7                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1934 |      |      | 10                                             | 6.0                          | 26.7                           | 32.0                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1935 |      |      | 11                                             | 6.0                          | 26.7                           | 31.9                      |                               |                               |                                 |                                     |                                |                             |

ENVIRONMENTAL PROTECTION AGENCY REGION IV  
SURVEILLANCE AND ANALYSIS DIVISION ATHENS, GEORGIA  
FINGER FILL CANAL STUDY JULY - AUGUST, 1976  
WATER QUALITY DATA

PALM COAST ICW N CLUB MSE WW ENT

## FINGER FILL CANAL STUDY

[illegible]



ENVIRONMENTAL PROTECTION AGENCY REGION IV  
SURVEILLANCE AND ANALYSIS DIVISION ATHENS, GEORGIA  
FINGER FILL CANAL STUDY JULY - AUGUST, 1976  
WATER QUALITY DATA

| STATION - FF-ITT-08-D |      |      |      | PALM COAST JUNC.CLB HSE WW & ICW LOWER FLORIDA |                              |                                |                           | FINGER FILL CANAL STUDY  |                          |                                 |                                     |                                |                             |
|-----------------------|------|------|------|------------------------------------------------|------------------------------|--------------------------------|---------------------------|--------------------------|--------------------------|---------------------------------|-------------------------------------|--------------------------------|-----------------------------|
| DATE                  | TIME | DATE | TIME | 00003<br>DEPTH<br>FEET                         | 00299<br>DO<br>PROBE<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 00480<br>SALINITY<br>PPTH | 00680<br>T ORG C<br>MG/L | 00681<br>O ORG C<br>MG/L | 00610<br>NH3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00625<br>TOT KJEL<br>N<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P |
| 760802                | 2000 |      |      | 1                                              | 6.2                          | 30.7                           | 28.4                      |                          |                          |                                 |                                     |                                |                             |
| 760802                | 2001 |      |      | 2                                              | 5.6                          | 30.8                           | 29.6                      |                          |                          |                                 |                                     |                                |                             |
| 760802                | 2002 |      |      | 3                                              | 5.4                          | 30.4                           | 30.4                      |                          |                          |                                 |                                     |                                |                             |
| 760802                | 2003 |      |      | 4                                              | 5.8                          | 29.7                           | 31.5                      |                          |                          |                                 |                                     |                                |                             |
| 760802                | 2004 |      |      | 5                                              | 5.8                          | 29.6                           | 31.6                      |                          |                          |                                 |                                     |                                |                             |
| 760802                | 2005 |      |      | 6                                              | 5.8                          | 29.4                           | 32.1                      |                          |                          |                                 |                                     |                                |                             |
| 760802                | 2006 |      |      | 7                                              | 5.8                          | 29.1                           | 32.2                      |                          |                          |                                 |                                     |                                |                             |
| 760802                | 2007 |      |      | 8                                              | 5.9                          | 29.0                           | 32.2                      |                          |                          |                                 |                                     |                                |                             |
| 760802                | 2008 |      |      | 9                                              | 5.9                          | 28.9                           | 32.2                      |                          |                          |                                 |                                     |                                |                             |
| 760802                | 2009 |      |      | 10                                             |                              | 29.1                           | 30.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0135 |      |      | 1                                              | 5.6                          | 29.8                           | 30.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0136 |      |      | 2                                              | 5.6                          | 29.8                           | 30.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0137 |      |      | 3                                              | 5.5                          | 29.9                           | 30.3                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0138 |      |      | 4                                              | 5.5                          | 29.8                           | 30.1                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0139 |      |      | 5                                              | 5.5                          | 29.8                           | 30.1                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0140 |      |      | 6                                              | 5.4                          | 30.0                           | 30.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0141 |      |      | 7                                              | 5.4                          | 30.0                           | 30.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0142 |      |      | 8                                              | 5.4                          | 29.9                           | 30.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0143 |      |      | 9                                              |                              | 29.9                           | 30.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0739 |      |      | 1                                              | 5.0                          | 28.9                           | 30.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0740 |      |      | 2                                              | 4.9                          | 28.9                           | 30.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0741 |      |      | 3                                              | 4.9                          | 28.9                           | 30.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0742 |      |      | 4                                              | 4.9                          | 29.0                           | 30.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0743 |      |      | 5                                              | 4.9                          | 28.9                           | 30.3                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0744 |      |      | 6                                              | 5.0                          | 28.9                           | 30.4                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0745 |      |      | 7                                              | 5.1                          | 28.8                           | 30.4                      | 5.7                      | 4.2                      | 0.10                            | 0.01                                | 0.23                           | 0.090                       |
| 760803                | 0746 |      |      | 8                                              | 5.1                          | 28.7                           | 30.6                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0747 |      |      | 9                                              | 5.1                          | 28.7                           | 30.5                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0748 |      |      | 10                                             | 5.1                          | 28.7                           | 30.6                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0749 |      |      | 11                                             | 5.1                          | 28.7                           | 30.6                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0750 |      |      | 12                                             | 5.1                          | 28.7                           | 30.6                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0751 |      |      | 13                                             | 5.1                          | 28.5                           | 30.6                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 0752 |      |      | 14                                             |                              | 28.5                           | 30.6                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1940 |      |      | 1                                              | 5.4                          | 28.9                           | 29.9                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1941 |      |      | 2                                              | 5.4                          | 28.9                           | 30.0                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1942 |      |      | 3                                              | 5.4                          | 28.4                           | 30.7                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1943 |      |      | 4                                              | 5.4                          | 28.0                           | 31.2                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1944 |      |      | 5                                              | 5.5                          | 27.7                           | 31.4                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1945 |      |      | 6                                              | 5.5                          | 27.5                           | 31.6                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1946 |      |      | 7                                              | 5.6                          | 27.6                           | 31.5                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1947 |      |      | 8                                              | 5.6                          | 27.6                           | 31.6                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1948 |      |      | 9                                              | 5.6                          | 27.5                           | 31.6                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1949 |      |      | 10                                             | 5.6                          | 27.4                           | 31.7                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1950 |      |      | 11                                             | 5.6                          | 27.3                           | 31.7                      |                          |                          |                                 |                                     |                                |                             |
| 760803                | 1951 |      |      | 12                                             |                              | 27.3                           | 31.8                      |                          |                          |                                 |                                     |                                |                             |

## WATER QUALITY DATA

### FINGER FILL CANAL STUDY

|         |      |      |      | 00003 | 00299       | 00010         | 00480    | 00680        | 00681        | 00610          | 00630              | 00625         | 00665    |
|---------|------|------|------|-------|-------------|---------------|----------|--------------|--------------|----------------|--------------------|---------------|----------|
|         |      |      |      | DEPTH | DO<br>PROBE | WATER<br>TEMP | SALINITY | T ORG C<br>C | D ORG C<br>C | NH3-N<br>TOTAL | NO2&NO3<br>N-TOTAL | TOT KJEL<br>N | PHOS-TOT |
| DATE    | TIME | DATE | TIME | FEET  | MG/L        | CENT          | PPTH     | MG/L         | MG/L         | MG/L           | MG/L               | MG/L          | MG/L P   |
| 760804  | 0100 |      |      | 1     | 5.1         | 28.2          | 29.3     |              |              |                |                    |               |          |
| 760804  | 0101 |      |      | 2     | 5.1         | 28.2          | 29.5     |              |              |                |                    |               |          |
| 760804  | 0102 |      |      | 3     | 5.1         | 28.1          | 30.3     |              |              |                |                    |               |          |
| 760804  | 0103 |      |      | 4     | 5.1         | 28.0          | 30.5     |              |              |                |                    |               |          |
| 760804  | 0104 |      |      | 5     | 5.1         | 28.0          | 30.5     |              |              |                |                    |               |          |
| 760804  | 0105 |      |      | 6     | 5.0         | 28.0          | 30.5     |              |              |                |                    |               |          |
| 760804  | 0106 |      |      | 7     | 5.0         | 28.0          | 30.5     |              |              |                |                    |               |          |
| 760804  | 0107 |      |      | 8     | 5.0         | 28.0          | 30.5     |              |              |                |                    |               |          |
| 760804  | 0108 |      |      | 9     |             | 27.9          | 30.1     |              |              |                |                    |               |          |
| 760802  |      |      |      |       |             |               |          |              |              |                |                    |               |          |
| NUMBER  |      |      |      | 54    | 49          | 54            | 54       | 1            | 1            | 1              | 1                  | 1             | 1        |
| MAXIMUM |      |      |      | 14    | 6.2         | 30.8          | 32.2     |              |              |                |                    |               |          |
| MINIMUM |      |      |      | 1     | 4.9         | 27.3          | 28.4     |              |              |                |                    |               |          |
| MEAN    |      |      |      | 6     | 5.4         | 28.8          | 30.6     |              |              |                |                    |               |          |
| 760804  |      |      |      |       |             |               |          |              |              |                |                    |               |          |

ENVIRONMENTAL PROTECTION AGENCY REGION IV  
SURVEILLANCE AND ANALYSIS DIVISION ATHENS, GEORGIA  
FINGER FILL CANAL STUDY JULY - AUGUST, 1976  
WATER QUALITY DATA

[illegible]

PAGE 76

| STATION - FF-ITT-10-D |         |      |      | PALM COAST CLB HSE WW INLND ICW |                              |                                | LOWER FLORIDA             |                               | FINGER FILL CANAL STUDY       |                                 |                                     |                                |                             |
|-----------------------|---------|------|------|---------------------------------|------------------------------|--------------------------------|---------------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------------|--------------------------------|-----------------------------|
|                       |         |      |      | 00003<br>DEPTH                  | 00299<br>DO<br>PROBE<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 00480<br>SALINITY<br>PPTH | 00680<br>T OXG C<br>C<br>MG/L | 00681<br>D ORG C<br>C<br>MG/L | 00610<br>NH3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00625<br>TOT KJEL<br>N<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P |
| DATE                  | TIME    | DATE | TIME | FEET                            |                              |                                |                           |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2025    |      |      | 1                               | 7.0                          | 31.7                           | 28.8                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2026    |      |      | 2                               | 7.0                          | 31.8                           | 29.5                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2027    |      |      | 3                               | 5.3                          | 31.6                           | 29.7                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2028    |      |      | 4                               | 4.6                          | 30.7                           | 30.0                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2029    |      |      | 5                               | 4.4                          | 30.5                           | 30.1                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2030    |      |      | 6                               |                              | 30.5                           | 30.0                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0200    |      |      | 1                               | 5.2                          | 30.3                           | 28.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0201    |      |      | 2                               | 4.8                          | 30.5                           | 29.5                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0202    |      |      | 3                               | 4.7                          | 30.5                           | 29.6                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0203    |      |      | 4                               | 4.4                          | 30.5                           | 29.7                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0204    |      |      | 5                               | 4.3                          | 30.5                           | 29.9                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0205    |      |      | 6                               |                              | 30.4                           | 29.9                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0803    |      |      | 1                               | 4.6                          | 29.3                           | 29.3                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0804    |      |      | 2                               | 4.5                          | 29.6                           | 29.0                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0805    |      |      | 3                               | 4.4                          | 29.6                           | 28.9                      | 6.0                           | 5.2                           | 0.09                            | 0.01K                               | 0.40                           | 0.120                       |
| 760803                | 0806    |      |      | 4                               | 4.3                          | 29.7                           | 28.9                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0807    |      |      | 5                               |                              | 29.7                           | 28.9                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 2003    |      |      | 1                               | 5.8                          | 29.8                           | 27.9                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 2004    |      |      | 2                               | 5.4                          | 30.2                           | 29.2                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 2005    |      |      | 3                               | 5.0                          | 30.0                           | 29.3                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 2006    |      |      | 4                               | 5.0                          | 30.0                           | 29.5                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 2007    |      |      | 5                               | 4.8                          | 30.0                           | 29.4                      |                               |                               |                                 |                                     |                                |                             |
| 760803                | 2008    |      |      | 6                               |                              | 30.0                           | 29.5                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0120    |      |      | 1                               | 5.0                          | 28.2                           | 25.5                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0121    |      |      | 2                               | 4.8                          | 29.5                           | 29.2                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0122    |      |      | 3                               | 4.5                          | 30.2                           | 29.2                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0123    |      |      | 4                               | 3.6                          | 30.2                           | 29.5                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0124    |      |      | 5                               | 3.5                          | 30.1                           | 29.5                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0125    |      |      | 6                               |                              | 30.1                           | 29.5                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0835    |      |      | 1                               | 4.2                          | 29.3                           | 27.5                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0836    |      |      | 2                               | 3.9                          | 28.1                           | 27.0                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0837    |      |      | 3                               | 3.6                          | 30.0                           | 29.3                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0838    |      |      | 4                               | 3.7                          | 29.6                           | 29.3                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0839    |      |      | 5                               | 4.1                          | 28.4                           | 29.8                      |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0840    |      |      | 6                               |                              | 28.4                           | 29.9                      |                               |                               |                                 |                                     |                                |                             |
| 760802                | NUMBER  |      |      | 35                              | 29                           | 35                             | 35                        | 1                             | 1                             | 1                               | 1                                   | 1                              | 1                           |
|                       | MAXIMUM |      |      | 6                               | 7.0                          | 31.8                           | 30.1                      |                               |                               |                                 |                                     |                                |                             |
|                       | MINIMUM |      |      | 1                               | 3.5                          | 28.1                           | 25.5                      |                               |                               |                                 |                                     |                                |                             |
|                       | MEAN    |      |      | 3                               | 4.7                          | 30.0                           | 29.2                      |                               |                               |                                 |                                     |                                |                             |
| 60804                 |         |      |      |                                 |                              |                                |                           |                               |                               |                                 |                                     |                                |                             |

ENVIRONMENTAL PROTECTION AGENCY REGION IV  
SURVEILLANCE AND ANALYSIS DIVISION ATHENS, GEORGIA  
FINGER FILL CANAL STUDY JULY - AUGUST, 1976  
WATER QUALITY DATA

PAGE

| STATION - FF-ITT-11-D |      |      |      | PALM CAOST 100' FRM HEAD C.H.WW |                              |                                | LOWER FLORIDA     |                               | FINGER FILL CANAL STUDY       |                                 |                                     |                                |                             |
|-----------------------|------|------|------|---------------------------------|------------------------------|--------------------------------|-------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------------|--------------------------------|-----------------------------|
|                       |      |      |      | 00003<br>DEPTH                  | 00299<br>DO<br>PROBE<br>MG/L | 00010<br>WATER<br>TEMP<br>CENT | 00480<br>SALINITY | 00680<br>T ORG C<br>C<br>MG/L | 00681<br>D ORG C<br>C<br>MG/L | 00610<br>NH3-N<br>TOTAL<br>MG/L | 00630<br>NO2&NO3<br>N-TOTAL<br>MG/L | 00625<br>TOT KJEL<br>N<br>MG/L | 00665<br>PHOS-TOT<br>MG/L P |
| DATE                  | TIME | DATE | TIME | FEET                            |                              |                                | PPTH              |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2034 |      |      | 1                               | 6.4                          | 31.8                           | 29.4              |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2035 |      |      | 2                               | 6.6                          | 31.7                           | 29.4              |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2036 |      |      | 3                               | 5.8                          | 31.4                           | 29.8              |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2037 |      |      | 4                               | 5.2                          | 30.9                           | 29.7              |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2038 |      |      | 5                               | 3.6                          | 31.1                           | 29.6              |                               |                               |                                 |                                     |                                |                             |
| 760802                | 2039 |      |      | 6                               |                              | 30.6                           | 30.0              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0225 |      |      | 1                               | 4.9                          | 30.4                           | 29.3              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0226 |      |      | 2                               | 5.0                          | 30.3                           | 29.6              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0227 |      |      | 3                               | 3.8                          | 30.4                           | 29.7              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0228 |      |      | 4                               |                              | 30.3                           | 29.7              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0233 |      |      |                                 |                              | 30.1                           | 28.4              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0809 |      |      | 1                               | 3.2                          | 29.8                           | 29.2              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0810 |      |      | 2                               | 3.2                          | 29.9                           | 29.4              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0811 |      |      | 3                               | 2.6                          | 30.2                           | 29.8              | 6.5                           | 5.2                           | 0.04                            | 0.01K                               | 0.30                           | 0.160                       |
| 760803                | 0812 |      |      | 4                               | 2.3                          | 30.5                           | 29.6              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0813 |      |      | 5                               | 2.3                          | 30.5                           | 29.6              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 0814 |      |      | 6                               |                              | 30.5                           | 29.6              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1410 |      |      | 1                               | 5.7                          | 30.2                           | 28.6              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1411 |      |      | 2                               | 5.6                          | 30.5                           | 28.6              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1412 |      |      | 3                               | 4.6                          | 30.6                           | 29.3              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1413 |      |      | 4                               | 4.7                          | 30.3                           | 29.4              | 7.3                           |                               | 0.04                            | 0.01                                | 0.47                           | 0.170                       |
| 760803                | 1414 |      |      | 5                               | 4.5                          | 30.2                           | 29.4              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1415 |      |      | 6                               | 3.9                          | 30.1                           | 29.4              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 1416 |      |      | 7                               |                              | 30.1                           | 29.4              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 2012 |      |      | 1                               | 3.8                          | 29.3                           | 27.7              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 2013 |      |      | 2                               | 4.5                          | 30.4                           | 29.0              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 2014 |      |      | 3                               | 4.2                          | 30.4                           | 29.3              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 2015 |      |      | 4                               | 3.0                          | 30.0                           | 29.3              |                               |                               |                                 |                                     |                                |                             |
| 760803                | 2016 |      |      | 5                               |                              | 30.0                           | 29.2              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0130 |      |      | 1                               | 3.0                          | 29.7                           | 27.3              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0131 |      |      | 2                               | 4.2                          | 30.2                           | 29.0              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0132 |      |      | 3                               | 3.7                          | 29.9                           | 29.3              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0133 |      |      | 4                               | 1.6                          | 30.0                           | 29.3              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0134 |      |      | 5                               | 1.6                          | 30.0                           | 29.3              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0135 |      |      | 6                               |                              | 30.0                           | 29.3              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0816 |      |      | 1                               | 2.7                          | 27.7                           | 26.3              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0817 |      |      | 2                               | 2.1                          | 29.4                           | 27.7              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0818 |      |      | 3                               | 3.1                          | 30.1                           | 28.7              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0819 |      |      | 4                               | 1.7                          | 30.1                           | 29.3              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0820 |      |      | 5                               | 1.8                          | 30.2                           | 29.2              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0821 |      |      | 6                               | 1.6                          | 30.3                           | 29.5              |                               |                               |                                 |                                     |                                |                             |
| 760804                | 0822 |      |      | 7                               |                              | 30.3                           | 28.8              |                               |                               |                                 |                                     |                                |                             |

PAGE 78

| STATION - FF-ITT-11-D |      |      |      | PALM COAST 100' FRM HEAD C.H.WW |       | LOWER FLORIDA |          | FINGER FILL CANAL STUDY |         |       |         |          |          |
|-----------------------|------|------|------|---------------------------------|-------|---------------|----------|-------------------------|---------|-------|---------|----------|----------|
|                       |      |      |      | 00003                           | 00299 | 00010         | 00480    | 00680                   | 00681   | 00610 | 00630   | 00625    | 00665    |
|                       |      |      |      | DEPTH                           | DO    | WATER         | SALINITY | T ORG C                 | D ORG C | NH3-N | NO2&NO3 | TOT KJEL | PHOS-TOT |
|                       |      |      |      | PRUBE                           | TEMP  |               |          | C                       | C       | TOTAL | N-TOTAL | N        |          |
| DATE                  | TIME | DATE | TIME | FEET                            | MG/L  | CENT          | PPTH     | MG/L                    | MG/L    | MG/L  | MG/L    | MG/L     | MG/L P   |
| 760802                |      |      |      |                                 |       |               |          |                         |         |       |         |          |          |
| NUMBER                |      |      |      | 41                              | 34    | 42            | 42       | 2                       | 1       | 2     | 2       | 2        | 2        |
| MAXIMUM               |      |      |      | 7                               | 6.6   | 31.8          | 30.0     | 7.3                     |         | 0.04  | 0.01    | 0.47     | 0.170    |
| MINIMUM               |      |      |      | 1                               | 1.6   | 27.7          | 26.3     | 6.5                     |         | 0.04  | 0.01K   | 0.30     | 0.160    |
| MEAN                  |      |      |      | 4                               | 3.7   | 30.2          | 29.1     | 6.9                     |         | 0.04  | 0.01    | 0.38     | 0.165    |
| 760804                |      |      |      |                                 |       |               |          |                         |         |       |         |          |          |

PAGE 79

## FINGER FILL CANAL STUDY

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PAGE 88

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PAGE 81

# FINGER FILL CANAL STUDY

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