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December 18, 1989
Project No. 8119

Mr. Art Wilde, Executive Director
Florida Inland Navigation District
1314 Marcinski Road
Jupiter, Florida 33477

RE: Final Report - Phase One
Long-Range Dredged Material Management Plan
Atlantic Intracoastal Waterway
Palm Beach County, Florida

Dear Art:

Submitted herein are five copies of our final report for the Phase One study for the Long-Range Dredged Material Management Plan for the ICW in Palm Beach County.

The report contains the results of our review of the historical dredging records, an inventory of all existing FIND disposal areas, a site bank for future dredged material disposal recommendations for Phase II studies and responses to comments concerning the draft report.

Please feel free to call at any time for clarification.

Respectfully,

BROMWELL & CARRIER, INC.

Wayne A. Ericson

Wayne A. Ericson, P.E.
Vice President

WAE:cdm

cc: Shalloway, Foy, Rayman & Newell, Inc.

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FINAL REPORT

FIND - PALM BEACH COUNTY

PHASE I STUDY

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EXECUTIVE SUMMARY

Realizing that the Palm Beach County area has become and will continue to be densely populated with particular pressure on waterfront property, the Corps of Engineers (COE) and the Florida Inland Navigation District (FIND) initiated a Phase 1 study to evaluate the management of dredged spoil materials as well as management of existing and proposed upland and below water disposal easements and ownerships. This Phase 1 study was completed using existing dredging information and historical data provided primarily by the Corps of Engineers along with input from various state and local agencies familiar with the dredging history of the ICW in Palm Beach County.

The purpose of the study was to develop a strategy for long range management of dredged materials for the Intracoastal Waterway (ICW) in Palm Beach County, along with a plan for continued ownership or easement maintenance of existing FIND disposal areas along the ICW.

Following the initiation of the study, dredging records for the Palm Beach County ICW were reviewed in the Jacksonville offices of the U.S. Army Corps of Engineers. In addition, local agencies and representatives such as the Jupiter Inlet, Boynton Inlet and Port of Palm Beach engineers were contacted for information regarding dredging history on the ICW. Using information provided by all of the agencies and contacts, estimates were made for the 50 year forecast for dredging of the ICW in Palm Beach County.

The data obtained to date indicates that most of the dredging has occurred at the Jupiter Inlet area where the dredged

materials consist primarily of sands that are deposited on the beaches north and south of the inlet. Other areas of recorded significant dredging have been at the Port of Palm Beach and the Boynton Inlet area (south Lake Worth), where beach disposal is also predominant.

The existing or potential shoal areas within the ICW in Palm Beach County, outside of the inlet areas, appear to be discontinuous throughout the length of the ICW with localized shoaling occurring in the northern reaches of the ICW, as well as isolated locations within Lake Worth. Because most of the information available concerning potential or existing shoal areas consists of centerline surveys from the Corps of Engineers, actual quantities of material to be dredged were difficult to estimate. Review of aerial photos from FIND and the Corps of Engineers indicates that some edge of channel shoaling is occurring. Thus, quantities calculated for this report are only approximate due to the lack of bathymetric information.

In preparing a dredged material management plan for the Palm Beach ICW disposal, concepts were developed for the dredged materials. The details of these concepts, other than upland disposal, are limited in their scope in that sediment quality information was generally poorly documented and obtained outside the ICW right-of-way, particularly for areas outside the inlets. Materials in the Lake Worth area may, in fact, be fine grained and contain moderate to high percentages of organic materials originating from old sewer disposal outlets and stormwater discharge from intensively cultivated agricultural areas west of the ICW.

The principal disposal concept, as dictated by the scope of services, focused on the use of upland disposal areas, away from existing wetlands. This concept included using upland sites that could provide centralized disposal to reduce the number of sites for future use and maintenance. These disposal sites would be maintained as permanent facilities. Also, they should have adequate capacity for long-term dredged material disposal as well as being accessible for maintenance and operation by FIND or other personnel from the state or federal agencies.

Due to very limited available upland land areas, particularly in the Lake Worth area, alternate disposal concepts were reviewed and are discussed in this report. The one disposal alternative currently used at the inlets includes the use of beach renourishment. This method of disposal for beach quality sand will likely continue indefinitely and upland disposal areas will not be required in the areas that are reachable for beach disposal.

Recognizing that FIND maintains several below water easements in the Lake Worth area, below water and nearshore disposal have been evaluated, with input from regulatory agencies. Due to the deficiency of detailed data concerning the sediment quality, existing aquatic environments, and water depths, these are discussed in a conceptual manner.

As an alternative to most of the existing FIND easements along the ICW, Spoil Island addition and deep water disposal at selected locations within the Lake Worth area has been considered. Through conversations with local agencies and consultants, we have identified areas along the ICW that were probably excavated to depths in excess of 20 feet MSL. With

further study, these deep isolated areas within the Lake Worth area could possibly be used for disposal in association with aquatic mitigation plans to promote or reestablish aquatic habitats.

We have reviewed data concerning the existing FIND disposal areas (MSA's) and cataloged them with regards to size, vegetative cover, location, suitability for dredge material disposal, and possible trade or easement release by FIND. In addition to the engineering and environmental aspects of characterizing these disposal areas, we have also obtained information regarding zoning and land use impacts as well as the approximate cost or land values of these subject areas.

It should be recognized that the majority of disposal acreage held by FIND in the Palm Beach County area consists of below water and spoil island easements within Lake Worth. Because these areas have subsequently become vegetated with seagrass beds and other desirable aquatic vegetation, their use as disposal sites appears very limited.

This report contains recommendations as to the use of existing as well as acquiring new disposal areas. In addition, it reviews the disposition of the numerous disposal areas or MSAs that appear to be of no long range benefit or use to FIND or the COE.

CONCLUSIONS SUMMARY

A review of the dredging history and centerline survey data has revealed that the likely dredging areas will be concentrated near the inlet channels at Jupiter, Port of Palm Beach and south Lake Worth Inlet. Other shoal areas were identified at isolated locations in the channelized and lake portions of the Palm Beach ICW. The ICW was divided into four reaches along its length to separate areas of similar dredged material and likely disposal options.

The following summarizes our findings concerning the anticipated dredged material quantities, material types and disposal methods.

REACH I: North ICW, COE cuts P-1 through P-13, ICW mile 262.8 - 267.1

In this reach the dredging is completed on a regular basis to maintain the design depth in the Jupiter Inlet area. Dredging contracts are often completed every one to two years in the area. Because the dredged materials are sandy in nature and the areas are close to the ocean, beach disposal, both north and south of the inlet has been the preferred method of disposal. It is expected that beach disposal will continue for future dredging contracts. Approximately 150,000 cubic yards of material are dredged in Reach I every dredging cycle; its estimated that about 5 million cubic yards of sand materials will have be dredged in this reach over the next 50 years.

REACH II: North ICW, COE cuts P-15 through P-31, ICW mile 267.1 to 274.6

Reach II is generally a river channel setting located between upland areas on both sides of the ICW right-of-way. Dredging in this reach has been limited to one recorded maintenance dredging event in 1972 at cut P-31 and one advanced maintenance dredging contract,to a depth of -16 MLW at cut P-25 around 1974. FIND maintains several disposal areas in this reach however only MSA 609/609A, MSA FO 610/611A and MSA FO 620B were determined to be suitable as probable upland disposal areas for the next 50 years. Based on the limited historical and shoaling data, we have estimated that approximately 26000 cubic yards of materials would be dredged in Reach II per dredging cycle and about 130,000 cubic yards would have to be dredged in a 50 year period.

REACH III: Central ICW, COE cuts P-32 through P-50, ICW mile 274.6 to 294.7

<u>REACH III a. COE cuts P-32 - P-37, ICW mile 274.6 to 282.0</u>

Reach III a. is located in the northern portion of Lake Worth. The ICW in this area is characterized by the open water/estuaries environment of the lake. Dredging in the area is done at the Port of Palm Beach turning basin and entrance channel. Dredged materials from this area are deposited on and near the beach, south of the inlet, immediately east of the port. Shoaling in the areas away from the port were identified in the cuts north of Peanut Island (P-33A - P-35) and south of the turning basin (P-36/37). Peanut Island ,in conjunction with

disposal plans by the port, and the beach area south of the inlet channel were identified as the most likely disposal sites in this part of Reach III. We have estimated the volume of material to be dredged in this subreach will be on the order of 32000 cubic yards per dredging cycle and the 50 year projection for dredging is about 163,000 cubic yards.

REACH III b. COE cuts P-38 - P-45, ICW mile 282.0 to 291.5

No records of maintenance dredging in this portion of Lake Worth were found during this study. Evidence of shoaling was noted at cuts P-41 and P-44/45. The disposal areas maintained by FIND in this reach are open water easements along both edges of the ICW. Some of these easements are contiguous to or contain existing spoil islands. The easements with spoil islands along with some excavated deep holes on the west side of the lake and one upland area near the Lake Worth Golf Course are the probable disposal areas for Reach III b. Due to concerns about the possible high organic content of the sediments in this area the below water disposal options will have be studied further. The volume of material to be dredged per dredging cycle is estimated to be approximately 8000 cubic yards and about 40,000 cubic yards for a 50 year period.

REACH III c. COE cuts P-46 - P-50, ICW mile 291.5 to 294.7

The area of recorded shoaling in Reach III c. is located at cut P-50, near the South Lake Worth (Boynton) Inlet. Sand materials are accreting in the ICW at this location in an area immediately west of the sand trap on the south side of the entrance channel. Though FIND has below water disposal areas in the vicinity of cut P-50, the preferred disposal option appears

to be the beach and near-shore area south of the inlet channel. This area has been recently used for dredged material disposal by the South Lake Worth Inlet District. We have estimated the quantity of material to be removed from the ICW at cut P-50 will be about 26,000 cubic yards for each dredging event and that approximately 130,000 cubic yards will have to dredged in a 50 year time frame.

REACH IV: South ICW, COE cuts P-51 through P-91, ICW mile 294.7 to 310.2

Reach IV of the Palm Beach ICW is generally a channelized area bounded on both sides by upland areas that have been heavily developed for residential and commercial uses. Centerline survey data for this reach indicate very limited shoaling with minor amounts appearing in cuts P-87/88. More substantive shoaling is believed to be occurring at the edged of the ICW at these same cuts. Based on these assumptions, the volume of material to be dredged in Reach IV has been estimated to 14,000 cubic yards per dredging cycle and 28,000 cubic yards for 50 years. The preferred disposal method for this area will be upland disposal. Existing FIND disposal areas MSA FO 641A and MSA 684A have been identified as primary disposal areas and MSA FO 640/640A with some expansion as a secondary site.

1.0 INTRODUCTION

This report presents the results of a Phase 1 study for the Palm Beach County Intracoastal Waterway (ICW) with regard to developing a 50-year plan for management of dredged material. The study concentrated on the review of existing data regarding history and forecasting in the ICW for maintenance dredging. It also reviewed existing data, maps, and aerial photography to inventory FIND-owned or controlled disposal areas within the ICW. This Phase 1 study not only focused on the engineering and environmental aspects of the disposal areas, it included a preliminary review of the socioeconomic aspects of managing and operating upland disposal sites in the ICW area. It also reviews the potential for acquiring additional disposal areas, particularly in the highly populous areas of central and southern Palm Beach County.

1.1 General Background

The ICW in Palm Beach County stretches for about 47 miles from Martin County to Broward County. The northern and southern portions of the Palm Beach ICW are characterized by channelized sections. Within the central 21 miles, the ICW channel limits are located within Lake Worth. A map of the study area is shown in Figure No. 1.

The present design channel width and depth are 125 feet and -10 feet MLW, respectively. Around 1961, the ICW channel was deepened and widened to these design limits.

The channelized portions of the ICW, except for the inlet areas, are characterized by isolated and minimal amounts of

maintenance dredging since 1961. This situation has resulted in localized shoaling at several locations in the channelized section north of Lake Worth. South of Lake Worth, the historical records reveal little or no shoaling or maintenance dredging requirements.

At the four inlets, dredging has been completed on an irregular to frequent basis. Dredging at the Jupiter Inlet, Port of Palm Beach, and Boca Inlet has been done several times since 1961. The Boynton Inlet (south Lake Worth) area has been dredged as recently as early 1989 but much less frequently than the other inlets. Beach disposal is the general method for dredged material handling. There has been some ocean disposal of materials from the Port of Palm Beach entrance channel and turning basin areas.

The Lake Worth portions of the ICW are characterized by shoaling at several localized areas. However, this shoaling to date has not been deemed severe enough to warrant dredging.

The physical properties of the sediment materials of the channelized sections of the Palm Beach ICW are generally characterized as being fine to medium grained sands, often sufficiently coarse grained to be acceptable for beach renourishment projects or beach disposal. However, the sediment characteristics of the materials in the Lake Worth portions of the ICW appear to be finer grained with the likelihood of high organic or other man-made pollutants.

The nature of Lake Worth water quality and sediment characteristics has changed dramatically over the last 100 years. Prior to 1860, it was a fresh water lake. In the 1860's the

first inlet was dug and portions of the lake became salty. In 1877, a more stable inlet was established and in 1920, the principal inlet at the Port of Palm Beach was opened. Prior to 1845, only two islands existed in the lake, Big Munyon and Hypoluxo Islands (Bach, 1984).

Subsequent private, commercial, and agricultural development of the areas around Lake Worth have contributed significantly to its changes and several years of water quality degradation. Beside the significant freshwater discharges from the numerous canals, the water and sediment quality have been impacted by several decades of disposal of raw and partially treated sewer effluent. It was not until 1979, that all major municipal sewer plant discharges were diverted from Lake Worth. Recent reports regarding the status of the Lake Worth water and sediment quality indicate that the major source of pollution is the West Palm Beach Canal (C-51). This canal is responsible for large volumes of freshwater, urban runoff, detritus, and other organic materials which have caused a build-up of organic materials in the central portions of the lake (Bach, 1984).

1.2 Project Overview

The Phase 1 study for the dredged material management plan for the Palm Beach ICW included the following: a review of historical dredging and shoaling data and a review and cataloging of all existing disposal easements and ownerships. This information was used to develop disposal and material handling concepts for the long-range (50 year) management of dredged materials and designated disposal areas.

The review of historical data was accomplished by visits to the office of the COE in Jacksonville, correspondence with the COE, and meetings with local and state agency officials. Dredging contracts, ICW reconnaissance surveys, and environmental permits and reports were obtained, to help quantify the areas where historical dredging and shoaling has taken place.

An inventory of the existing disposal sites (MSA's) was completed by reviewing historical aerial photography, boundary survey information, soil survey publications, and site reconnaissance walk-overs. The sites were cataloged for engineering, environmental, and socioeconomic parameters and then ranked for suitability for dredged material disposal and/or possible trade or release consideration by FIND. A bank of candidate disposal sites was then developed for further evaluation and consideration by the FIND and the COE.

As per the scope of services for this study, upland disposal was emphasized throughout the Phase I study because of the presumed reduced environmental permitting requirements and constraints. Conceptual disposal planning did include other options, particularly in areas where existing or potential available upland sites are of limited availability.

The historical dredging and shoaling information and disposal predictions for the next 50 years are presented in detail in Section 2 of this report along with tables and figures that highlight the available data.

The disposal concepts are presented in Section 3. Included are discussions of each concept, focusing on upland disposal. Other disposal options, with local and state environmental agency

input are also presented in Section 3.

Subsequent sections and appendices of the report present the candidate disposal site criteria, general disposal area plans recommendations for further engineering, environmental and socioeconomic studies, candidate site descriptions, vegetative cover and soil survey maps agency contacts and pertinent sediment data.

Aerial photography base maps, at a nominal scale of 1 inch = 400 feet, showing all existing MSA disposal areas, the ICW centerline with cut numbers and mileage, and historical dredging and shoaling data have been submitted under separate cover.

2.0 50 YEAR MAINTENANCE DREDGING

2.1 Dredged Material Quantities and Shoaling Locations

Using data from the Jacksonville office of the U.S. Army Corps of Engineers (COE), baseline information regarding the dredging and shoaling history was developed. These records were determined to be the best available data for determining dredging and shoaling rates. The data files reviewed at the Corps of Engineers included previous dredging contracts, reconnaissance surveys and other information provided by the Corps personnel. Correspondence and communication with local and state officials in the Palm Beach County area revealed additional information regarding localized shoaling or dredging activities.

No single source of information or location was available for compiling this dredging information. Much of it was deduced from actual dredging contracts as well as reconnaissance (centerline) surveys. However, because the centerline surveys do not provide information for the full channel width, quantifying the amount of shoaling was estimated, based on review of aerial photography and assumed shoaling geometries within the ICW right-of-way.

To attempt to quantify the dredging activities, as well as potential shoaling and future dredging requirements, a spreadsheet analysis was completed to compare the amount of dredging or shoaling with time, as well as with distance along the ICW corridor. The principal system used for dredging contracts include the AIWW (Atlantic Intracoastal Waterway) mileage as well as cut numbers designated P-1 through P-89 in Palm Beach County. In addition, cut station and ICW mileage have

been used to designate locations along the ICW right-of-way. Table 1 presents these systems and the correlation between the system.

We have broken out the ICW into four reaches, as depicted in Figure 2. These reaches were determined by dredging frequency, disposal methods, available disposal areas, and anticipated sediment material characteristics. It is recognized that the reaches may be longer than typical maximum pumping distances (≤ 5 miles). Individual shoal or dredging locations (cut locations) have been identified within each Reach.

The amount of material to be dredged at each location was estimated using a rectangular surface area with a width of 125 feet (the ICW channel bottom width), the length along the ICW centerline and an average of the bathymetry readings in the area of shoaling from the various reconnaissance surveys. Bathmetric readings were generally recorded between 200 and 250 feet apart, therefore the length of the shoaled area was estimated to the nearest similar spacing. This method of determining the shoaling amounts is considered to be only an estimate.

The dredged volumes estimates shown in the following sections are based on excavated volumes. A bulking factor of 2 should be applied to these volumes for disposal storage volume determination as per COE procedures. However the actual bulking factor is probably less than 2 considering the predominantly sandy nature of the dredged materials. For this study the 50 year disposal volumes quantities include a bulking factor of 2.

Review of the data from the COE reveals unusually high shoaling estimates for 1984. This anomaly appears to continue

throughout the ICW in Palm Beach County. Therefore, we did not include this data from the 1984 survey with regards to calculating dredging or shoaling quantities in this study.

2.1.1 Reach I

Reach I consists of COE cuts P-1 (partially in Martin County) through P-13 (ICW mile 262.84 to 267.09). This area has seen considerable dredging activity over the past 28 years, as it is located in the vicinity of the Jupiter Inlet. This area has and continues to experience significant accretion of sand materials both in the inlet and in the ICW right-of-way. COE dredging contracts have been issued and completed on a regular basis (one every 1-2 years) particularly in cuts P-3 through P-6. Cut P-1, north of the inlet and ICW intersection, contains shoaled materials that are accreting from Jupiter Inlet, however dredging frequency appears to be less than the 1 to 2 year cycle for the inlet area.

In addition to the COE dredging in the ICW, the inlet area to the east, is dredged every 1 to 2 years by the Jupiter Inlet district.

According to the dredging records, dredged material quantities for cuts P-1 through P-4 of the Jupiter Inlet area are typically in the range of 150,000 cubic yards. The quantities of materials excavated from the area maintained by the Inlet District are understood to be in the 60,000 to 70,000 cy range. All materials from this area are pumped eastward to the beach. Table 2 highlights the COE shoaling and dredging contract information for Reach I dredging activities.

Dredging Volume Summary - Reach I

Cut No.	Approximate ICW Mile	Dredge and Overdredge Quantity Per Event
P-1/2	264	20,000 cy
P-3/4	265	130,000 cy
Estimated Total for Reach I per Dredging Cycle		150,000 cy
Estimated Dredged Total for Reach I for 50 Year Projection		5,000,000 cy
Estimated 50 Year Total for Disposal		10,000,000 cy

In the vicinity of cuts P-11 through P-13 (ICW mileage 266.06 to 267.09) an advanced maintenance dredging project was completed about one year ago north of Indiantown Road. This advanced maintenance dredging to a depth of -16 feet MLW resulted in the removal of approximately 104,000 cy of material. This material was deposited onto a portion of MSA 605, which was requestly released by FIND.

The island portion of disposal of MSA 605N and MSA 605 were also released by FIND.

2.1.2 Reach II

For this study, Reach II was designated from cut P-15 (ICW mile 267.09) through cut P-31 (ICW mile 274.60). Historical shoaling has been recorded on the centerline surveys from the COE at cuts P-17, P-24, P-25, P-26, P-27, and P-30, P-31. The shoaling history of this reach is presented in Table 3.

The only reported dredging activity occurred at cuts P-25 and P-31. Cut P-25 was overdredged, in about 1974, to a nominal depth of -16 MLW and the material deposited on MSA 617D. This MSA site was subsequent released by FIND. The material quantity dredged at P-31 was reported to be 4400 cubic yards and the material was pumped to the upland disposal areas at MSA 624 and FO 624E (DA-T-111/112), approximately 2 miles north of cut P-31.

Reach II covers a distance of about 7.5 miles along the ICW. Because there has been no maintenance dredging, except at cut P-31, the frequency of dredging cycles for this reach is difficult to quantify. Minor shoaling at cut P-31 has been reported since 1980, with apparent increased amounts of shoaled materials through 1987.

Even though the current (1984 and 1987) level of shoaling in Reach II is not significantly impacting the use of the ICW, shoaling will continue to be present until the maintenance dredging is done. Based on the historical data for cut P-31 the shoals in Reach II will accrete to elevations, above design grade (-10 feet MLW) within about 10 years after being dredged. Thus, maintenance dredging in this reach would probably be required five times in a 50 year period.

Dredging Volume Summary - Reach II

Cut No.	Approximate ICW mile	Est. Dredge Quantity cy	Estimate* Overdredge cy	Total cy
P-17	267	<1,000	<1,000	<2,000
P-24/25	270	6,000	1,000	7,000
P-26/27	272	9,000	1,500	10,500
P-30/31	274	3,000	500	3,500
Estimated Total for Reach II Per Dredging Cycle		19,000	4,000	23,000
Estimated Dredged Total for Reach II for 50 year Projection		9,5000	20,000	115,000
Estimated 50 year Total for Disposal				230,000

*Assumed to be 15% of dredge quantity

The shoaling quantities appear to be relatively small at each location, with the estimated total for the entire reach being about 26,000 cy. As indicated above, and in Table 3 the historical shoaling quantities for this reach, are somewhat variable and thus the actual quantity to be dredged may vary from the value presented. As with all COE dredging contracts for the ICW, pre and post-dredging surveys would have to be completed to determine contract and pay quantities.

Though limited sediment quality data is available for this reach, the shoaled materials are believed to be primarily fine to medium grained sands. The sediment quality at the north end of the reach (cut P-17), (FDER Permit 501285649) is a medium grained sand (see Appendix F) that is comparable to the dredged materials from the Jupiter Inlet area. At the southern end of Reach II,

cut P-31, we suspect that the sediments are finer grained and may contain some fines (silt sized particles) and organic debris from Lake Worth (Bach, 1984).

The area of the ICW between cuts P-15 to P-18 (ICW mile 267.1 to 268.5) has been permitted (FDER Permit No. 5012 85649) for advanced maintenance dredging to -16 feet MLW. The dredging would have removed about 100,000 cy of material (71,400 cy/mile). The materials were to be deposited in a series of constructed upland disposal areas, on the west side of the ICW at about ICW mile 267. The material to be dredged is characterized by a fined to medium grained sand with generally less than 1 percent fines (-200 mesh sieve). This dredging project has not been completed, however, the permits are in effect until September 1992.

Though the disposal concepts for Reach II are discussed in more detail in a subsequent section and Appendix B of this report, the preferred disposal option for maintenance dredging in Reach II will be upland disposal. Existing easements and ownership of MSAs in Reach II should provide adequate upland disposal for the anticipated maintenance dredging in this area. Except for the disposal area, MSA 605S, which is located near cut P-17, the remaining dredging for channel maintenance would be within 3 miles or less of the available storage areas. Because dredging of the channel areas may occur on a noncontinuous basis or all the shoaling areas may not be dredged simultaneously, it appears desirable to maintain most of the upland disposal sites in Reach II. Even though a centralized disposal area such as at MSA 610/611A appears to be adequate for the projected dredged material disposal in Reach II, pumping costs may outweigh this choice, and closer, smaller disposal areas may be more desirable

for individual dredging contracts.

2.1.3 Reach III

Reach III includes COE cuts P-32 through P-50 or approximately the area from north end of Lake Worth to Boynton Inlet (ICW mile 274.6 to 294.7). This area of the ICW contains approximately 20 miles of channel within the open water body of Lake Worth.

This portion of the ICW is generally characterized by open lake areas on each side of the channel right-of-way. These open lake areas on each side of the channel often contain spoil islands or submerged spoil areas that were deposited during the original dredging of the ICW. Water depths of Lake Worth, outside the channel right-of-way are often 5 feet or less. The lake edges are characterized by numerous lateral access channels leading to residential developments and shoreline stabilization structures such as bulk heads and sea walls.

One prominent exception to this setting is the Port of Palm Beach facility and the entrance channel (Lake Worth Inlet) at about ICW mile 279 (north end of cut P-36). The port's turning basin intersects with the ICW at this location. Peanut Island (a spoil island) is located northeast of this intersection. The US Coast Guard maintains a station on the south shoreline of Peanut Island.

Due to the length of Reach III, we have subdivided this reach into three subreaches. The following summarizes the location of these subreaches in Reach III.

	Cuts Within Subreach	ICW Mileage Limits
Reach III a.	P-32 - P-37	274.6 to 282.0
Reach III b.	P-38 - P-45	282.0 to 291.5
Reach III c.	P-46 - P-50	291.5 to 294.7

The results of the dredging and shoaling history for Reach III are presented in Table 4.

2.1.3.1 Reach III a.

The historical dredging activity for maintenance of the ICW in this reach is very limited. The principal activity for dredging has been in the vicinity of Port of Palm Beach (cut P-36). This area is dredged by the COE for maintenance of a deep water port. In addition the entrance channel and turning basin areas are also maintained in a deep water condition.

Shoaling has been indicated on the centerline surveys as well as on the aerial photos for the cuts north of the Port of Palm Beach, particularly cuts P-33A through P-35. The shoal area occurring in the vicinity of cut P-33A is immediately north of Peanut Island and this shoal is locally referred to as Little Peanut Island. Review of information and aerial photography indicates that the principal shoaling that is occurring, is at edge of the ICW channel, in fact, may be aggravated by propeller wash of spoiled materials on and north of Peanut Island.

We expect that maintenance dredging of the ICW in the vicinity of P-33A through P-35 could result in sandy (possibly beach quality) materials of quantities in excess of 20,000 cubic yards.

The dredging frequency in Reach III a. is assumed to be every 25 years, thus five dredging cycles would be required every 50 years. The estimated dredged material volumes are summarized below.

Dredging Volume Summary - Reach III a.

Cut No.	Approximate ICW mile	Est. Dredge Quantity cy	Estimate* Overdredge cy	Total cy
P-33a/35	278	20,000	3,000	23,000
P-36/37	281	5,000	1,000	6,000
Estimated Total for Reach IIIa Per Dredging Cycle		25,000	4,000	29,000
Estimated Dredged Total for Reach IIIa for 50 year Projection		50,000	8,000	58,000
Estimated 50 year Total for Disposal				116,000

*Assumed to be ±15% of dredge quantity

South of the Port of Palm Beach area, an isolated shoal has been reported and identified, at cuts P-36/37. This shoal has an estimated volume of 5000 cy that would be removed per dredging cycle.

2.1.3.2 Reach III b.

Reach IIIb contains ICW Cuts P-38 through P-45, (ICW mile 282.0 to 291.5). The only significant shoaling in this subreach has been reported at cuts P-41 and P-44/45. The following summarizes the dredged material volumes for these areas. A material volumes for these areas. A 25 year dredging cycle frequency has been assumed for this analysis.

Dredging Volume Summary - Reach III b.

Cut No.	Approximate ICW mile	Est. Dredge Quantity cy	Estimate* Overdredge cy	Total cy
P-41	284	3000	500	3500
P-44/45	290	3000	500	3500
Estimated Total for Reach IIIb Per Dredging Cycle		6000	1000	7000
Estimated Dredged Total for Reach IIIb for 50 year Projection		12000	2000	14000
Estimated 50 year Total for Disposal				28000

*Assumed to be ±15% of dredge quantity

2.1.3.3 Reach III c.

The remaining area of significant shoaling in Reach III is in the vicinity of cut P-50 (ICW mile 294) near the Boynton Inlet. Shoaling at this location within the ICW appears to be the result of overflow of the sand trap for the Boynton Inlet area, located east of the ICW right-of-way. This sand trap area was recently (Spring 1989) dredged of about 39,000 cy of materials, which were pumped to the beach. However, the dredging contract did not extend into the ICW area. This sand trap, was previously dredged in 1972. Approximately 32,000 cy of material were removed at that time.

Based upon our review of the available data and aerial photographs, we expect that the shoal in the ICW, at cut P-50

opposite Boynton Inlet, contains approximately 25,000 cubic yards of sand materials. These materials could most likely be deposited on the beach. We have assumed that the dredging cycle would be every 15 years for estimating purposes.

The following summarizes the estimated dredged materials in Reach III c.

Dredging Volume Summary - Reach III c.

Cut No.	Approximate ICW mile	Est. Dredge Quantity cy	Estimate* Overdredge cy	Total cy
P-50	294	20,000	3,000	23,000
Estimated Dredged Total for Reach IIIc Per Dredging Cycle		20,000	3,000	23,000
Estimated Total for Reach IIIc for 50 year Projection		60,000	9,000	69,000
Estimated 50 year Total for Disposal				138,000

*Assumed to be ±15% of dredge quantity

2.1.3.4 Sediment Quality - Reach III

The sediment quality of shoaled materials in Lake Worth are expected to be highly variable. From specific data reported by Bach, (1984), we expect the shoaled materials around Peanut Island (cuts P-33A-35) and south of the Port's turning basin (cuts P-36/37) to be predominantly medium grained sands. Presently materials that are dredged from the entrance channel and turning basin areas, though from depths much greater than -10

feet, are generally deposited on the beach south of the entrance channel or in near-shore ocean disposal areas.

Sediment quality of other shoaled areas of Reach III are presumed to be much finer grained than the materials near Lake Worth Inlet. Studies done since the late 1960's (Bach 1984) have shown that Lake Worth sediments are typically characterized by fine grained sands that contain measurable amounts of fines (silts and clays) with varying percentages of organic debris. Though most of the sediment sampling in the lake appears to have been done between the ICW right-of-way and the shoreline, the types of materials reported are probably typical of the shoal areas away from the inlet location.

Because Lake Worth has only two inlets, the water exchange (flow) in the interior portions of lake is minimal and thus the removal of finer grained sediments does not take place as in the channelized areas of the Palm Beach ICW. The principal contributors to the sediment and nutrient load of Lake Worth, outside the inlet areas at cuts P-36 and P-50, are the fresh water canals that flow from the agricultural lands to the west. The canals that are used to control the agricultural and more recent urban development runoff on the west side of Lake Worth are the Earman River (C-17) at ICW mile 277, the West Palm Beach Canal (C-51) at ICW mile 287.5, and the Boynton Canal (C-16) at ICW mile 295. In addition to the storm water runoff produced by these canals, these discharge points were also used for sewer effluent disposal as late as 1979. "Today the West Palm Beach Canal, (C-51), remains the major source of pollution effecting Lake Worth. It contributes large quantities of freshwater, agricultural and urban runoff and heavy loads of detritus and other organic materials which have caused the build up of organic

deposits in the central portions of the lake" (TEI, 1983 as reported in Bach 1984).

The report by Bach (1984) also contained data regarding water and sediment chemistry. The Palm Beach County Department of Environmental Resources plans to update the water quality and sediment chemistry data for Lake Worth with their pending study, that is scheduled to begin by October 1989. Because the water quality and sediment chemistry data in the Bach (1984) report is dated, we have not included it herein. This database can be updated with the results of the pending County study and site specific sampling and testing during the Phase II study of this project.

2.1.4 Reach IV

Reach IV consists of the area of the Palm Beach ICW between cuts P-51 and P-91 (ICW mile 295 to 310) in the southernmost portions of the Palm Beach County. Historical data indicates that little or no maintenance dredging has been done in this area nor does the shoaling information indicate that significant maintenance dredging will be required in this area. Review of aerial photographs indicates that some shoaling is probably occurring in the vicinities of cuts P-87 and P-88 near the eastern side of Lake Boca and near the outlet of the Hillsboro Canal at cut P-90. A minor shoal of about 500 to 1,000 cy was recorded at cut P-87 in 1987. The results of the historical shoaling data for Reach IV are presented in Table 5. A dredging cycle of 25 years has been assumed for Reach IV for this study.

Dredging Volume Summary - Reach IV

Cut No.	Approximate ICW mile	Est. Dredge Quantity cy	Estimate* Overdredge cy	Total cy
P-87	308	1,000	200	1,200
P-87/88 Channel Edge	309	10,000	1,500	11,500
Estimated Total for Reach IV Per Dredging Cycle		11,000	1,700	12,700
Estimated Dredged Total for Reach IV for 50 year Projection		22,000	3,400	25,400
Estimated 50 year Total for Disposal				50,800

*Assumed to be ±15% of dredge quantity

Known dredging activities in this reach include the continuous maintenance dredging at the Boca Inlet. This dredging is done by the City of Boca Raton in an area primarily east of Highway A1A.

In the vicinity of cuts P-74 through P-76 (ICW mile 304.0 to 304.9) the ICW was overdredged, in 1971, to a depth of about -20 feet MLW. As of the 1987 centerline survey, water depths in this area were still being recorded in the 15 to 20 foot depth range.

The specific sediment characteristics of the shoaled or suspected future shoal areas of Reach IV was not determined through available data sources. As discussed in Reach III, the Boynton Canal (C-16) has discharged freshwater runoff and sewer effluent into the ICW for about 40 years at about ICW mile 295 (cut P-51). Even though the sewer effluent was discontinued after 1979 (Bach 1984), this canal is still a source of

considerable stormwater runoff and detritus.

The sediment quality in the Lake Boca and Boca Inlet areas is assumed to be similar to the beach quality sands that are being dredged on a regular basis.

3.0 DISPOSAL CONCEPTS, NEEDS, AND AVAILABILITY

3.1 General

The practice and philosophy of dredged material disposal has changed over the past several years. As demonstrated by the numerous spoil islands and open water spoil easements maintained by FIND, the practice of dredged material deposition near its source was common in the 1960's. This method helped to maximize operational efficiency and short term costs, but did not consider the long range maintenance or environmental impacts.

Increased environmental awareness, improved technical understanding of handling dredged materials, competing land uses, declining aquatic habitat quality and concerns about water quality have forced the need for long range planning for dredged material disposal. A key factor in this long range planning is the identification and investigation of disposal concepts and options.

The disposal emphasis, as outlined in the scope of services for this study, was to focus on upland disposal sites that were centrally located within a pumpable distance ($\leq$ 5 miles maximum) and could be operated and maintained as permanent facilities by FIND, even though the dredging frequency may be several years between events.

Historical precedent, with regard to dredged material handling in the Palm Beach ICW, was taken into account as part of developing disposal concepts. In areas such as at Jupiter Inlet, Boynton Inlet, and Boca Inlet it is assumed that beach disposal will continue to be the disposal method because the sediments

quality data indicates beach quality materials will be excavated in these areas. At Lake Worth Inlet, even though the Port's dredged materials are often sent to the beach, the lack of sediment quality data for the cuts north of Peanut Island (P-33A-35) required that we look at other disposal options in this area.

In Reach I the current and likely future disposal of dredged materials will be on the beach areas north and south of Jupiter Inlet. Beach disposal areas, used by the COE and the Inlet District, have been identified for possible use.

In the northern part of Reach II, upland disposal appears to be the most likely option. FIND maintains several existing, undeveloped or partially upland sites that appear to meet the disposal needs for this area.

Reach III, characterized by the open waters of Lake Worth, offered few potentially available upland sites due primarily to competing land uses by urban development. Other disposal options review during this study included open water disposal in deep excavated holes, spoil island (upland portion) disposal, near shore and shallow water spoil island disposal, upland disposal on small to medium sized developed public sites and beach disposal at a location between the inlets, via an existing FIND pipeline easement.

Dredging in Reach IV is expected to be minor, based on the limited historical data. Adequate upland disposal is available at existing FIND sites within about 2.5 miles of the area where dredging will probably take place in the next 50 years.

The disposal concepts, particularly those for Reach III, have been discussed with local and state environmental agency personnel. Their comments have been incorporated into this report where applicable.

The following sections discuss in some detail the disposal concepts, projected disposal needs, disposal options and availability and agency input for each reach. As part of the disposal need and availability we reviewed the inventory of existing FIND MSA sites as well as identified primary and secondary alternative disposal sites. A list of all the existing MSA sites is presented in Table 6 with a supporting map, Figure 3, showing their general locations along the ICW.

Each existing MSA site and primary alternate site was inventoried and cataloged for pertinent engineering, environmental and socioeconomic factors. These data sheets are presented in Appendix A of this report.

Also shown in Table 6, is the results of our qualitative matrix analysis for candidate site selection and site bank determination. Because many of the engineering, environmental and socioeconomic factors could not be easily quantified, with respect to a numerical ranking process, the site selection (culling) was done on a more subjective basis. This process is discussed further in Section 3.6 of this report. Each candidate disposal site existing and proposed are described in detail in Appendixes B and C along with disposal volume computations and vegetative (FLUCCS) community diagrams and maps.

A map showing the general locations of the candidate (primary) disposal sites is presented in Figure 4.

3.2 Reach I

The historical precedent for dredged material handling in Reach I (cuts P-1 through P-6) has been for beach disposal to north and south of the Jupiter Inlet entrance channel. It is expected that this method of disposal will prevail for future dredging contracts in this area. Though this method of disposal places the dredged materials in and area susceptible to wave and current erosion, the beach is renourished and maintained because of this disposal. Thus upland or other disposal options do not appear likely or viable in this part of Reach I. Beach disposal north of the Inlet is contingent on the COE being able to secure access easements across the existing property and roadways between Cut P-1 and the beach.

In the lower portions of Reach I, an advanced maintenance dredging project to elevation -16 feet, was recently completed in the vicinity of cuts P-11 through P-13. We understand that the existing disposal sites, MSA 605 and the island portion of 605N, were released by FIND after this advanced maintenance dredging project. Because this area has been dredged to -16 feet, these does not appear to be a need for dredged material disposal in the next 50 years at this location. If dredging is required, it is likely that the materials will be medium grained sands, that could be pumped to the beach which is about 2 miles, via the ICW, from cut P-13.

3.3 Reach II

To our knowledge, maintenance dredging, in Reach II, has not occur, except at cut P-31 since the channel was dredged to design

depth in 1961. The materials dredged at cut P-31 in 1972, were pumped northward, about 1 mile to an upland disposal site (MSA 624/624E). At cut P-25, the ICW was overdredged for a distance of 4800 feet, to about -16 feet MLW around 1974. The dredged materials were deposited on an upland area to the east (old MSA 617D). The disposal area was released by FIND and subsequently developed into a park.

Our review of data for this study has revealed localized shoaling in four general areas of Reach II as discussed in Section 2. Though the shoaling records produced somewhat variable quantities for the different years the centerline surveys were completed, we estimate that approximately 26,000 cy of materials would be dredged in this reach per dredging cycle.

FIND maintains fifteen land easements and ownerships, (MSA's) that date from 1927, along both sides of the ICW in Reach II. Because of the narrow nature of the ICW in this reach and distances to the beach via the ICW are greater than three miles from the identified shoaling areas, and the apparent availability of upland disposal sites, our analysis for disposal of dredged materials focused on the existing MSA's that contained predominantly upland acreages.

Using the predominant upland disposal criteria as a starting point, ten MSA areas (seven disposal sites) in this reach were identified for further analysis for disposal capacity and site characteristics. These candidate sites are highlighted in Table 6 and also in Appendix B of this report. As shown in Table 2 of Appendix B the estimated maximum capacity of all the candidate disposal sites in Reach II is about 500,000 cubic yards, and thus far exceeds the estimated material/water volume that would occur

even if dredging was required every 10 years. However these sites are scattered at several locations along the ICW and some have limited overland access, have been leased and developed for public recreation facilities and/or are relatively small and may require rehandling and removal of the dredged materials.

The two largest disposal areas, MSA 609/609A (combined) and MSA FO 610/FO 611A (combined) are located in the northern portion of Reach II. These two areas are estimated to have a maximum disposal volume capacity for dredged materials and water of 165,000 and 109,000 cy, respectively. These areas are within 3 miles of the minor shoaled areas of cuts P-24 and P-27.

The remaining candidate disposal areas, in this reach all have estimated maximum capacities of 90,000 cy or less with two of them, MSA FO 614B and FO 617C having less than 25,000 cy of available storage.

It is recognized that centralized disposal is one of the criteria to be considered in this study. Except for dredging at cut P-31, in the south end of Reach II, this directive could be accomplished by using one of the larger disposal sites at MSA 609/609A or MSA FO 610/611A.

As these larger potential disposal areas are more than 3 miles via the ICW from cut P-31 for pipeline access, disposal sites in the southern portion of Reach II should be considered. Historical records indicate that MSA 624/FO 624E were used in 1972 for material dredged from cut P-31. Candidate site MSA FO 620B is located within about 2 miles of cut P-31 and has greater maximum storage capacity than MSA 624/FO 624E. However, MSA FO 620B is currently used as a park and a large portion (about 6

acres) of the park area (about 14 acres) has been improved for use as baseball fields.

Factors besides volume capacity, such as access, environmental impacts, land value, zoning and surrounding land uses are presented in Appendices A and B for all the candidate sites. These need to be considered in addition to the location and volume capacity before final decisions are made to use one centralized area or decentralized disposal methods and areas.

3.4 Reach III

The anticipated volume of materials to be dredged in Reach III are shown in Section 2 of this report. We presume the lake sediments may contain measurable percentages of fines (silts and clay sized particles) organic debris (from sewer disposal and detritus accumulation) and possible man-made pollutants from urban stormwater runoff.

The existing MSA disposal areas in Reach III are open water spoil island or near shore areas. Due to environmental constraints, all but three of the open water or spoil island sites were eliminated from the site bank for disposal of dredged materials. MSA LW 9A and LW 9C, are considered to be secondary sites. These two sites were included as secondary sites because of their contiguous position to upland areas and existing spoil islands.

The candidate sites for dredged material disposal in Reach III along with preliminary engineering design and environmental and socioeconomic considerations is presented in the Appendices of this report.

For the northern portion of Reach III, (cuts P-33 and P-37) upland disposal was initially considered possible on Munyon Island and/or Peanut Island. These sites appear to offer volume capacities in excess of the anticipated dredging material volumes for this part of Reach III. These proposed sites do not have overland access and therefore use, maintenance and management of these sites would have to be done by barged equipment. Subsequent review by FIND, COE and FDER eliminated the Munyon Island site.

Conversations with the Port of Palm Beach engineers, indicate that the Port is considering developing an upland type disposal area on the north end of Peanut Island. It is understood this site would handle 8000 to 10000 cubic yards of dredged materials from the turning basin and slip areas of the Port. Based on these conversations another upland site, for ICW dredged materials, could probably be built in conjunction with the Port's plans.

It is our understanding that competing land use plans for Peanut Island by local government agencies may make this site unavailable.

Phase II studies may reveal that the shoaled materials, particularly at cuts P-35 and P-36 adjacent to the Port's entrance channel may be sufficiently coarse grained to be suitable for beach disposal south of the Lake Worth Inlet.

The alternate site at Lake Park Park in the northern portion of Reach III offers very limited disposal capacity. Dredged materials would likely have to be removed after each dredging

cycle due to the limited storage capacity. As an alternative, below grade disposal was considered at this site. This would probably be a one time use scenario requiring post-deposition grading and revegetation.

In the southern portions of Reach III, (cuts P-41/42 and P-44) the availability of upland disposal sites is very limited. Two possible sites, located along canal C-51 about 1.5 miles west of the lake were identified. These are designated as the Canal C-51 landfill and the West Palm Beach Golf Course sites. The Lake Worth Golf Course, located west of cut P-44, was considered to be a viable secondary disposal site upon review of the preliminary results of this study.

Descriptions of the engineering, environmental and socioeconomic factors about these sites and their potential use are presented in Appendix C.

The upland sites at the landfill and the West Palm Beach golf course appear to offer storage capacities of less than 20,000 cy each. Though the estimated dredged material volumes for this part of Reach III appear to relatively small, (approximately 40000 cy for 50 years), these sites would probably have to be maintained and material removed after each dredging cycle.

The sediment materials at these locations may contain silts, clay, and organic debris. The settling and consolidation characteristics of the dredged materials may require larger storage volumes than for sandy materials. These characteristics will have to be determined during Phase II.

3.4.1 Alternate Disposal

The process of identifying possible dredged material disposal sites in Reach III revealed some options other than upland disposal on vacant land or in controlled shallow water areas.

For the open water sites, such as MSA LW 9A and LW 9C and the deep holes along the ICW, considerable environmental, water quality dredged material data will need to be gathered to further evaluate the use of these sites.

Environmental officials at Palm Beach DERM had suggested that one-time disposal in the deep holes in Lake Worth may be possible, if the County agrees to its use.

The use of pipeline easement PL 643 would be predicated on the suitability of the dredged materials from cuts P-41/42 and P-44 for beach disposal. This data will have to be determined as part of a Phase II task.

3.5 Reach IV

The need for dredging in Reach IV in the next 50 years is expected to be minor, based on the current available data. More complete bathymetric survey of the suspected shoal areas at cuts P-87, P-88 and P-90 may reveal volumes greater than estimated in this Phase I report.

The current inventory of FIND disposal sites in this reach includes 27 easements and ownership locations. The list of these sites is present in Table 6. The majority of these sites consist of wetland or jurisdictional areas that would not be suitable for upland disposal. Some of the upland sites are small, less than 5 acres in size and have been set aside as preservation areas.

Three candidate disposal sites were identified from this inventory of 27 sites. The three sites are characterized by primarily upland land areas. The three candidate sites in this reach are MSA FO 641A at ICW mile 299, MSA 684A at ICW mile 306, and MSA FO 690 at ICW mile 307. These are described in detail in Appendix B.

Of these sites, MSA 684A appears to offer the most viable opportunities for upland disposal as it relates to the anticipated dredging in the reach. This site is about 2.5 miles north of cuts P-87 and P-88. This site is characterized by exotic vegetative cover and good upland access. It is currently used as a park (Spanish Park). Preliminary engineering design of this site indicates it has a maximum volume capacity on the order 115,000 cy, or nearly 3 times the volume capacity of MSA FO 641A and 10 times that of MSA FO 690.

The anticipated dredged material volumes for this reach are currently estimated to be less than 15,000 cy per dredging cycle and less than 30,000 cy for a 50 year projection, there is excess storage capacity in the candidate disposal sites. Due to the uncertainties of side channel shoaling, particularly in the Lake Boca area, the actual volumes of materials to be dredged may be measurably higher than the amount shown above. It is however, assumed that the identified candidate sites (particularly MSA 684A) would provide adequate disposal capacity.

4.0 SITE BANK ANALYSIS

4.1 General

The matrix analysis for disposal site bank selection was based primarily on the general criteria of 1) preferred upland disposal, 2) centralized location and 3) accessible and manageable sites. Other criteria or data that were used in our analysis included, parcel size, current land use, environmental habitat and compatibility with adjacent land uses.

Taking into account the first major criteria of preferred upland disposal, all be two of the 21 open water, near shore or spoil island existing MSA disposal areas (all in Reach III) were eliminated from the disposal site bank. Strong concerns, were expressed by the environmental agencies about established sea grass beds and aquatic habitat areas in and around these open water sites. These environmental concerns were considered to be "fatal flaws" in the matrix process and the sites were eliminated from the list of available sites.

The open water "deep holes" located along the west side of Lake Worth in Reach III b. are considered to be primary disposal areas in this reach. Very limited data concerning their size, depth, sediment vegetative and aquatic habitat is available. This will have to be determined during the Phase II portion of the study.

Another major criteria that was evaluated as part of this analysis was the available upland land area that could be used for dike construction and dredged material disposal. Preliminary design calculations were completed for several disposal sites

considering the available upland land area, room for a buffer zone, typically 100 foot, and the estimated ground surface elevations. It was determined that upland sites with less than about 6.5 acres of land were not viable for dike construction and material handling. Thus upland sites with less than 6.5 acres of available land were eliminated from the disposal bank. Sites with about 8 acres of available upland land area offer only about 24,000 cy of volume capacity. These were kept in the initial site bank because of the noncontiguous shoals and the relatively small dredged material volume estimates for many of the areas in the Palm Beach ICW.

A deficit of fill material for dike construction was not considered a "fatal flaw" at this time because material could be borrowed from "too small" upland sites for use at the candidate disposal sites.

Available upland access and centralized location were also factors that were considered in developing the site bank. Some of these candidate sites have unimproved overland access through or across adjacent properties. While others are located adjacent to or are connected by easement to existing roadways. At this time, candidate sites were not eliminated due to questionable overland access. Because there is a scarcity of open tracts of land in Palm Beach County, particularly Reaches III and IV, it was assumed that overland access, where required, could be obtained by easement or purchase.

The following sections summarizes the evaluation and selection process for primary and secondary disposal sites for the four reaches of the Palm Beach ICW.

4.2 Reach I

The historical preference for dredged material disposal in Reach I has been to use the beach and near-shore areas east of cuts P-1 through P-4, both north and south of the Jupiter Inlet channel. Beach easements, obtained by the COE, for previous maintenance dredging in this are located in this area of the inlet.

According to available dredging contract records, the three areas are located north of the inlet are designated MDA - 2 and DAJ - 2 and 3. These easements are generally located from the MLW waterward and are estimated to about 11 to 15 acres in size and probably capable of handling 100,000 cubic yards or more of material. Disposal at MDA - 2 may be done in conjunction with a beach nourishment and dune building project planned by Coral Cove Park, located east of the south end of cut P-1.

Access to the north beach disposal areas is reported to be via a pipeline crossing at station 70+28 of cut P-1 and easements at station 74+20 of cut P-1 and along the MLW line parallel to the beach

Another beach disposal area, used for COE contracts, is located about 800 feet south of the Jupiter Inlet channel. The area between the inlet and this disposal area, DAJ - 1 is used for beach disposal of dredged material from the inlet channel, east of the ICW, by the Jupiter Inlet District. Access to DAJ-1 is via a MLW pipeline easement along the beach.

4.3 Reach II

At the time of this study, FIND maintains or owns fifteen upland and shoreline disposal sites in Reach II. These sites were evaluated for vegetative cover, wetland areas, proximity to shoal areas, availability of embankment fill materials and available storage volume. Our initial review and analysis of these sites revealed that 10 MSA areas (seven disposal sites total) appeared suitable for use as primary or secondary upland disposal of dredged materials in Reach II. These sites were discussed in detail in the draft report for this study.

Following the review of these sites by FIND, COE, FDER and FDNR the list of primary and secondary sites was reduced to three areas (five MSAs). The primary areas are MSA FO 610/611A located at about ICW mile 269 and MSA FO 620B at Mile 272.5. The secondary site in this reach is MSA 609/609A.

Based on our preliminary analysis of these particular sites, the following volume capacity estimates were made.

MSA FO 610/611A	109,000 c.y.
MSA FO 620B	88,000 c.y.
MSA 609/609A	165,000 c.y.

Our analysis also showed a material deficiency for embankment construction of about 40,000 c.y. at MSA FO 610/611A and 13,000 c.y. at MSA 609/609A.

Data sheets for these sites are included in the Appendices of this report.

4.4 Reach III

Reach III, which runs from cut P-32 to P-50, is located in the open water areas of Lake Worth. FIND maintains 23 open water/estuary easements in this reach. Considering the emphasis to consider upland disposal as the preferred method to handle dredged material and concerns by State and County environmental officials, only two of the open water disposal areas, LW 9A and LW 9C, were considered for possible future use as secondary disposal areas. These areas are located near or contain existing spoil islands that could be enlarged by the placement of dredged materials. Based on the restricted number of existing FIND sites, other areas were evaluated.

This reach was subdivided to refine the analysis for dredged material quantities and the disposal options for each subreach.

4.3.1 Reach III a.

Reach III a. extends from cut P-32, at the north end of Lake Worth, to cut P-37 just south of the Port of Palm Beach. In this area, the shoaling appears to be concentrated in the south end of the subreach near Peanut Island and south of the port's turning basin. Even though the material properties are not known at this time, it is assumed that the dredged material, particularly that north of Peanut Island, is sandy in nature and as such could be deposited on or near the beach south of the entrance channel. This area is used by the COE for maintenance dredging for the port's entrance channel and turning basin.

The other primary disposal area in this subreach is the upland portions of Peanut Island, probably in the north central part of the island. The Port of Palm Beach is also considering

using Peanut Island for dredged material disposal. Assuming a nominal 10 acre disposal area on this island, a storage volume of about 105,000 c.y. has been estimated. There is no overland access to Peanut Island, therefore all disposal and site management activities would have to be accomplished using barged equipment.

Other possible disposal areas in Reach III a., such as Munyon Island, deep holes east of cuts P-33A and 34, Lake Park Park, Currie Park and Little Munyon Island were considered during the preliminary phases of this study,but were subsequently eliminated as possible primary and secondary disposal sites upon further review.

4.3.2 Reach III b.

The south central part of Lake Worth contains Reach III b., which extends from cut P-38 to P-50. Isolated shoals have been located in the vicinity of cuts P-41/42 and P-44/45. It is suspected that the materials in these shoals is fine grained and may contain organic debris from previous sewer disposal in Lake Worth.

All of the existing FIND easements in this area are below water sites with some spoil islands located in or at the edges of the easements. The upland areas adjacent to the ICW in this subreach are extensively developed with residential, commercial and public recreational properties. A search for upland disposal sites revealed a general lack of available vacant land areas. Thus the initial site bank included existing golf courses for the cities of West Palm Beach and Lake Worth, an old land fill along Canal C-51, Bryant Park, previously excavated deep holes on the west side of the ICW near cut P-42, and existing FIND water

easements that were adjacent to the shoreline for access and/or contained spoil islands already.

After further review and discussion of these sites, the sites selected for further consideration and probable use are the deep holes on the west side of the lake (primary), spoil island improvements in existing easements (secondary), and upland and/or shoreline disposal at the Lake Worth Golf Course (secondary). Open water easements LW 9A and 9C were chosen for further consideration because they contain spoil islands that could be enlarged and used to help control deposition of the dredged materials and water quality during disposal. LW 9A also is contiguous to the eastern shoreline of Lake Worth, which would provide upland access.

The deep holes and the shoreline of the Lake Worth Golf Course, located on the west side of the lake, appear to offer a viable option to upland disposal. These areas and the sediment quality would have to be studied further to confirm their use and the likelihood of being permitted by the state and local agencies.

4.3.3 Reach III c.

Reach III c. is situated in the southern end of Lake Worth, between cuts P-46 and P-50. Shoaling in this subreach is concentrated at cut P-50, opposite the South Lake Worth (Boynton) Inlet channel. The shoal in this area is believed to consist of sand materials that are similiar in nature to the material in the sand trap along the south edge of the channel.

Material from the sand trap was recently dredged by the

Inlet District and deposited on the beach south of the inlet. It is assumed that the estimated 25,000 c.y. of dredged material in cut P-50 shoal could also be deposited on the beach, in the same general area as used by the Inlet District.

4.4 Reach IV

The channelized portion of the Palm Beach ICW extending from cut P-51 to P-91, has been designated as Reach IV. No maintenance dredging in the ICW was reported by the COE in this reach. Evidence of shoaling was noted in the vicinity of cuts P-87/88, though the quantity of shoaled materials could not be well defined. We have estimated that an inplace quantity of about 30,000 c.y.would likely have to be dredged in a 50 year time frame.

FIND maintains several upland disposal sites in this reach. After a review and analysis of these sites three areas (four MSAs) were selected for probable use for dredged material disposal. The primary sites chosen were MSA FO 641A and MSA 684A. A secondary site, MSA FO 640/640A with some expansion in an easterly direction, was also chosen.

Site MSA 684 is located about 2.5 miles from the shoal areas in this reach. It is currently used as an undeveloped park (Spanish Park) and is vegetated with exotic plants and trees. It has good upland access and its estimated capacity for disposal of dredged materials and water is 115,000 c.y. This capacity should be adequate for a 50 year disposal of materials from cuts P-87/88. The other sites chosen in this reach are smaller and further away from the shoal areas, however both are owned by FIND rather than an easement like MSA 684A.

5.0 PHASE II STUDY

5.1 General

Further engineering, environmental and socioeconomic data gathering will be required to formulate specific design and permitting criteria for the long-range disposal and handling of dredged materials from the ICW. This work effort would be completed in a Phase II study. This study will concentrate on the areas of the ICW identified in the Phase I study that will require future dredging and be the candidate disposal sites for handling the dredged materials.

As the Phase I study was principally a "paper" study of the entire Palm Beach ICW, the Phase II portion of the long range plan for dredged materials, will focus more on site specific data gathering to develop plans and reports for the acquisition, design, environmental permitting, zoning, development and management of the selected disposal sites.

Based on the results of the Phase I study, the following outlines the technical areas and major data gathering and analysis tasks that will be explored in the Phase II study.

5.2 Engineering

5.2.1 Dredged Material Characterization

- Review any updated surveys provided by COE in areas of possible dredging.

- Sediment sampling of shoal areas in Reach III b. area (due to concerns about organics) for mechanical and chemical

- laboratory testing to establish settling and water quality data (by consultant).

5.2.2 Disposal Site Characterization

- Updated aerial photography (by COE/FIND)

- Soil surveys with test borings and laboratory testing of upland sites to characterize site soils for disposal and dike construction (by consultant).

- Reconnaissance of beach disposal areas and access to disposal areas.

- Obtain groundwater elevation data from local agencies, record data and prepare water table elevation maps.

- Sediment sampling of below water disposal areas for mechanical, and water quality testing (by consultant).

- Topographic surveys of candidate upland disposal sites to determine actual site grades and boundary limits with respect to adjacent features (by COE).

- Engineering surveys of site access corridors and easements by site reconnaissance, test borings and surveys (by consultant and COE).

5.2.3 Preliminary Design and Analysis (by Consultant)

- Prepare engineering report field and laboratory testing findings including the dredged material disposal site characteristics.

- Prepare preliminary drawings and plans for design of disposal site for inclusion with environmental permit applications. To include such items as location maps, site plans, pipeline access, water control structures, turbidity control measures, typical dike geometry, storm water management systems, equipment access, and revegetation plans.

- Prepare preliminary cost estimate for site construction.

- Prepare preliminary site management plan for pre- and post-dredged material disposal periods.

5.3 Environmental (by Consultant)

5.3.1 Site Characterization

- Detailed site reconnaissance and mapping of vegetative and animal communities including species, types and distribution and identification of rare and endangered animals or plants. Delineation of jurisdictional wetlands.

- Area reconnaissance of road and pipeline access corridors for vegetative and animal community identification and mapping.

- Water quality sampling for chemical and turbidity properties in Lake Worth area.

- Benthic water and sediment sampling in areas where below water or near-shore disposal is the preferred disposal

option.

- In depth review of archaeological records and possible site reconnaissance.

5.3.2 Environmental Permitting (by Consultant)

- Prepare detailed maps of vegetative communities and jurisdictional areas at candidate disposal site.

- Prepare written report for each site describing vegetative cover, animal habitat, jurisdictional areas and archaeological findings.

- Prepare mitigation plans for disposal area continuation.

- Prepare report with findings and recommendations concerning ground water impacts.

- Prepare drawings and text for environmental permits concerning vegetation and animal habitats, jurisdictional areas and impacts, and surface and ground water impacts.

5.4 Socioeconomic (by Consultant)

5.4.1 Site Characterization

- Complete updated data gathering of property appraisal, adjacent land uses, site access current zoning and pending zoning changes.

- Identify site utilization restriction with respect to

Comprehensive Plan for the County and local governing bodies.

5.4.2 Analysis, Reporting and Support

- Prepare written report with updated information about site.
- Assist FIND with zoning matters as they relate to local and County Comprehensive Plans.
- Assist FIND with maintaining current property appraisals and changing land use information.
- Assist FIND with public hearings and meetings as necessary for zoning conflicts, acquisition or land use changes.

5.5 List of Anticipated Deliverables

- Report on sediment sampling from Reach III b. area.
- Soil survey report with test boring logs for upland sites.
- Spreadsheet data base and maps with ground water levels.
- Topographic maps of disposal areas.
- Engineering reports of access and easements for road and pipelines.
- Report detailing disposal site characterization and development.

- Maps and plan sheets for inclusion with environmental permits.

- Cost estimates for construction and management of disposal areas.

- Site Management and maintenance reports for each disposal site.

- Report of vegetative communities of disposal areas.

- Maps showing jurisdictional areas for inclusion with permits.

- Report of updated zoning and appraisals

- Mitigation plans for disturbed wetland or upland sensitive areas.

REFERENCES

Reports

Steven D. Bach, Ph.D., Summary of Water Quality, Sediment and Biological Studies for Lake Worth, Florida. Submitted to the Area Planning Board of Palm Beach County, West Palm Beach, FL.: Wapora Inc., (1984).

R. Bruce Taylor, P.E., Ph.D. and Wm. F. McFetridge, Long-Range Dredged Material Management Plan For the Intracoastal Waterway in Northeast Florida. Submitted to the Florida Inland Navigation District, Jupiter, FL: Taylor & Divoky, Inc., (1986).

Joseph D. Ryan, Fred D. Calder, Louis C. Burney, Deepwater Ports Maintenance Dredging and Disposal Manual; A Guide to Planning and Estuarine Chemical Data Collection, Analysis, and Interpretation. Florida Department of Environmental Regulation, Office of Coastal Management, Tallahassee, FL: 1984.

Herbert L. Windom, Guide To the Interpretation of Reported Metal Concentrations in Estuarine Sediments. Edited by the Florida Department of Environmental Regulation, Office of Coastal Management, Tallahassee, FL: 1988.

The Florida Land Use Cover Classification System: A Technical Report. Florida Department of Administration, Division of State Planning, Bureau of Comprehensive Planning, Tallahassee, FL: 1976.

Harvey Rudolph, A Benthic Invertebrate Survey of Lake Worth, Florida in February and August, 1985 - A Biological Basin Assessment Survey. Florida Department of Environmental Regulation, Port St. Lucie, FL: 1989.

Soil Survey of Palm Beach County Area, FL. U. S. Soil Conservation Service: 1978.

Maps

U. S. Army Corps of Engineers, Jacksonville District. Reconnaissance Survey of the Intracoastal Waterway, Jacksonville to Miami. Jacksonville, FL. 1968, 1974, 1977, 1980, 1981, 1982, 1984, 1987.

FIND - Palm Beach County
BCI File 8119

Miscellaneous Resource Information

Florida Department of Environmental Regulation. (Permits)

File Number	Applicant
501556439	R. Fisher, Rybovich Boat Works, Inc.
501424939	South Lake Worth Inlet District
501285649	G.M. Ward, Jonathan's Landing
50253391	Michael Egan, Ocean Harbor Club

Palm Beach County Florida, Department of Environmental Resource Management.

File Number	Applicant
DF-001-88	Business Men's Assurance Co., D.B.A. Oak Harbor Marina
DF-10-88	Denholtz-Rhodes Assoc., Fisherman's Wharf
01-31-89	Hidden Harbor Mitigation Plan

Palm Beach County Department of Environmental Resources Management. Proposal for the "Lake Worth Restoration and Enhancement Project". September 30, 1989 - September 29, 1990.

Jonathan's Landing - Elutriate Study, water and sediment samples. February 19, 1987. Paul R. Mcginnes & Associates, Consulting Laboratory, Inc., West Palm Beach, FL.

Florida Department of Environmental Regulation. Lake Worth Basin. Comprehensive Basin Assessment Monitoring FY 89-90.

Florida Department of Environmental Regulation, Office of Coastal Management. Sediment chemistry from the Port of Palm Beach Study. Stations PPB 1 - PPB 6. 1983.

STUDY LOCATION

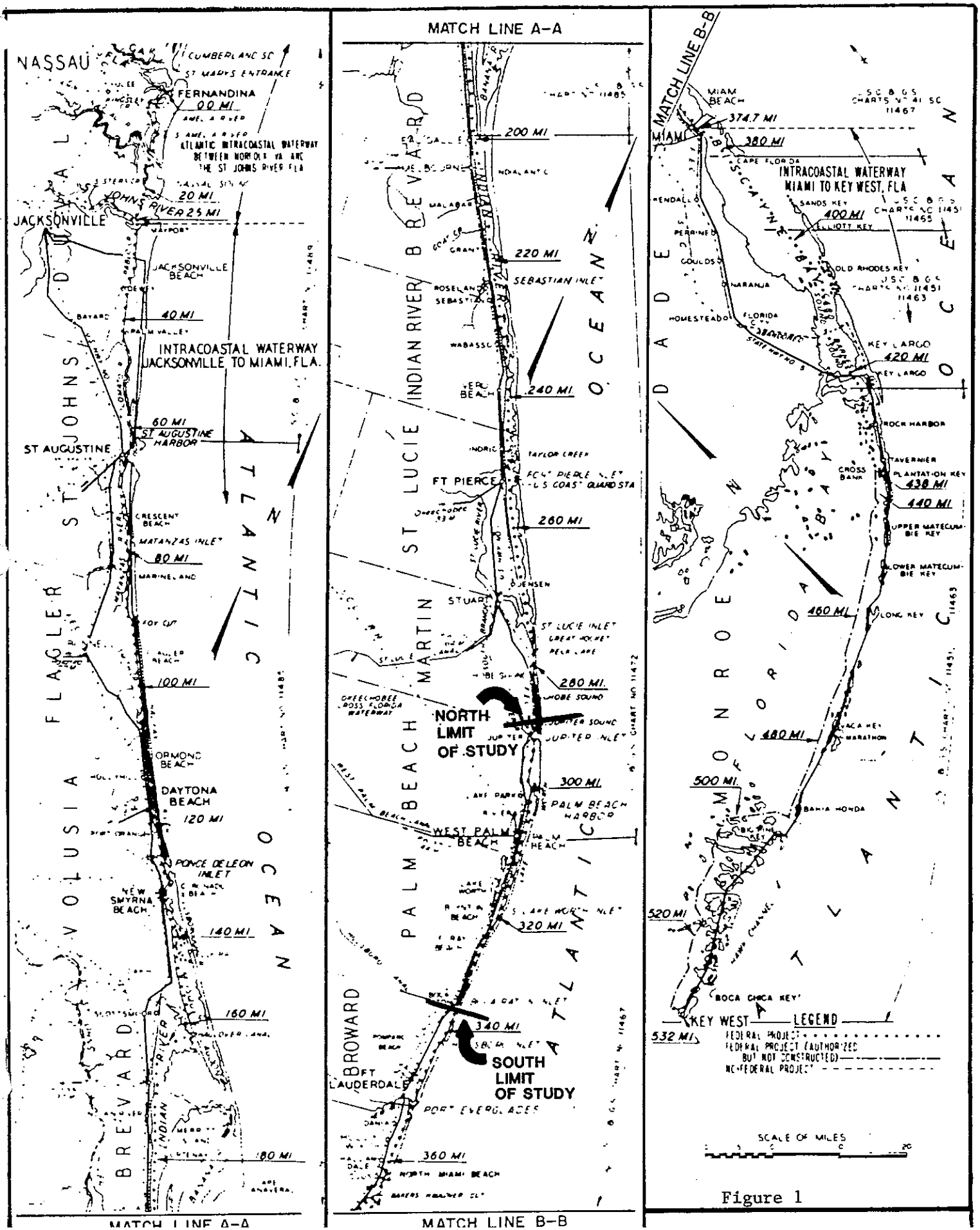
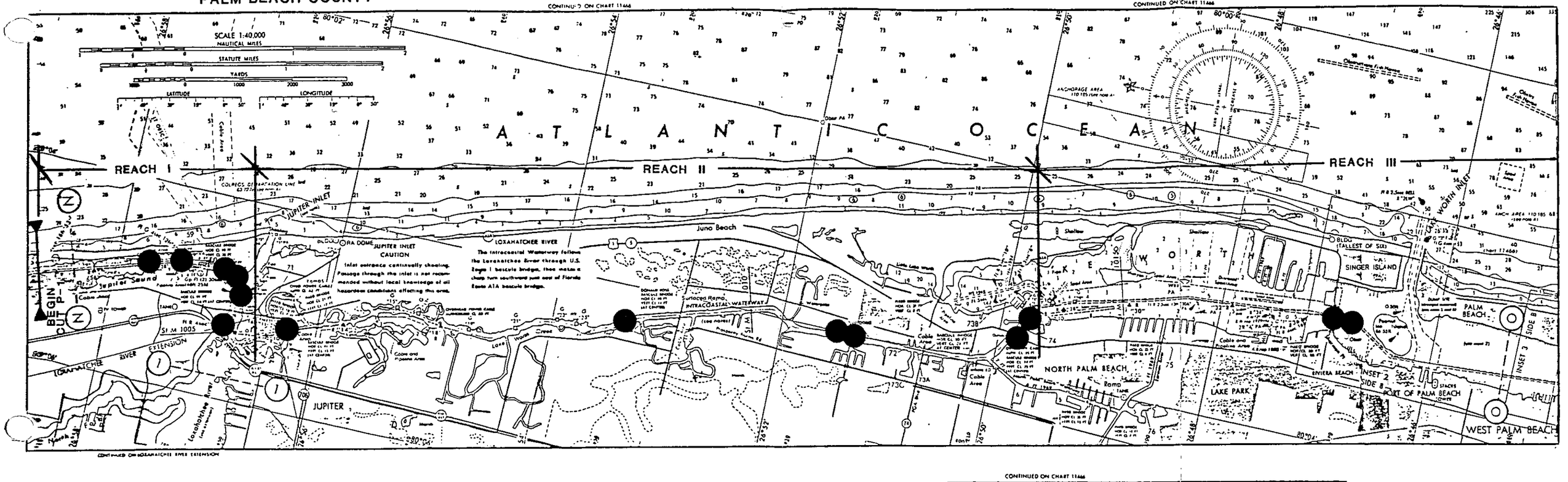


Figure 1

HISTORICAL IDENTIFIED SHOALING AREAS
MAJOR OCCURANCE LOCATION MAP

PALM BEACH COUNTY



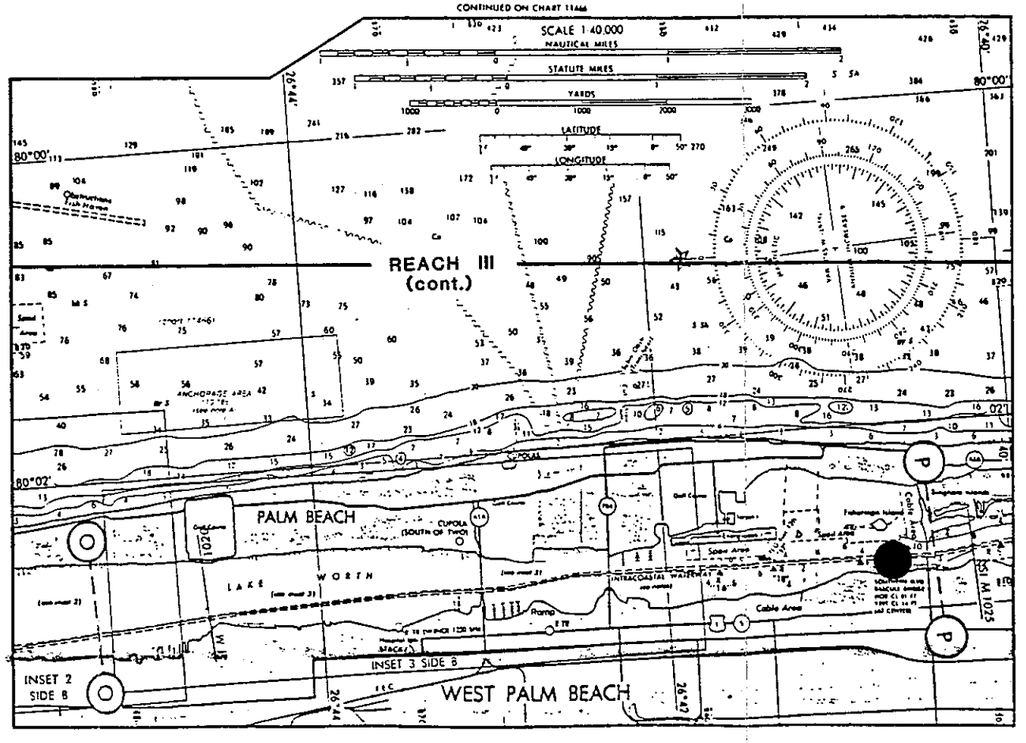


FIGURE 2
BCI NO. 8119

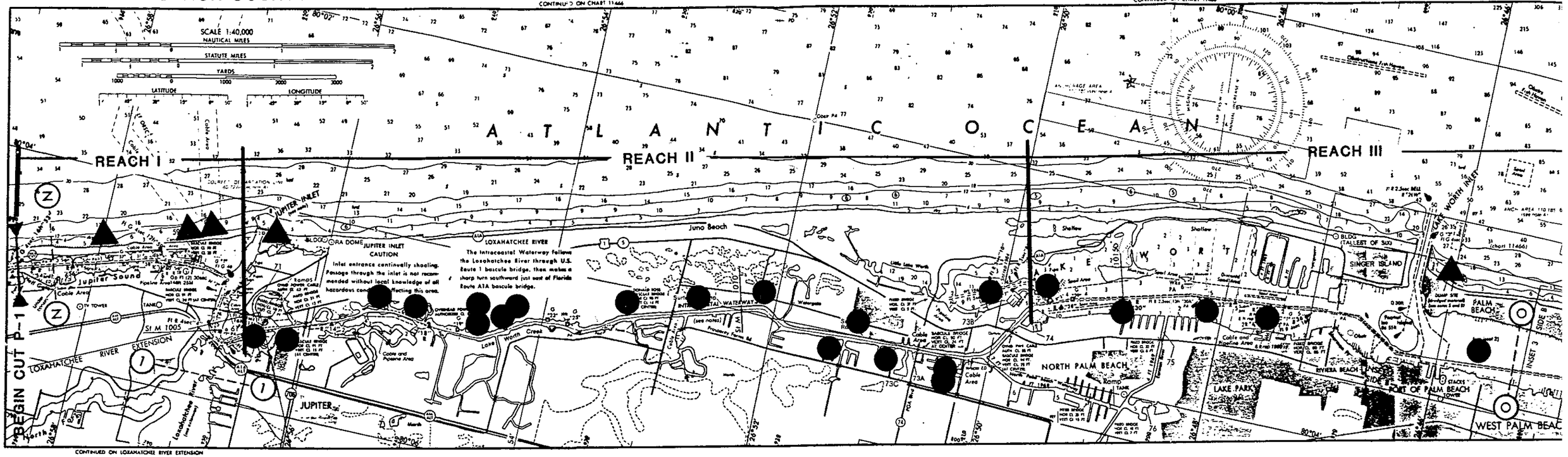
HISTORICAL IDENTIFIED SHOALING AREAS
MAJOR OCCURANCE LOCATION MAP
(cont'd)

PALM BEACH COUNTY

FIGURE 2 (cont
BCI NO. 8119

COE & F.I.N.D. EXISTING DISPOSAL AREAS
LOCATION MAP

PALM BEACH COUNTY



● – EXISTING DISPOSAL AREA LOCATION

▲ – COE BEACH DISPOSAL EASEMENT

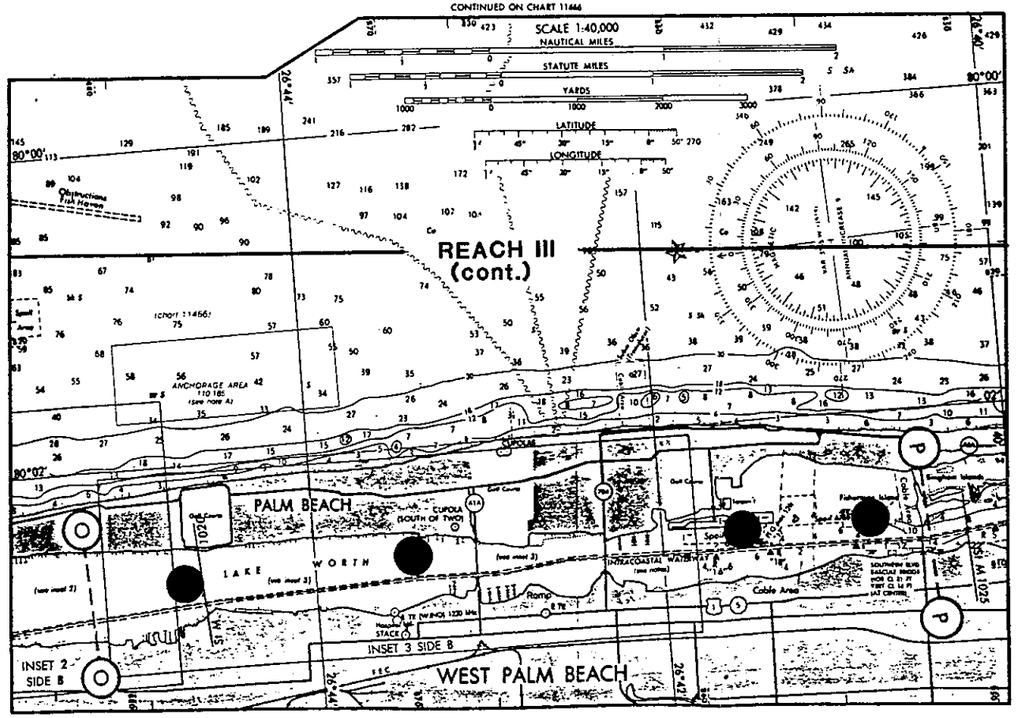


FIGURE 3
BCI NO. 8119

COE & F.I.N.D. EXISTING DISPOSAL AREAS
LOCATION MAP
(cont'd)

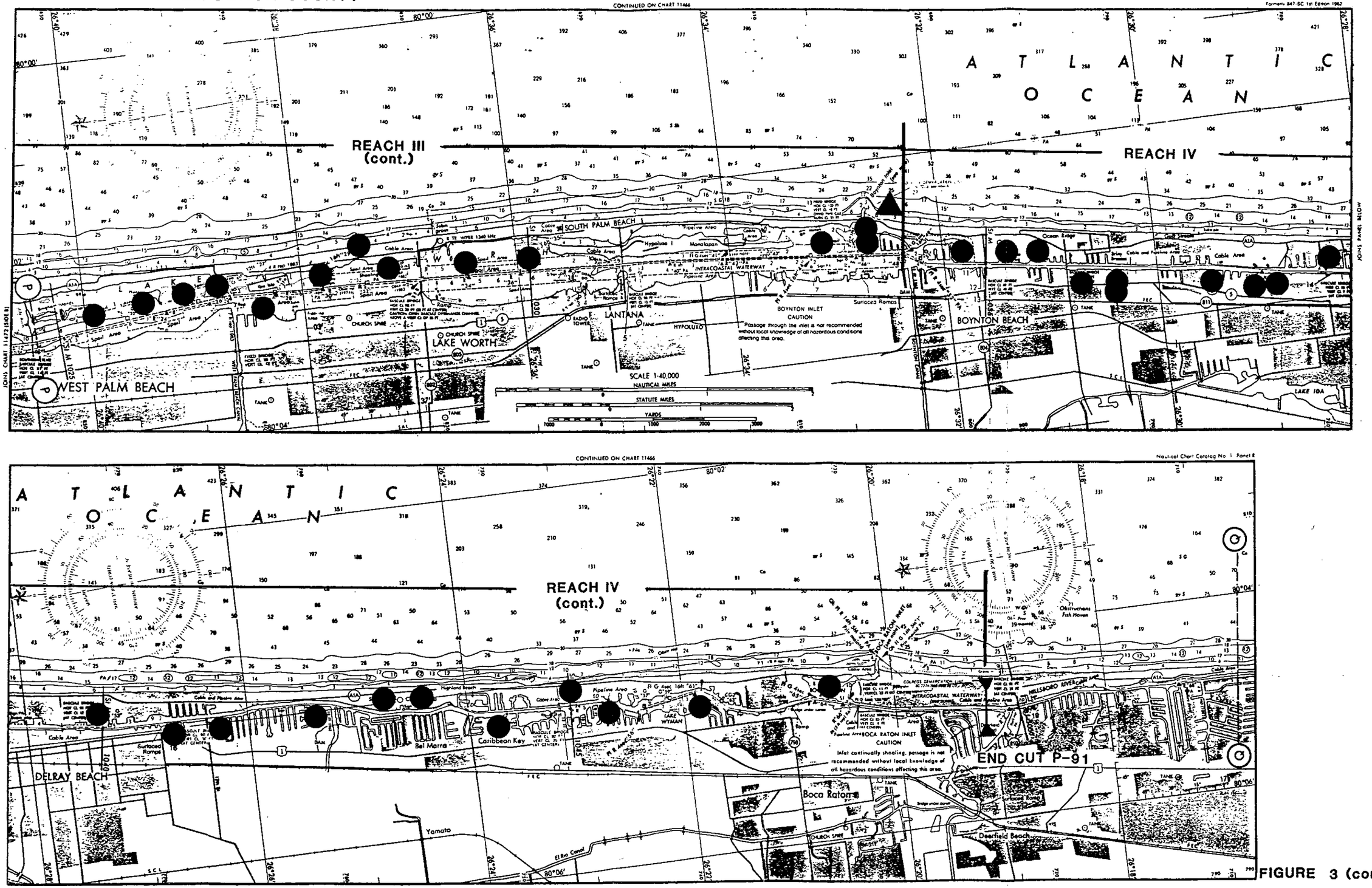
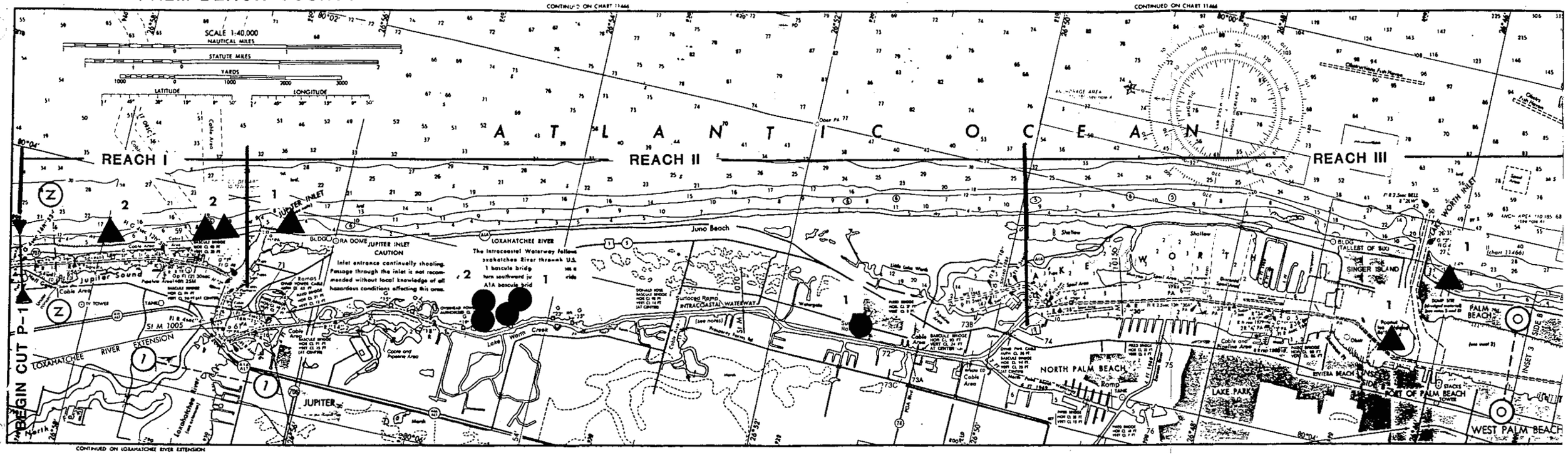


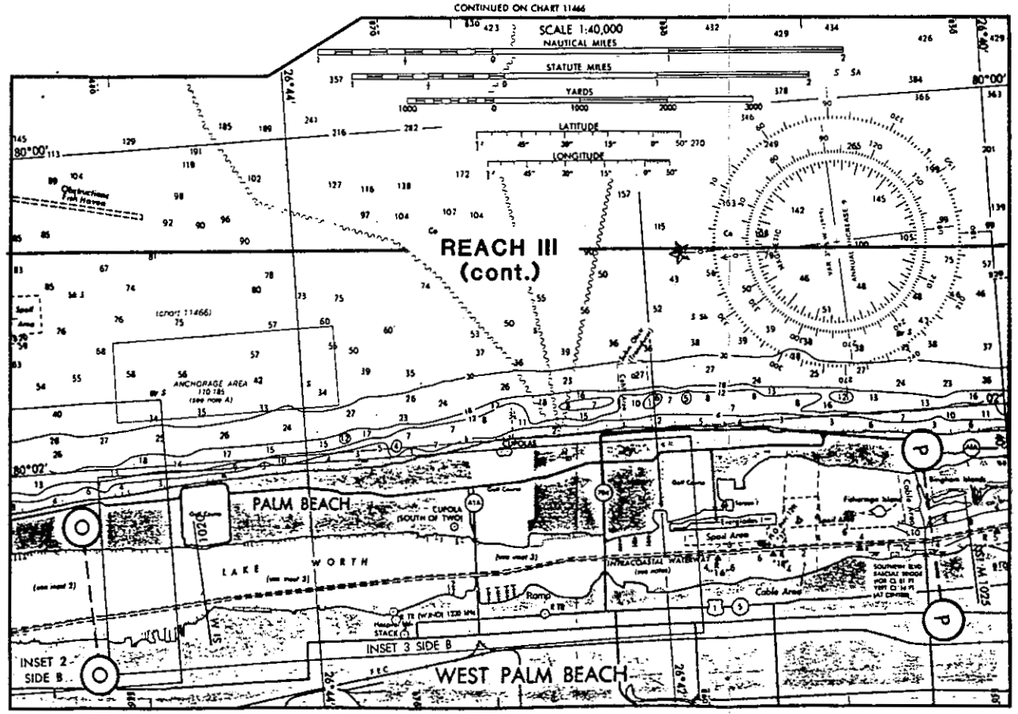
FIGURE 3 (cont

BCI NO. 8119

CANDIDATE DISPOSAL SITES
LOCATION MAP

PALM BEACH COUNTY





- ● 1 – EXISTING F.I.N.D. DISPOSAL AREA – PRIMARY
- ● 2 – EXISTING F.I.N.D. DISPOSAL AREA – SECONDARY
- ▲ 1 – POTENTIAL ALTERNATE DISPOSAL AREA – PRIMARY
- ▲ 2 – POTENTIAL ALTERNATE DISPOSAL AREA – SECONDARY

FIGURE 4
BCI NO. 8119

CANDIDATE DISPOSAL SITES
LOCATION MAP
(cont'd)

PALM BEACH COUNTY

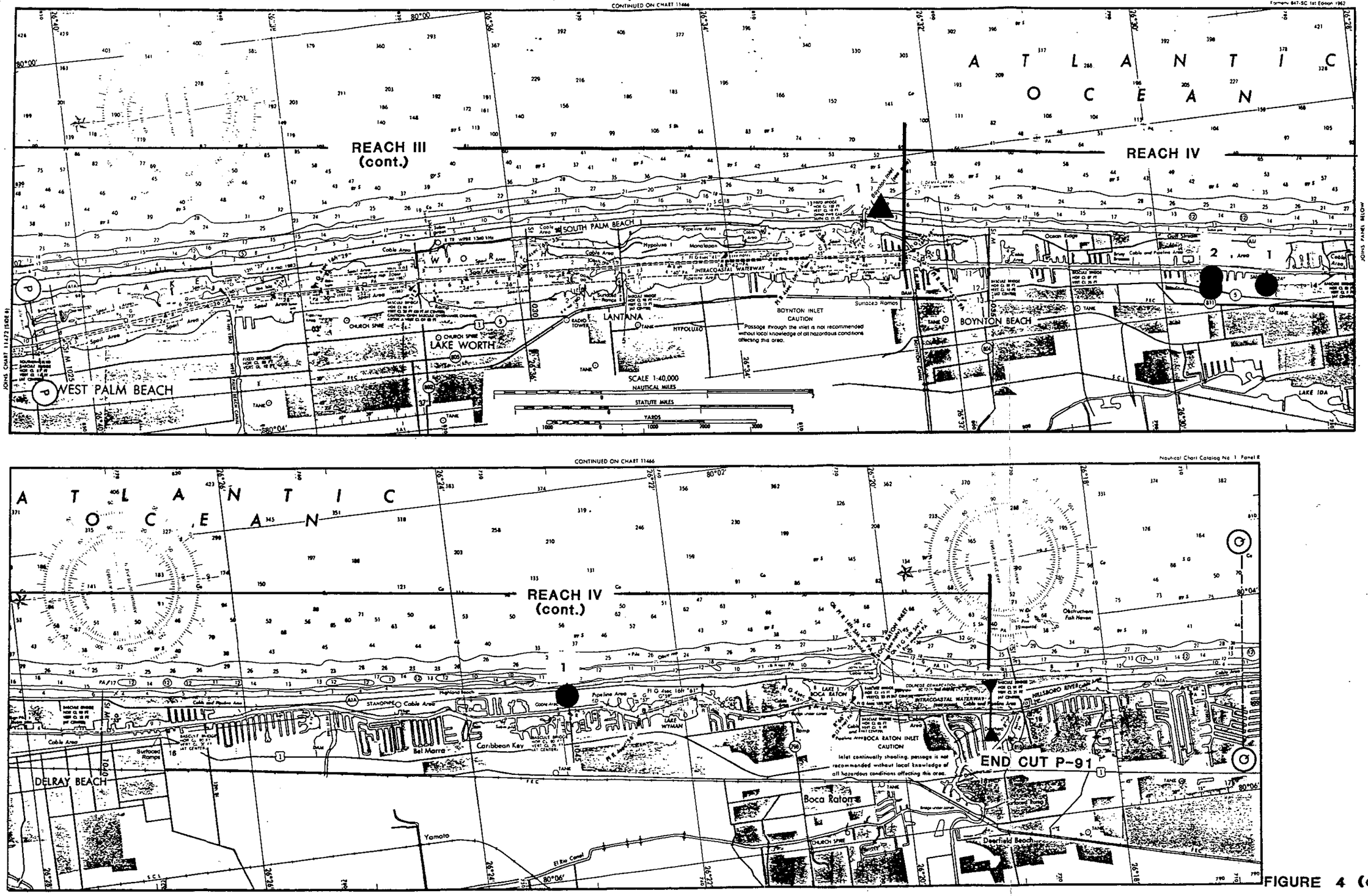


FIGURE 4 (con

BCI NO. 8119

TABLE 1

INTRACOASTAL WATERWAY MILEAGE CONVERSION
PALM BEACH COUNTY

CUT NO.	CUT END STATION	AIWW MILEAGE BEGIN	AIWW MILEAGE END	ICWW MILEAGE BEGIN	ICWW MILEAGE END
P- 1	81+20.77	285.22	286.76	262.84	264.38
P- 2	26+12.60	286.76	287.25	264.38	264.87
P- 3	11+51.91	287.25	287.47	264.87	265.09
P- 4	24+83.54	287.47	287.94	265.09	265.56
P- 5	3+62.65	287.94	288.01	265.56	265.63
P- 6	3+62.65	288.01	288.08	265.63	265.70
P- 7	3+62.65	288.08	288.15	265.70	265.77
P- 8	3+62.65	288.15	288.22	265.77	265.84
P- 9	3+62.65	288.22	288.29	265.84	265.91
P-10	7+86.59	288.29	288.44	265.91	266.06
P-11	7+49.21	288.44	288.58	266.06	266.20
P-12	12+50.00	288.58	288.81	266.20	266.43
P-13	34+44.39	288.81	289.47	266.43	267.09
P-15	10+91.79	289.47	289.67	267.09	267.29
P-16	16+31.58	289.67	289.98	267.29	267.60
P-17	12+35.99	289.98	290.22	267.60	267.84
P-18	34+09.00	290.22	290.86	267.84	268.48
P-19	12+57.99	290.86	291.10	268.48	268.72
P-20	17+01.63	291.10	291.42	268.72	269.04
P-21	16+66.30	291.42	291.74	269.04	269.36
P-22	10+53.08	291.74	291.94	269.36	269.56
P-23	9+06.87	291.94	292.11	269.56	269.73
P-24	18+06.56	292.11	292.45	269.73	270.07
P-25	73+96.90	292.45	293.85	270.07	271.47
P-26	16+37.93	293.85	294.16	271.47	271.78
P-27	44+02.27	294.16	295.00	271.78	272.62
P-28	47+07.07	295.00	295.89	272.62	273.51
P-29	11+04.63	295.89	296.10	273.51	273.72
P-30	11+29.04	296.10	296.31	273.72	273.93
P-31	35+51.46	296.31	296.98	273.93	274.60
P-32	22+00.00	296.98	297.40	274.60	275.02
P-32 A	66+83.59	297.40	298.67	275.02	276.29
P-33	52+14.84	298.67	299.65	276.29	277.27
P-33 A	13+20.07	299.65	299.90	277.27	277.52
P-34	27+00.00	299.90	300.42	277.52	278.04
P-35	28+79.02	300.42	300.96	278.04	278.58
P-36	109+13.06	300.96	303.03	278.58	280.65
P-37	71+31.88	303.03	304.38	280.65	282.00
P-38	31+02.02	304.38	304.97	282.00	282.59
P-39	21+07.28	304.97	305.36	282.59	282.98
P-40	23+12.00	305.36	305.80	282.98	283.42

TABLE 1
(Continued)

INTRACOASTAL WATERWAY MILEAGE CONVERSION
PALM BEACH COUNTY

CUT NO.	CUT END STATION	AIWW MILEAGE BEGIN	AIWW MILEAGE END	ICWW MILEAGE BEGIN	ICWW MILEAGE END
P-41	95+05.92	305.80	307.60	283.42	285.22
P-42	10+01.22	307.60	307.79	285.22	285.41
P-43	108+23.61	307.79	309.84	285.41	287.46
P-44	111+05.61	309.84	311.95	287.46	289.57
P-45	103+94.88	311.95	313.91	289.57	291.53
P-46	9+96.43	313.91	314.10	291.53	291.72
P-47	52+25.00	314.10	315.09	291.72	292.71
P-48	22+50.00	315.09	315.52	292.71	293.14
P-49	32+64.99	315.52	316.14	293.14	293.76
P-50	50+25.00	316.14	317.09	293.76	294.71
P-51	14+72.24	317.09	317.37	294.71	294.99
P-52	72+46.34	317.37	318.74	294.99	296.36
P-53	14+07.53	318.74	319.01	296.36	296.63
P-54	21+09.18	319.01	319.41	296.63	297.03
P-55	10+57.57	319.41	319.61	297.03	297.23
P-56	13+83.91	319.61	319.87	297.23	297.49
P-57	26+61.19	319.87	320.37	297.49	297.99
P-58	15+06.96	320.37	320.66	297.99	298.28
P-59	18+55.17	320.66	321.01	298.28	298.63
P-60	14+05.36	321.01	321.28	298.63	298.90
P-61	29+64.70	321.28	321.84	298.90	299.46
P-62	9+75.56	321.84	322.02	299.46	299.64
P-63	27+79.29	322.02	322.55	299.64	300.17
P-64	26+11.85	322.55	323.04	300.17	300.66
P-65	37+18.72	323.04	323.75	300.66	301.37
P-66	16+60.30	323.75	324.06	301.37	301.68
P-67	17+84.02	324.06	324.40	301.68	302.02
P-68	9+89.16	324.40	324.59	302.02	302.21
P-69	27+71.45	324.59	325.11	302.21	302.73
P-70	16+53.47	325.11	325.43	302.73	303.05
P-71	25+43.16	325.43	325.91	303.05	303.53
P-72	12+90.03	325.91	326.15	303.53	303.77
P-73	13+21.87	326.15	326.40	303.77	304.02
P-74	12+34.34	326.40	326.64	304.02	304.26
P-75	14+78.23	326.64	326.92	304.26	304.54
P-76	17+32.22	326.92	327.24	304.54	304.86
P-77	27+59.90	327.24	327.77	304.86	305.39
P-78	26+20.29	327.77	328.26	305.39	305.88
P-79	21+24.30	328.26	328.66	305.88	306.28
P-80	38+33.56	328.66	329.39	306.28	307.01
P-81	5+51.48	329.39	329.50	307.01	307.12

TABLE 1
(Continued)

INTRACOASTAL WATERWAY MILEAGE CONVERSION
PALM BEACH COUNTY

CUT NO.	CUT END STATION	AIWW MILEAGE BEGIN	AIWW MILEAGE END	ICWW MILEAGE BEGIN	ICWW MILEAGE END
P-82	10+92.47	329.50	329.70	307.12	307.32
P-83	16+83.05	329.70	330.02	307.32	307.64
P-84	12+75.30	330.02	330.26	307.64	307.88
P-85	6+85.84	330.26	330.39	307.88	308.01
P-86	6+25.59	330.39	330.51	308.01	308.13
P-87	9+08.27	330.51	330.68	308.13	308.30
P-88	45+70.27	330.68	331.55	308.30	309.17
P-89	17+29.70	331.55	331.88	309.17	309.50
P-90	21+21.30	331.88	332.28	309.50	309.90
P-91	17+15.18	332.28	332.60	309.90	310.22

TABLE 2

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH I : VICINITY OF JUPITER INLET
AIWW MILE 285.2 TO MILE 289.5
CUT P-1 TO CUT P-13

HISTORICAL IDENTIFIED SHOALING						HISTORICAL MAINTENENCE DREDGING								
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated (1) Shoal Vol. (cy)	From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
286.5	286.7	P-1/70+00	P-1/76+00	1989	11500									
						287.2	287.5	P-3/3+00	P-4/10+00	1988	87000			
285.5	285.8	P-1/14+00	P-1/32+00	1988	16500									
287.3	287.7	P-3/3+00	P-4/10+00	1988	87000									
						286.5	286.7	P-1/67+00	P-1/78+00	1987	N/A	19500	BEACH : D/A-J-1	11' DESIGN DEPTH
						287.3	287.7	P-3/3+00	P-4/10+00	1987	N/A	130300	BEACH : D/A-J-2	14' DESIGN DEPTH
285.6	285.7	P-1/20+00	P-1/27+00	1987	3450									
286.5	286.7	P-1/68+00	P-1/76+00	1987	5100									
286.5	286.7	P-1/67+00	P-1/78+00	1987	12500									
287.3	287.7	P-3/3+00	P-4/10+00	1987	103000									
287.9	288.0	P-5/0+00	P-6/0+00	1987	3120									
						286.6	286.8	P-1/67+00	P-1/78+00	1986	13000	19360		
						287.2	287.5	P-3/3+00	P-4/10+00	1986	106000	130300		
286.5	286.7	P-1/67+00	P-1/78+00	1986	12000									

TABLE 2 (cont'd)

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH I : VICINITY OF JUPITER INLET
AIWW MILE 285.2 TO MILE 289.5
CUT P-1 TO CUT P-13

HISTORICAL IDENTIFIED SHOALING						HISTORICAL MAINTENENCE DREDGING							
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated (1) Shoal Vol. (cy)	From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
287.3	287.7	P-3/3+00	P-4/10+00	1986	95000									
285.5	285.8	P-1/14+00	P-1/32+00	1986	16000									
286.5	286.7	P-1/68+00	P-1/77+00	1986	5500									
287.3	287.7	P-3/1+00	P-4/11+00	1986	92000 (LT 14')									
285.5	285.8	P-1/15+00	P-1/32+00	1985	13650									
286.5	286.7	P-1/69+00	P-1/77+00	1985	3650									
287.3	288.4	P-3/5+00	P-4/9+00	1985	24000									
285.6	286.0	P-1/10+00	P-1/44+00	1984	22160									
286.6	286.8	P-1/56+00	P-1/64+00	1984	2800									
287.3	287.4	P-3/0+00	P-3/7+00	1984	480									
387.9	288.0	P-5/10+00	P-6/0+00	1984	1640									
288.6	288.8	P-12/0+00	P-12/5+00	1984	500									
288.8	289.5	P-13/12+00	P-13/15+00	1984	600									
						286.5	287.7	P-1/66+00	P-1/80+00	1983	N/A	31300	BEACH : D/A-J-1	
						187.3	287.7	P-3/1+00	P-4/10+00	1983	N/A	110500	BEACH : D/A-J-2	

TABLE 2 (cont'd)

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH I : VICINITY OF JUPITER INLET
AIWW MILE 285.2 TO MILE 289.5
CUT P-1 TO CUT P-13

HISTORICAL IDENTIFIED SHOALING							HISTORICAL MAINTENENCE DREDGING								
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated (1) Shoal Vol. (cy)		From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
286.5	286.7	P-1/66+00	P-1/80+00	1982	16100										11' DESIGN DEPTH
287.3	287.7	P-3/1+00	P-4/10+00	1982	70500										16' DESIGN DEPTH
285.2	286.8	P-1	P-1	1982	16700	(C.L.)									
285.2	286.8	P-1	P-1	1982	15200	(C.L.)									
287.5	287.9	P-4	P-4	1982	6200	(C.L.)									
287.9	288.0	P-5	P-5	1982	500	(C.L.)									
288.8	288.2	P-13	P-13	1982	1800	(C.L.)									
285.2	286.8	P-1	P-1	1981	2900	(C.L.)									
285.2	286.8	P-1	P-1	1981	5600	(C.L.)									
287.3	287.5	P-3	P-3	1981	1000	(C.L.)									
287.5	287.9	P-4	P-4	1981	7200	(C.L.)									
285.2	286.8	P-1	P-1	1980	3300	(C.L.)									
285.2	286.8	P-1	P-1	1980	4300	(C.L.)									
287.9	288.0	P-5	P-5	1980	1700	(C.L.)									

TABLE 2 (cont'd)

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH I : VICINITY OF JUPITER INLET
AIWW MILE 285.2 TO MILE 289.5
CUT P-1 TO CUT P-13

HISTORICAL IDENTIFIED SHOALING						HISTORICAL MAINTENENCE DREDGING								
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated (1) Shoal Vol. (cy)	From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
285.5	285.9	P-1/15+00	P-1/34+00	1979	40000									
286.4	286.7	P-1/60+00	P-1/79+00	1979	42000									
287.3	287.7	P-3/3+50	P-4/10+00	1979	28500									
						287.3	287.7	P-3/3+50	P-4/10+00	1979	N/A	118800	BEACH : N/A	16' DESIGN DEPTH
287.2	287.7	P-2/25+50	P-4/11+00	1975	101000									
						287.2	287.7	P-2/25+50	P-4/11+00	1975	N/A	154000	BEACH : MDA-3	14' DESIGN DEPTH
287.3	287.6	P-3/3+50	P-4/4+00	1974	108000									SHOAL ABOVE 12'
						286.4	286.7	P-1/64+00	P-1/77+00	1972	40500		BEACH : D/A-J-1	
						287.2	287.3	P-2/23+00	P-3/2+00	1972	3300		BEACH : D/A-J-1	
						287.4	287.7	P-3/8+50	P-4/11+00	1972	33000		BEACH : D/A-J-2	
						287.9	288	P-4/21+20	P-6/2+50	1972	12000		BEACH : D/A-J-2	
287.3	287.7	P-3/3+50	P-4/11+00	1970	65500									
						287.3	287.7	P-3/3+50	P-4/11+00	1970	85000	93500	BEACH : D/A-Y	14' DESIGH DEPTH
287.3	287.7	P-3/3+50	P-4/11+00	1969	45500									
						287.3	287.7	P-3/3+50	P-4/11+00	1969	N/A	50500	BEACH : MDA-3	12' DESIGH DEPTH

TABLE 2 (cont'd)

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH I : VICINITY OF JUPITER INLET
AIWW MILE 285.2 TO MILE 289.5
CUT P-1 TO CUT P-13

HISTORICAL IDENTIFIED SHOALING						HISTORICAL MAINTENENCE DREDGING							
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated (1) Shoal Vol. (cy)	From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
						287.3	287.6	P-3/4+00	P-4/5+00	1968	28000		BEACH : D/A-J-2	
						287.4	287.5	P-3/10+00	P-4/3+00	1967	31500		UPLND : MSA 602	
						287.3	287.8	P-3/2+00	P-4/16+20	1965	24000		UPLND:MSA 602&602A	
						287.3	287.6	P-3/3+00	P-4/7+00	1964	21800		BEACH : MSA 626-1	
						287.4	287.5	P-3/6+00	P-4/4+00	1963	46000			
						287.1	288.4	P-2/16+90	P-11/0+00	1961	134000			ORIG. 10' DREDG

TABLE 3

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH II : JUPITER INLET TO LAKE WORTH
AIWW MILE 289.5 TO MILE 297.0
CUT P-15 TO CUT P-31

HISTORICAL IDENTIFIED SHOALING							HISTORICAL MAINTENENCE DREDGING								
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated Shoal Vol. (cy)	(1)	From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
294.2	295.0	P-27	P-27	1987	9100	(C.L.)									
296.3	297.0	P-31	P-31	1987	2100	(C.L.)									
294.3	295.0	P-27/6+00	P-27/42+00	1985	23000										
295.8	295.9	P-28/40+00	P-29/0+00	1985	1400										
292.1	293.9	P-24	P-25	1984	6100	(C.L.)									
294.2	295.0	P-27	P-27	1984	500	(C.L.)									
294.2	295.9	P-27	P-28	1984	30600	(C.L.)									
295.0	295.9	P-28	P-28	1984	1500	(C.L.)									
296.1	296.3	P-30	P-30	1984	5200	(C.L.)									
297.0	297.4	P-31	P-31	1984	3400	(C.L.)									
294.2	295.0	P-27	P-27	1982	500	(C.L.)									
297.0	297.4	P-31	P-31	1982	800	(C.L.)									
290.0	290.2	P-17	P-17	1981	600	(C.L.)									
292.5	293.9	P-25	P-25	1981	300	(C.L.)									
294.2	295.9	P-27	P-28	1981	14300	(C.L.)									

TABLE 3 (cont'd)

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH II : JUPITER INLET TO LAKE WORTH
AIWW MILE 289.5 TO MILE 297.0
CUT P-15 TO CUT P-31

HISTORICAL IDENTIFIED SHOALING							HISTORICAL MAINTENENCE DREDGING								
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated (1) Shoal Vol. (cy)		From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
297.0	297.4	P-31	P-31	1981	600	(C.L.)									
292.1	292.5	P-24	P-24	1980	300	(C.L.)									
292.5	293.9	P-25	P-25	1980	1100	(C.L.)									
293.9	295.0	P-26	P-27	1980	9100	(C.L.)									
296.1	296.3	P-30	P-30	1980	4100	(C.L.)									
296.3	297.0	P-31	P-31	1980	1300	(C.L.)	296.5	296.8	P-31/12+25	P-31/23+50	1972	4400		UPLND:D/A-T-111&112	
							288.4	290.9	P-11/0+00	P-18/0+00	1961	103000			ORIG. 10' DREDGI
							290.9	291.9	P-18/0+00	P-22/0+00	1961	102000			ORIG. 10' DREDGI
							291.9	292.9	P-22/0+00	P-25/23+80	1961	95000			ORIG. 10' DREDGI
							292.9	294.0	P-25/23+80	P-26/10+00	1961	139000			ORIG. 10' DREDGI
							294.0	295.0	P-26/10+00	P-28/0+00	1961	122000			ORIG. 10' DREDGI
							295.0	296.6	P-28/0+00	P-31/16+20	1961	147000			ORIG. 10' DREDGI

TABLE 4

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH III : LAKE WORTH REGION
AIWW MILE 297.0 TO MILE 317.1
CUT P-32 TO CUT P-50

HISTORICAL IDENTIFIED SHOALING							HISTORICAL MAINTENENCE DREDGING								
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated (1) Shoal Vol. (cy)		From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
310.2	310.7	P-44/20+00	P-44/43+00	1989	3000										
304.1	304.3	P-37/59+00	P-37/67+00	1988	4700										
316.4	316.7	P-50/16+00	P-50/29+00	1988	10500										
303.0	304.4	P-37	P-37	1987	4200	(C.L.)									
307.6	307.8	P-41	P-41	1987	2400	(C.L.)									
316.1	317.1	P-50	P-50	1987	4500	(C.L.)									
299.2	299.6	P-33/30+00	P-33/50+00	1985	N/A (3)										
299.9	300.2	P-34/0+00	P-34/15+00	1985	N/A (3)										
300.4	300.8	P-35/0+00	P-35/20+00	1985	N/A (3)										
316.4	316.7	P-50/15+00	P-50/30+00	1985	10000										
298.7	299.2	P-33	P-33	1984	4500	(C.L.)									
299.7	299.9	P-34	P-34	1984	1800	(C.L.)									
299.7	303.0	P-34	P-36	1984	22300	(C.L.)									
301.0	303.0	P-36	P-36	1984	500	(C.L.)									

TABLE 4 (cont'd)

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH III : LAKE WORTH REGION
AIWW MILE 297.0 TO MILE 317.1
CUT P-32 TO CUT P-50

HISTORICAL IDENTIFIED SHOALING							HISTORICAL MAINTENENCE DREDGING							
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated (1) Shoal Vol. (cy)		From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
305.8	307.8	P-41	P-42	1984	5500	(C.L.)									
307.8	309.8	P-43	P-43	1984	800	(C.L.)									
299.7	299.9	P-34	P-34	1982	1900	(C.L.)									
299.7	299.9	P-34	P-34	1982	200	(C.L.)									
300.4	301.0	P-35	P-35	1982	900	(C.L.)									
301.0	303.0	P-36	P-36	1982	2700	(C.L.)									
303.0	304.4	P-37	P-37	1982	200	(C.L.)									
303.0	304.4	P-37	P-37	1982	3100	(C.L.)									
307.8	309.8	P-43	P-43	1982	300	(C.L.)									
307.8	309.8	P-43	P-43	1982	600	(C.L.)									
307.8	309.8	P-43	P-43	1982	1900	(C.L.)									
312.0	313.9	P-45	P-45	1982	300	(C.L.)									
316.1	317.1	P-50	P-50	1982	3000	(C.L.)									
301.0	303.0	P-36	P-36	1981	200	(C.L.)									
303.0	304.4	P-37	P-37	1981	2800	(C.L.)									

TABLE 4 (cont'd)

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH III : LAKE WORTH REGION
AIWW MILE 297.0 TO MILE 317.1
CUT P-32 TO CUT P-50

HISTORICAL IDENTIFIED SHOALING							HISTORICAL MAINTENENCE DREDGING							
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated (1) Shoal Vol. (cy)		From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
303.0	304.4	P-37	P-37	1981	3400	(C.L.)									
304.4	305.0	P-38	P-38	1981	600	(C.L.)									
305.0	305.4	P-39	P-39	1981	2800	(C.L.)									
305.8	307.6	P-41	P-41	1981	1000	(C.L.)									
307.6	307.8	P-42	P-42	1981	400	(C.L.)									
316.1	317.1	P-50	P-50	1981	400	(C.L.)									
316.1	317.1	P-50	P-50	1981	2100	(C.L.)									
299.9	300.4	P-34	P-34	1980	400	(C.L.)									
299.9	300.4	P-34	P-34	1980	1300	(C.L.)									
301.0	303.0	P-36	P-36	1980	1500	(C.L.)									
303.0	304.4	P-37	P-37	1980	1100	(C.L.)									
305.0	305.4	P-39	P-39	1980	2900	(C.L.)									
312.0	313.9	P-45	P-45	1980	9900	(C.L.)									

TABLE 4 (cont'd)

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH III : LAKE WORTH REGION
AIWW MILE 297.0 TO MILE 317.1
CUT P-32 TO CUT P-50

HISTORICAL IDENTIFIED SHOALING						HISTORICAL MAINTENENCE DREDGING								
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated (1) Shoal Vol. (cy)	From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
						301.1	301.2	P-36/3+00	P-36/8+00	1968	4600			
						301.5	303.7	P-36/27+80	P-37/37+50	1962	N/A			ORIG. 10' DREDGI
						303.9	305.1	P-37/47+00	P-39/6+50	1962	N/A			ORIG. 10' DREDGI
						306.3	311.4	P-41/29+00	P-44/83+00	1962	N/A			ORIG. 10' DREDGI
						311.6	315.3	P-44/93+00	P-48/13+25	1962	N/A			ORIG. 10' DREDGI
						315.7	316.6	P-49/11+50	P-50/24+00	1962	N/A			ORIG. 10' DREDGI
						316.3	322.5	P-52/10+00	P-63/26+62	1962	N/A			ORIG. 10' DREDGI
						296.6	301.3	P-31/16+20	P-36/15+50	1961	105000			ORIG. 10' DREDGI

TABLE 5

HISTORICAL SUMMARY OF SHOAL IDENTIFICATION AND DREDGING ACTIVITIES
INTERCOASTAL WATERWAY : PALM BEACH COUNTY , AIWW MILE 285 TO 333

REACH IV : SOUTH LAKE WORTH TO BOCA RATON INLET
AIWW MILE 317.1 TO MILE 332.6
CUT P-51 TO CUT P-91

HISTORICAL IDENTIFIED SHOALING							HISTORICAL MAINTENENCE DREDGING							
From AIWW Mi.	To AIWW Mi.	From Cut/Sta.	To Cut/Sta.	Year	Estimated Shoal Vol. (cy) (1)		From AIWW Mi.	To AIWW Mi.	From Cut/Sta	To Cut/Sta	Year	Design Vol. (cy)	Pay Vol. (cy)	Disposal	Comments
330.5	330.7	P-87	P-87	1987	500	(C.L.)									
323.8	324.1	P-66	P-66	1984	800	(C.L.)									
326.6	326.9	P-75	P-75	1984	2100	(C.L.)									
329.7	330.0	P-83	P-83	1981	600	(C.L.)									
322.0	322.6	P-63	P-63	1981	300	(C.L.)									
							326.5	327.1	P-74/6+00	P-76/11+00	1971	N/A			
							322.5	324.1	P-63/26+62	P-67/0+00	1966	103000			ORIG. 10' DREDGIN
							324.1	325.4	P-67/0+00	P-71/0+00	1966	100000			ORIG. 10' DREDGIN
							325.4	328.7	P-71/0+00	P-80/0+00	1966	93000			ORIG. 10' DREDGIN
							328.7	331.2	P-80/0+00	P-88/26+32	1966	118800			ORIG. 10' DREDGIN
							331.2	332.3	P-88/26+32	P-91/0+00	1966	100000			ORIG. 10' DREDGIN
							332.3	N/A	P-91/0+00	BW-2/8+97	1966	63000			ORIG. 10' DREDGIN

TABLE 6

EXISTING SPOIL AREA INVENTORY

PALM BEACH COUNTY, FLORIDA

UPDATE NO. 5

31-Aug-89

F.D. = OWNED BY F.I.N.D.
ALL OTHERS ARE EASEMENTS

STUDY REACH	MSA NO.	ST. MILE NO.	AIWW MILE NO.	AREA (AC.)	COMMENTS	OWNERSHIP	EASEMENT	TRADE VALUE	POTENTIAL	
I	605N	1005.6	288.68	29.2	ISLAND PORTION RELEASED TO OWNER - SEVERAL ENCROACHMENTS	X		YES	NO	ENCROACHMENTS
--------	* 605S	1006.0	289.08	27.5	CHECK ACRES 27.5		X	YES	YES	SOME WETLANDS W/MOSQ. DITCHES
	607	1006.9	289.98	47.6			X	YES	NO	WETLANDS, MANGROVE & MANATEE POTENTIAL
	608	1006.9	289.98	6.2			X	YES	NO	TOO SMALL; NO ACCESS; BIRD HABITAT
	* 609	1007.5	290.58	6.5			X	YES	YES	IN CONJUNCTION W/609A, POSS. 4 PETAL PAW PAW
	* 609A	1007.6	290.68	20.0			X	YES	YES	4 PETAL PAW PAW, POSS. MITIGATION
	* FD 610	1007.9	290.98	5.8	LEASED TO TOWN OF JUPITER FOR RECREATION	X		YES	YES	GOOD ACCESS, UPLAND
	* FD 611-A	1008.1	291.18	20.3	LEASED TO TOWN OF JUPITER FOR RECREATION	X		YES	YES	GOOD ACCESS, UPLAND
II	* FD 614-B	1009.0	292.08	30.2		X		YES	YES	EAST 1/3 UPLAND, 2/3 WETLAND; LIMITED ACCESS
	FD 615-D	1009.6	292.68	6.4		X		YES	NO	WETLAND; LIMITED SIZE (POSS. EASEMENT FOR ADJACENT UPLAND)
	* FD 617-C	1010.4	293.48	8.6		X		YES	YES	LIMITED SIZE; RESTRICTED N & S BY RESIDENTIAL AREA; GOOD AREA TO EAST
	* FD 619	1011.5	294.58	5.1		X		YES	NO	VERY LIMITED SIZE
	* FD-620-B	1011.8	294.88	14.0	PORTION USED FOR PARK BY PALM BEACH COUNTY	X		YES	YES	VOLUME MAY BE LIMITED BY PARK DEVELOPMENT
	FD 621	1012.2	295.28	2.3		X		YES	NO	TOO SMALL A SITE; POOR ACCESS IN RESIDENTIAL AREA
	* 624	1013.2	296.28	4.4	PROPOSED RELEASE TO McARTHUR PROPERTY		X	YES	YES	NO PUBLIC ACCESS; POSS. TRADE W/McARTHUR PROPERTIES
	* FD 624-E	1013.3	296.38	2.3	PROPOSED FOR TRADE TO McARTHUR PROPERTY FOR OTHER SPOIL SITE	X		YES	YES	SMALL SITE; POSS. GOOD SITE W/624
--------	625-B & 626-B ALT	1013.5	296.58	20.6	OPEN WATER		X	NO	NO	OPEN WATER; ADJACENT TO EXISTING MARINAS; OFFSITE IMPACTS; WATER QUAL.
	LW-1	1014.4	297.48	57.5	OPEN WATER		X	NO	NO	OPEN WATER; WATER QUALITY; POSS. GRASS BEDS IN SOUTH
	LW-2	1015.1	298.18	37.9	OPEN WATER		X	NO	NO	ADJACENT LAND IMPACTS; OPEN WATER; ADJACENT CANALS
	LW-3	1016.0	299.08	45.9	OPEN WATER		X	NO	NO	ADJACENT LAND IMPACTS; LARGE OPEN WATER SITE
	LW-4	1016.7	299.78	45.9	OPEN WATER		X	NO	NO	EXISTING GRASS BEDS
	LW-5	1019.0	302.08	45.9	OPEN WATER		X	NO	NO	OPEN WATER; DEEP WATER; NO GRASS BEDS APPARENT
	LW-6	1019.9	302.98	45.9	OPEN WATER		X	NO	NO	OPEN WATER; DEEP WATER; NO GRASS BEDS APPARENT
	LW-6A	1020.7	303.78	14.7	OPEN WATER		X	NO	NO	OPEN WATER; DEEP WATER; NO GRASS BEDS APPARENT
	LW-6B	1021.4	304.48	13.8	OPEN WATER		X	NO	NO	OPEN WATER
	LW-7	1023.5	306.58	41.3	OPEN WATER		X	NO	NO	OPEN WATER
	LW-8	1024.5	307.58	35.1	OPEN WATER		X	NO	NO	BETWEEN ICW AND SPOIL ISLAND
	LW-9	1025.4	308.48	29.9	OPEN WATER		X	NO	NO	OPEN WATER
III	LW-9B north	1026.0	309.08	13.8	OPEN WATER; NO.638		X	NO	NO	ADJACENT TO SPOIL ISLAND
	LW-9C	1026.2	309.28	13.8	OPEN WATER		X	NO	NO	SPOIL ISLANDS WITHIN AREA; POSS. BIRD HABITAT
	LW-9A	1026.6	309.68	32.6	OPEN WATER		X	NO	LITTLE	OPEN WATER WITH ACCESS FROM UPLAND
	LW-9B south	1027.3	310.38	5.5	OPEN WATER; NO. I-911E		X	NO	NO	OPEN WATER; SMALL SITE
	LW-10	1027.8	310.88	36.7	OPEN WATER		X	NO	LITTLE	POSS. ADJACENT LAND IMPACTS; RESTRICTED ACCESS FROM UPLAND
	* PL-643	1028.3	311.38	0.85	PIPELINE EASEMENT TO BEACH		X	YES	LITTLE	KEEP PIPELINE EASEMENT
	LW-11	1028.6	311.68	32.7	OPEN WATER		X	NO	NO	OPEN WATER
	LW-12	1029.3	312.38	45.9	OPEN WATER		X	NO	NO	OPEN WATER
	LW-13	1029.9	312.98	45.9	OPEN WATER		X	NO	NO	OPEN WATER
	LW-14	1033.3	316.38	55.1	OPEN WATER		X	NO	NO	POSS. GRASS BEDS DUE TO SHALLOW WATER DEPTH
	LW-14A	1033.8	316.88	4.8	OPEN WATER		X	NO	NO	ADJACENT LAND USE IMPACTS; SIZE; POSS. GRASS BEDS
--------	LW-15	1033.8	316.88	2.7	OPEN WATER		X	NO	NO	ADJACENT LAND USE IMPACTS

TABLE 6
(Continued)

EXISTING SPOIL AREA INVENTORY

UPDATE NO. 5 — 31-Aug-89

PALM BEACH COUNTY, FLORIDA

F.D. = OWNED BY F.I.N.D.
ALL OTHERS ARE EASEMENTS

STUDY REACH	MSA NO.	ST. MILE NO.	AIWW MILE NO.	AREA (AC.)	COMMENTS	OWNERSHIP	EASEMENT	TRADE VALUE	POTENTIAL	
	FD 627-A	1034.7	317.78	7.0	APPROVED FOR DONATION TO P.B. CNTY, WILDERNESS ISLANDS PROGRAM	X		NO	NO	MANGROVES/WETLANDS
	630	1035.2	318.28	2.3			X	NO	NO	MANGROVES/WETLANDS; OPEN WATER
	633	1035.7	318.78	0.8	REQUESTED FOR RELEASE BY OWNER		X	YES	NO	ADJACENT LAND USE IMPACTS
	FD-634	1035.5	318.58	2.3	PROPOSED FOR TRADE TO MR. FENDER FOR OTHER SPOIL AREA	X		YES	NO	MANGROVES/WETLANDS/AQUATIC
	635	1036.1	319.13	3.1			X	NO	NO	MANGROVES/WETLANDS
	FD 635-A	1036.1	319.18	3.3		X		YES	NO	MANGROVES - WEST EDGE
	636	1036.1	319.18	2.7			X	NO	NO	MANGROVES/WETLANDS
	FD 638-B	1036.6	319.68	5.6	LEASED TO CITY OF BOYNTON BEACH FOR REC'L OR MUNICIPAL PURPOSES	X		YES	NO	SMALL SITE ; PROXIMITY TO RESIDENTIAL AREA
	FD 640	1037.4	320.48	3.0	LEASED TO TOWN OF GULFSTREAM FOR PRESERVATION	X		YES	NO	PRESERVATION AREA
	FD 640-A	1037.4	320.48	4.1	LEASED TO TOWN OF GULFSTREAM FOR PRESERVATION	X		YES	NO	PRESERVATION AREA
	* FD 641-A	1038.0	321.08	11.5	PROPOSED TRADE TO SEACREST COMMERC'L PROP. FOR OTHER SPOIL SITE	X		YES	YES	GOOD SITE - MANGROVE ON EAST SIDE; 75% USEABLE
	642-A	1038.2	321.28	7.2			X	YES	NO	POSS. LAND TO SOUTH - MANGROVE EAST 1/2 ; QUESTIONABLE ACCESS
	FD 645-C	1038.8	321.88	2.4		X		YES	NO	POOR SITE; CONCURRENT WITH 645-D, EAST 1/2 MANGROVE, TIDAL INFLUENCE
	FD 645-D	1038.8	321.88	5.0		X		YES	NO	POOR SITE; CONCURRENT WITH 645-C, EAST 1/2 MANGROVE, TIDAL INFLUENCE
IV	648-A	1040.0	323.08	1.4	NO.790 ON SHEET 75 & PB-35		X	NO	NO	ADJACENT LAND USE IMPACTS; OPEN WATER
	648-D	1040.0	323.08	6.6	NO 793 & 793E-2 ON SHEET 75		X	NO	NO	ADJACENT LAND USE IMPACTS; OPEN WATER
	FD 650	1040.8	323.88	4.1		X		YES	NO	TOO SMALL A SITE ; 1/2 WETLANDS WITH MANGROVE
	651	1041.2	324.28	4.0			X	YES	NO	OPEN WATER; POSS. MANGROVES; SMALL SIZE; ADJACENT LAND USE IMPACTS.
	653-C1	1042.3	325.38	8.3			X	NO	NO	OPEN WATER; ADJACENT LAND USE IMPACTS
	FD 655-A	1043.4	326.48	4.5	NO.13700E	X		NO	NO	MANGROVES/WETLANDS/AQUATIC
	FD 656	1043.0	326.08	2.8	NO. 13606E SHEET 77; NOT ON FIND MAP; LEASED TO TOWN OF HIGHLAND BEACH FOR RECREATION AND CONSERVATION. PROPOSED FOR DEDICATION TO PALM BEACH COUNTY WILDERNESS ISLAND PROGRAM.	X		NO	NO	MANGROVES/WETLANDS/AQUATIC
	680	1044.2	327.28	7.0			X	NO	NO	MANGROVES/WETLANDS/AQUATIC
	* 684-A	1045.0	328.08	20.0	PART OF SPANISH RIVER PARK		X	YES	YES	GOOD SITE; EXOTIC VEGETATION
	686	1045.4	328.48	1.0			X	NO	NO	MANGROVES/WETLANDS/AQUATIC
	687	1045.4	328.48	4.0			X	NO	NO	MANGROVES/WETLANDS/AQUATIC
	* FD 690	1046.5	329.58	8.2	(PB-74) LEASED TO BOCA RATON FOR RECREATION AND CONSERVATION	X		YES	YES	POOR UPLAND ACCESS ; 40% MANGROVE
	694	1047.9	330.98	5.7	OPEN WATER		X	NO	NO	OPEN WATER; POSS. GRASS BEDS/MANATEES

FOOTNOTE: MSA NO.'S DESIGNATED WITH ' * ' ARE SUITABLE FOR DISPOSAL OF DREDGED MATERIALS.

EXISTING SPOIL AREA INVENTORY

PALM BEACH COUNTY, FLORIDA

UPDATE NO. 6
TABLE 6

18-Dec-89

F.O. = OWNED BY F.I.N.D.
ALL OTHERS ARE EASEMENTS

STUDY REACH	MSA NO.	ST. MILE NO.	AIWW MILE NO.	AREA (AC.)	COMMENTS	OWNERSHIP	EASEMENT	TRADE VALUE	POTENTIAL	
I	605N	1005.6	288.68	29.2	ISLAND PORTION RELEASED TO OWNER - SEVERAL ENCROACHMENTS	X		YES	NO	ENCROACHMENTS
	605S	1006.0	289.08	24.9			X	YES	YES	SOME WETLANDS W/MOSQ. DITCHES
	607	1006.9	289.98	47.6			X	YES	NO	WETLANDS, MANGROVE & MANATEE POTENTIAL
	608	1006.9	289.98	6.2			X	YES	NO	TOO SMALL; NO ACCESS; BIRD HABITAT
	* 609	1007.5	290.58	6.5			X	YES	YES	IN CONJUNCTION W/609A, POSS. 4 PETAL PAW PAW
	* 609A	1007.6	290.68	20.0			X	YES	YES	4 PETAL PAW PAW, POSS. MITIGATION
	* FO 610	1007.7	290.78	5.8	LEASED TO TOWN OF JUPITER FOR RECREATION	X		YES	YES	GOOD ACCESS, UPLAND
	* FO 611-A	1008.1	291.18	20.1	LEASED TO TOWN OF JUPITER FOR RECREATION	X		YES	YES	GOOD ACCESS, UPLAND
II	FO 614-B	1009.0	292.08	30.2		X		YES	YES	EAST 1/3 UPLAND, 2/3 WETLAND; LIMITED ACCESS
	FO 615-D	1009.6	292.68	6.4		X		YES	NO	WETLAND; LIMITED SIZE (POSS. EASEMENT FOR ADJACENT UPLAND)
	FO 617-C	1010.4	293.48	8.6		X		YES	YES	LIMITED SIZE; RESTRICTED N & S BY RESIDENTIAL AREA; GOOD AREA TO EAST
	FO 619	1011.5	294.58	5.1		X		YES	NO	VERY LIMITED SIZE
	* FO-620-B	1011.8	294.88	14.0	PORTION USED FOR PARK BY PALM BEACH COUNTY	X		YES	YES	VOLUME MAY BE LIMITED BY PARK DEVELOPMENT
	FO 621	1012.2	295.28	2.3		X		YES	NO	TOO SMALL A SITE; POOR ACCESS IN RESIDENTIAL AREA
	624	1013.2	296.28	4.4			X	YES	YES	NO PUBLIC ACCESS; POSS. TRADE W/McARTHUR PROPERTIES
	FO 624-E	1013.3	296.38	2.3		X		YES	YES	SMALL SITE; POSS. GOOD SITE W/624
	625-B & 626-B ALT	1013.5	296.58	20.6	OPEN WATER		X	NO	NO	OPEN WATER; ADJACENT TO EXISTING MARINAS; OFFSITE IMPACTS; WATER QUAL
	LW-1	1014.4	297.48	57.5	OPEN WATER		X	NO	NO	OPEN WATER; WATER QUALITY; POSS. GRASS BEDS IN SOUTH
	LW-2	1015.1	298.18	37.9	OPEN WATER		X	NO	NO	ADJACENT LAND IMPACTS; OPEN WATER; ADJACENT CANALS
	LW-3	1016.0	299.08	45.9	OPEN WATER		X	NO	NO	ADJACENT LAND IMPACTS; LARGE OPEN WATER SITE
	LW-4	1016.7	299.78	45.9	OPEN WATER		X	NO	NO	EXISTING GRASS BEDS
	LW-5	1019.0	302.08	45.9	OPEN WATER		X	NO	NO	OPEN WATER; DEEP WATER; NO GRASS BEDS APPARENT
	LW-6	1019.9	302.98	45.9	OPEN WATER		X	NO	NO	OPEN WATER; DEEP WATER; NO GRASS BEDS APPARENT
	LW-6A	1020.7	303.78	14.7	OPEN WATER		X	NO	NO	OPEN WATER; DEEP WATER; NO GRASS BEDS APPARENT
	LW-6B	1021.4	304.48	13.8	OPEN WATER		X	NO	NO	OPEN WATER
	LW-7	1023.5	306.58	41.3	OPEN WATER		X	NO	NO	OPEN WATER
	LW-8	1024.5	307.58	35.1	OPEN WATER		X	NO	NO	BETWEEN ICW AND SPOIL ISLAND
	LW-9	1025.4	308.48	29.9	OPEN WATER		X	NO	NO	OPEN WATER
III	LW-9B north	1026.0	309.08	13.8	OPEN WATER; NO.638		X	NO	NO	ADJACENT TO SPOIL ISLAND
	* LW-9C	1026.2	309.28	13.8	OPEN WATER		X	NO	NO	SPOIL ISLANDS WITHIN AREA; POSS. BIRD HABITAT
	* LW-9A	1026.6	309.68	32.6	OPEN WATER		X	NO	LITTLE	OPEN WATER WITH ACCESS FROM UPLAND
	LW-9B south	1027.3	310.38	5.5	OPEN WATER; NO. I-911E		X	NO	NO	OPEN WATER; SMALL SITE
	LW-10	1027.8	310.88	36.7	OPEN WATER		X	NO	LITTLE	POSS. ADJACENT LAND IMPACTS; RESTRICTED ACCESS FROM UPLAND
	PL-643	1028.3	311.38	0.85	PIPELINE EASEMENT TO BEACH		X	YES	LITTLE	KEEP PIPELINE EASEMENT
	LW-11	1028.6	311.68	32.7	OPEN WATER		X	NO	NO	OPEN WATER
	LW-12	1029.3	312.38	45.9	OPEN WATER		X	NO	NO	OPEN WATER
	LW-13	1029.9	312.98	45.9	OPEN WATER		X	NO	NO	OPEN WATER
	LW-14	1033.3	316.38	55.1	OPEN WATER		X	NO	NO	POSS. GRASS BEDS DUE TO SHALLOW WATER DEPTH
	LW-14A	1033.8	316.88	4.8	OPEN WATER		X	NO	NO	ADJACENT LAND USE IMPACTS; SIZE; POSS. GRASS BEDS
	LW-15	1033.8	316.88	2.7	OPEN WATER		X	NO	NO	ADJACENT LAND USE IMPACTS

EXISTING SPOIL AREA INVENTORY

PALM BEACH COUNTY, FLORIDA

UPDATE NO. 6

TABLE 6

18-Dec-89

F.O. = OWNED BY F.I.N.D.
ALL OTHERS ARE EASEMENTS

STUDY REACH	MSA NO.	ST. MILE NO.	AIWW MILE NO.	AREA (AC.)	COMMENTS	OWNERSHIP	EASEMENT	TRADE VALUE	POTENTIAL	
	FO 627-A	1034.7	317.78	7.0	APPROVED FOR DONATION TO P.B. CNTY; WILDERNESS ISLANDS PROGRAM	X		NO	NO	MANGROVES/WETLANDS
	630	1035.2	318.28	2.3			X	NO	NO	MANGROVES/WETLANDS; OPEN WATER
	633	1035.7	318.78	0.8	REQUESTED FOR RELEASE BY OWNER		X	YES	NO	ADJACENT LAND USE IMPACTS
	FO-634	1035.5	318.58	2.3		X		YES	NO	MANGROVES/WETLANDS/AQUATIC
IV	635	1036.1	319.13	3.1			X	NO	NO	MANGROVES/WETLANDS
	FO 635-A	1036.1	319.18	3.3		X		YES	NO	MANGROVES - WEST EDGE
	636	1036.1	319.18	2.7			X	NO	NO	MANGROVES/WETLANDS
	FO 638-B	1036.6	319.68	5.6	LEASED TO CITY OF BOYNTON BEACH FOR REC'L OR MUNICIPAL PURPOSES	X		YES	NO	SMALL SITE ; PROXIMITY TO RESIDENTIAL AREA
	* FO 640	1037.4	320.48	3.0	LEASED TO TOWN OF GULFSTREAM FOR PRESERVATION	X		YES	NO	PRESERVATION AREA
	* FO 640-A	1037.4	320.48	4.1	LEASED TO TOWN OF GULFSTREAM FOR PRESERVATION	X		YES	NO	PRESERVATION AREA
	* FO 641-A	1038.0	321.08	11.5		X		YES	YES	GOOD SITE - MANGROVE ON EAST SIDE; 75% USEABLE
	642-A	1038.2	321.28	7.2			X	YES	NO	POSS. LAND TO SOUTH - MANGROVE EAST 1/2 ; QUESTIONABLE ACCESS
	FO 645-C	1038.8	321.88	2.4		X		YES	NO	POOR SITE; CONCURRENT WITH 645-D, EAST 1/2 MANGROVE, TIDAL INFLUENCE
	FO 645-D	1038.8	321.88	5.0		X		YES	NO	POOR SITE; CONCURRENT WITH 645-C, EAST 1/2 MANGROVE, TIDAL INFLUENCE
IV (cont.)	648-A	1040.0	323.08	1.4	NO.790 ON SHEET 75 & PB-35		X	NO	NO	ADJACENT LAND USE IMPACTS; OPEN WATER
	648-D	1040.0	323.08	6.6	NO 793 & 793E-2 ON SHEET 75		X	NO	NO	ADJACENT LAND USE IMPACTS; OPEN WATER
	FO 650	1040.8	323.88	4.1		X		YES	NO	TOO SMALL A SITE ; 1/2 WETLANDS WITH MANGROVE
	651	1041.2	324.28	4.0			X	YES	NO	OPEN WATER; POSS. MANGROVES; SMALL SIZE; ADJACENT LAND USE IMPACTS
	653-C1	1042.3	325.38	8.3			X	NO	NO	OPEN WATER; ADJACENT LAND USE IMPACTS
	FO 655-A	1043.4	326.48	4.5	NO.13700E	X		NO	NO	MANGROVES/WETLANDS/AQUATIC
	FO 656	1043.0	326.08	2.8	NO. 13606E SHEET 77; NOT ON FIND MAP; LEASED TO TOWN OF HIGHLAND BEACH FOR RECREATION AND CONSERVATION. PROPOSED FOR DEDICATION TO PALM BEACH COUNTY WILDERNESS ISLAND PROGRAM.	X		NO	NO	MANGROVES/WETLANDS/AQUATIC
	680	1044.2	327.28	7.0			X	NO	NO	MANGROVES/WETLANDS/AQUATIC
	* 684-A	1045.0	328.08	20.0	PART OF SPANISH RIVER PARK		X	YES	YES	GOOD SITE; EXOTIC VEGETATION
	686	1045.4	328.48	1.0			X	NO	NO	MANGROVES/WETLANDS/AQUATIC
	687	1045.4	328.48	4.0			X	NO	NO	MANGROVES/WETLANDS/AQUATIC
	FO 690	1046.5	329.58	8.2	(PB-74) LEASED TO BOCA RATON FOR RECREATION AND CONSERVATION	X		YES	YES	POOR UPLAND ACCESS ; 40% MANGROVE
	694	1047.9	330.98	5.7	OPEN WATER		X	NO	NO	OPEN WATER; POSS. GRASS BEDS/MANATEES

FOOTNOTE: MSA NO.'S DESIGNATED WITH ' * ' ARE SUITABLE FOR DISPOSAL OF DREDGED MATERIALS.

TABLE OF CONTENTS
APPENDICES

FLORIDA INLAND NAVIGATIONAL DISTRICT - FIND
DISPOSAL SITE LISTING - FIND SITES
BCI PROJECT NO. 8119

DISPOSAL AREA	EST. TOTAL AREA (acres)	GROSS DISPOSAL AREA (acres)	BUFFER AREA (acres)	AVAIL. AREA (acres)	VOLUME OF DIKE (cy)	EST. EXISTING SURFACE ELEV. (ft-MSL)	DEPTH OF EXC. (ft)	VOL. OF COMPACTED EXC. SOIL (cy)	DEFICIENT FILL (cy)	DISPOSAL VOLUME CAPACITY (cy)
REACH II										
MSA 609.609A (secondary)	26.5	25.5	10.3	15.2	53,360	5	3.25	40770	12590	165380
MSA FD 610 and MSA FD 611A (primary)	26.1	24.5	11.5	13	58,330	4	2	17950	40380	108610
MSA FD 620B (primary)	14	14	6.6	7.4	31,890	11.5	6.5	31670	-	88405
REACH III b										
LW-9C (secondary)	13.8	12	-	12	N/A	0	N/A	N/A	N/A	20000+
LW-9A (secondary)	32.6	23	-	23	N/A	0	N/A	N/A	N/A	20000+
REACH IV										
MSA FD640/640A (secondary)	15	15	8	7	42,000	5	3	8800	33000	47000
MSA FD 641A (primary)	11.5	9.3	5	4.3	23100	5	3	6960	16140	33270
MSA 684A (primary)	20	19	8.9	10.1	43090	7.5	5.5	37690	5400	114590

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 609, [X] Easement, [ ] Ownership

Location: NE Quarter of NE Quadrant, Section 18, Range 43 E, Town. 41 S

Description: 200 x 1300' strip adjacent to ICW & MSA No. 609A

Engineering: Total Acreage: 6.5, Pumping Distance(ft) Min. 450, Max. _____

Pipeline (ICW) Access: Direct - no obstructions

Upland Access: Good - road on N. end that is 1/2 mi from US 1.

Surficial Soils: 80% ScB (St. Lucie Sand)

Misc.: Combined area w/ 609A is 26.53 Ac. - Good site

Environmental: Wetlands: Oxbow in N. half, fringe of mangroves in extreme southern

Wildlife Habitat: part; scrub-Fla. Mouse; Mangrove-Wading Birds; Oxbow-Manatee

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: Scrub-P-Derm; Mangroves and Oxbow FDER,COE,

Misc.: DNR, U.S. Coast Guard

Jupiter

Socio-Economic/Planning: Current Land Use (FLUCCS): 622(Mangrove);413(Sand Pine Scrub)

Planned Land Use: _____

Adjacent Land Use(s): Vacant (MSA 609A to the east) ICWW to West

Ownership: J. Corbally, J. Forman, P. Grace Zoning: R2

Assessed Value (tax records): $96,376 Apart of 23.58 Ac Parcel

Misc.: _____

W/609A Oxbow

Preliminary Site Characterization: X Potential Disposal Site of 6.5 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 609A, [X] Easement, [ ] Ownership
Location: NW Quarter of NW Quadrant, Section 17, Range 43 E, Town. 41 S
Description: Upland parcel adjacent to 609

Engineering: Total Acreage: 20.03, Pumping Distance(ft) Min. 850, Max. _____
Pipeline (ICW) Access: Good - provided MSA 609 is kept
Upland Access: Good - existing dirt road on N. edge is 1/2 mi from US 1
Surficial Soils: 90% ScB (St. Lucie Sand); 10% Tidal Swamp, Bassinger fine sand,
Misc.: QAB quartz ip saments (sand)

Environmental: Wetlands: may be mangroves in extreme south bordering ICW
Wildlife Habitat: 4-Petal Paw-Paw (endangered plant) known; R&E scrub species poss.
Surface Water: _____
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: Scrub - P-Derm; mangroves - FDER, COE, DNR
Misc.: Four - petaled Paw Paw known on site; may be transplanted?
(Jupiter)

Socio-Economic/Planning: Current Land Use (FLUCCS): 413 (Sand Pine); 622 (Mangrove)
Planned Land Use: _____
Adjacent Land Use(s): Residental to South, vacant to E, W, N
Ownership: John Corbally, J. Furman, P. Grace Zoning: R2
Assessed Value (tax records): $1,187,200 A part of a 22.4 Ac Parcel
Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 20 Acres
[ ] Little Potential Disposal Site Due to _____
[ ] No Potential Disposal Site Due to _____
[X] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O 610, [ ] Easement, [X] Ownership

Location: NW Quarter of SW Quadrant, Section 17, Range 43 E, Town. 41 S

Description: Small trapezoidal upland, heavily vegetated area

Engineering: Total Acreage: 5.79, Pumping Distance(ft) Min. 400', Max. _____

Pipeline (ICW) Access: Good - no obstructions

Upland Access: Poor - housing around all land sides

Surficial Soils: 70% QAB (Sands) 10% PCB Paola fine sand, 20% Tidal Swamp sand

Misc.: Adjacent to FU 611A

Environmental: Wetlands: Maybe small fringe of mangrove on ICW

Wildlife Habitat: Scrub/ruderal vegetation - probably low wildlife value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: If mangroves present: DER, COE, DNR, P-Derm

Misc.: for scrub - P-Derm

(Jupiter)

Socio-Economic/Planning: Current Land Use (FLUCCS): 622(mangrove); 413(sand pine)

Planned Land Use: Recreation Leased to Jupiter for recreation

Adjacent Land Use(s): Housing to North, F.O. 611-A to EIS, ICWW to West

Ownership: May have released some to City - check Zoning: A1

Assessed Value (tax records): Combined w/F.O. 611A

Misc.: Find Ownership (tax records)

Preliminary Site Characterization: X Potential Disposal Site of 5.8 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 611-A, [ ] Easement, [X] Ownership

Location: NE Quarter of SW Quadrant, Section 17, Range 43 E, Town. 41 S

Description: Large upland area adjacent to ICW, 3 1/2 ac. at S. edge of parcel is cleared and being used recreation facility by City of Jupiter. Area has building on it. Still owned by FIND.

Engineering: Total Acreage: 20.29, Pumping Distance(ft) Min. 500, Max. _____

Pipeline (ICW) Access: Good - no obstruction

Upland Access: Good - available at S end - 3000' N. of US 1

Surficial Soils: 90±% fine to silty sand (QAB & PcB)

Misc.: Excellent Rating w/F.O.-610

Environmental: Wetlands: May be narrow fringe of mangroves, especially in SW Corner

Wildlife Habitat: Some scrub in NE, SE corner cleared - little value to wildlife

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: Mangrove; DER, COE, DNR, P-Derm scrub,P-Derm

Misc.: Appears to be minimal environmental impact W FO-610

(Jupiter)

Socio-Economic/Planning: Current Land Use (FLUCCS): 622(Mangrove), 413(Scrub), 179

Planned Land Use: _____ (recreational) leased to town to Jupiter for Jup.

Adjacent Land Use(s): Housing to N, E, S./ICWW to W

Ownership: FIND Zoning: A1

Assessed Value (tax records): $2,746,800 Combined w/FO 610 for Total of 25.2 ac

Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 20.3 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 620B, [ ] Easement, [X] Ownership

Location: SE Quarter of SE Quadrant, Section 32, Range 43 E, Town. 41 S

Description: Rectangular parcel on e. shore ICW, with park facilities (Juno Park)

Engineering: Total Acreage: 13.97, Pumping Distance(ft) Min. 650, Max. _____

Pipeline (ICW) Access: Good - No obstructions

Upland Access: Excellent - Ellison-Wilsa Road adjacent east

Surficial Soils: Excellent - 60% All: Arents (SP) 40% PcB Paola fine sand (SP)

Misc.: About 7.7 acres undeveloped - No adjacent lands available for expansion

Environmental: Wetlands: None apparent

Wildlife Habitat: about 40% cleared - park facilities, remainder appears to be disturbed uplands

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: None

Misc.: Good site from environmental standpoint

County

Socio-Economic/Planning: Current Land Use (FLUCCS): Juna Park built w/out FIND Auth.

Planned Land Use: Park?

Adjacent Land Use(s): Housing to N, S, E/ICWW to west

Ownership: FIND Zoning: RM (Palm Bch. Co.)

Assessed Value (tax records): $2,539,879

Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 14 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, high Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-9C, [X] Easement, [ ] Ownership

Location: SE Quarter of NE Quadrant, Section 10, Range 43 E, Town. 44 S

Description: Rectangular 1000' x 600' water body adjacent to and east of ICW. Contains some vegetated small islands on west and south borders.

Engineering: Total Acreage: 13.8, Pumping Distance(ft) Min. 750', Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor - none

Surficial Soils: N/A - water depth 0 - 6'

Misc.: _____

Environmental: Wetlands: Aquatic; likely mangroves on 5 small islands

Wildlife Habitat: possible manatees; wading birds may utilize islands

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water / Some very small Islands

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water (spoil islands nearby)

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-9A , [X] Easement, [ ] Ownership

Location: SE Quarter of SE Quadrant, Section 10 , Range 43 E, Town. 44 S

Description: Water body with unnamed island. Abuts on S.E. to S.R. A1A.
Approximately 1000' x 2100'

Engineering: Total Acreage: 32.6, Pumping Distance(ft) Min. 800', Max. _____

Pipeline (ICW) Access: Excellent - little to no obstruction

Upland Access: Good - abuts S.R. A1A on W. side

Surficial Soils: Water body except at S.E. corner. Depth 0'-3' There it is Cc

Misc.: May be a good location. (Canaveral fine sand - SP)

Environmental: Wetlands: Aquatic; Mangroves on islands and adjacent to A1A

Wildlife Habitat: Possible manatee, wading birds may utilize islands

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DNR, DER, P-DERM, SFWMD

Misc.: May be grass beds in shallows but not obvious on photo

Socio-Economic/Planning: Current Land Use (FLUCCS): Water and Island (Govt Lot 6)

Planned Land Use: _____

Adjacent Land Use(s): Water / SE Corner runs parallel to SR A1A

Ownership: Town of Palm Bch. (Island Portion) Zoning: _____

Assessed Value (tax records): 3 Ac Upland $846,000

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water (spoil island contained, upland access)

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O 640, [ ] Easement, [X] Ownership

Location: NE Quarter of SE Quadrant, Section 4, Range 43 E, Town. 46 S

Description: Small upland parcel adjacent to and West of ICW, leased to town of Gulfstream for preservation. Borders 640-A

Engineering: Total Acreage: 3.0, Pumping Distance(ft) Min. _____, Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Good - borders road to S., accessible to US 1

Surficial Soils: AX-100% - fine sand w/ some surficial organics.

Misc.: Too small, even with 640-A. Maybe combine with land to west?

Environmental: Wetlands: None

Wildlife Habitat: Half cleared; half Casuarina Forest - low value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: N/A

Misc.: Excellent site environmentally

County

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: Preservation - leased to town of Gulfstream

Adjacent Land Use(s): Residential to S./Vacant to W. & N. (FO 640A) ICWW to E.

Ownership: FIND Zoning: RM (Palm Bch. Co)

Assessed Value (tax records): $1,020,960 (comb. w/FO 640A)

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to _____

[X] Potential Trade Value, 3.0 Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 640A, [ ] Easement, [X] Ownership

Location: NE Quarter of SE Quadrant, Section 4, Range 43 E, Town. 46 S

Description: Small upland parcel with pipeline access to ICW, adjacent to #640

Engineering: Total Acreage: 4.1, Pumping Distance(ft) Min. 650', Max. _____

Pipeline (ICW) Access: Good - Parcel provides direct access to ICW on N. end

Upland Access: Good - Road on S. Border with access to US 1

Surficial Soils: AX - Surficial sands with organics

Misc.: See note on 640

Environmental: Wetlands: None

Wildlife Habitat: Half cleared, half forested mainly by Casuarina - low value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: N/A

Misc.: Excellent site

County

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: Preservation - leased to town of Gulfstream

Adjacent Land Use(s): Residential to N. & S./Vacant to W./ICWW to W.

Ownership: FIND Zoning: RM (Palm Bch. Co.)

Assessed Value (tax records): combined with FO 640

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to _____

[X] Potential Trade Value, high Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 641A, [ ] Easement, [X] Ownership

Location: SW Quarter of SE Quadrant, Section 4, Range 43 E, Town. 46 S

Description: Upland parcel adjacent to (west of) ICW. Proposed trade to Seacrest Commercial Properties for other spoil site.

Engineering: Total Acreage: 11.48, Pumping Distance(ft) Min. 550, Max. _____

Pipeline (ICW) Access: Excellent - adjacent to ICW

Upland Access: Appear good - unable to confirm from aerial map/road map

Surficial Soils: AX - surficial fine sand with underlying organics

Misc.: _____

Environmental: Wetlands: Narrow fringe of mangroves along ICW

Wildlife Habitat: Low value for disturbed uplands; mangrove fringe may be utilized by wading buds

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: COE, DNR, DER, P-Derm

Misc.: Excellent site

Gulfstream

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: Prop. trade to Seacrest Commercial Properties for other spoil site

Adjacent Land Use(s): Resid. to N./Marina planned to S./Delray Swap-shop to W., ICWW E.

Ownership: FIND (now vacant) Zoning: RS (single family)

Assessed Value (tax records): $975,800

Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 11.5 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, high Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 684A, [X] Easement, [ ] Ownership

Location: NW Quarter of SW Quadrant, Section 9, Range 43 E, Town. 47 S

Description: Large upland parcel adjacent to (East of) ICW. Part of Spanish River Park. Some bathroom facilities on-site.

Engineering: Total Acreage: 20.0, Pumping Distance(ft) Min. 650, Max. _____

Pipeline (ICW) Access: Excellent to good

Upland Access: Good - near A1A. Easement or landowner permission required

Surficial Soils: 50% AU - sand, fine sand; 50% QAB sand (SP,SP/SM)

Misc.: _____

Environmental: Wetlands: None Obvious

Wildlife Habitat: minimal

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: N/A

Misc.: Excellent site

Boca Raton

Socio-Economic/Planning: Current Land Use (FLUCCS): Spanish River Park w/Parking lot

Planned Land Use: Park (same)

Adjacent Land Use(s): Park to S. & E./Spanish River Blvd. to N./ICWW to W.

Ownership: City of Boca Raton Zoning: PL (Public Lands)

Assessed Value (tax records): $18,095,357 include building

Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 20 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FLORIDA INLAND NAVIGATIONAL DISTRICT - FIND
DISPOSAL SITE LISTING - NONFIND SITES
BCI PROJECT NO. 8119

DISPOSAL AREA	EST. TOTAL AREA (acres)	GROSS DISPOSAL AREA (acres)	BUFFER AREA (acres)	AVAIL. AREA (acres)	VOLUME OF DIKE (cy)	EST. EXISTING SURFACE ELEV. (ft-MSL)	DEPTH OF EXC. (ft)	VOL. OF COMPACTED EXC. SOIL (cy)	DEFICIENT FILL (cy)	DISPOSAL VOLUME CAPACITY (cy)
REACH I										
BEACH SOUTH of JUPITER INLET (primary)	11	11	-	11	-	2 to -2	N/A	N/A	-	100,000
BEACH NORTH OF JUPITER INLET (secondary)	15	15	-	15	-	2 TO -2	N/A	N/A	-	100,000
REACH III a										
PEANUT ISLAND (primary)	77	10	-	10	36590	5	3	24150	12440	104145
BEACH SOUTH of PORT INLET (primary)	10	10	-	10	N/A	2 to -6	-	-		100,000
REACH III b										
DEEP HOLES in LAKE WORTH (primary)	5 to 20	5 to 20	-	5 to 20	N/A	0 to -20	-	-	N/A	20,000+
LAKE WORTH GOLF COURSE NORTH END (secondary)	97	8	4	4	10,000	5	2	N/A	N/A	20,000
LAKE WORTH GOLF COURSE SHORELINE (secondary)	80	4	-	4	N/A	0 to -3	0	0	0	10,000
REACH III c										
BOYNTON INLET BEACH	6	6	-	6	N/A	+2 to -2	N/A	N/A	N/A	30,000+

Secondary Site

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: MDA-2 FIND Site No. N/A , [X] COE Easement, [ ] Ownership

Location: _____ Quarter of _____ Quadrant, Section 30 , Range 43 E, Town. 40 S

Description: COE Beach disposal easement north of Jupiter Inlet entrance

Engineering: Total Acreage: 11± , Pumping Distance(ft) Min. 5000', Max. 7000'

Pipeline (ICW) Access: Pipeline crossing at Sta. 70+28 Alt P-1 to Beach

Upland Access: Across undeveloped land to west or up beach from South

Surficial Soils: Beach (BN)

Misc.: _____

Environmental: Wetlands: Open marine waters

Wildlife Habitat: Beach and Near-shore

Surface Water: Ocean; TIDAL

Ground Water: N/A

Archaeological/Historical Sites: N/C

Regulatory Authority/Permit Requirements: COE, DER, DNR, PDERM, USCG

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Beaches (710), Open Marine Waters

Planned Land Use: Beach Access, Recreation (551)

Adjacent Land Use(s): Residential and Park Areas

Ownership: TIIF Zoning: Upland

Assessed Value (tax records): Both sides of SR 707 400 ft. wide parcel S. of Bowling

Misc.: TIIF Deed #23851 Rock Condo $2,951,040

Preliminary Site Characterization: X Potential Disposal Site of 11± Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [X] Attached [ ] Available, Scale 1" = 400± ft.

N/A - Not Applicable N/C - Not Completed

Secondary Site

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

D/A-J-2 COE
Site Designation: D/A-J-3 FIND Site No. N/A, [X] Easement, [ ] Ownership

Location: SE Quarter of ____ Quadrant, Section 32, Range 43 E, Town. 40 S

Description: COE Beach Disposal Easement North of Jupiter Inlet entrance

---

Engineering: Total Acreage: 15±, Pumping Distance(ft) Min. 5000', Max. 10000'

Pipeline (ICW) Access: See MDA-2 at Sta. 70+28 Cut P-1 then down beach

Upland Access: See MDA-2

Surficial Soils: Beach (BN)

Misc.: Used by COE for previous dredging contracts

Environmental: Wetlands: Open marine waters

Wildlife Habitat: Beach and near shore

Surface Water: Ocean, TIDAL

Ground Water: N/A

Archaeological/Historical Sites: N/C

Regulatory Authority/Permit Requirements: COE, DER, DNR, PDERM, USCG

Misc.: ____

Socio-Economic/Planning: Current Land Use (FLUCCS): Beaches (710), Open Marine Waters

Planned Land Use: Beach Access, Recreation (551)

Adjacent Land Use(s): Residential

Ownership: Not Identified on Tax Rolls Zoning: N/A

Assessed Value (tax records): N/A

Misc.: ____

Preliminary Site Characterization: X Potential Disposal Site of 15± Acres

[ ] Little Potential Disposal Site Due to ____

[ ] No Potential Disposal Site Due to ____

[ ] Potential Trade Value, ____ Acres at Estimated $ ____/acre

Map/Aerial Photograph: [X] Attached [ ] Available, Scale 1" = 400± ft.

N/A - Not Applicable N/C - Not Completed

Primary Site

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: D/A-J-1 FIND Site No. N/A, [X] COE Easement, [ ] Ownership

Location: SW Quarter of _____ Quadrant, Section 32, Range 43 E, Town. 40 S

Description: COE Beach disposal area south of Inlet District disposal area, South of Jupiter Inlet entrance

Engineering: Total Acreage: 11±, Pumping Distance(ft) Min. 3500', Max. 5000'

Pipeline (ICW) Access: Via Inlet channel and MLW easement on beach

Upland Access: Via MLW easement to North

Surficial Soils: Beach (BN)

Misc.: _____

Environmental: Wetlands: Open Marine waters

Wildlife Habitat: Beach and Near-shore

Surface Water: Ocean and TIDAL

Ground Water: N/A

Archaeological/Historical Sites: N/C

Regulatory Authority/Permit Requirements: COE, DER, DNR, PDERM, USCG

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Beaches (710), Open Marine Waters (551)

Planned Land Use: Beach access, Recreation

Adjacent Land Use(s): Residential

Ownership: Palm Beach County Zoning: RS (Upland) PBC

Assessed Value (tax records): $2,298,000 upland 11.44 Ac

Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 11± Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [X] Attached [ ] Available, Scale 1" = 400± ft.

N/A - Not Applicable N/C - Not Completed

Alternate Sites

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: Prim. FIND Site No. Pea Isd., [ ] Easement, [ ] Ownership
Location: _____ Quarter of _____ Quadrant, Section 34, Range 43 E, Town. 42 S
Description: Peanut Island

Engineering: Total Acreage: 121.14, Pumping Distance(ft) Min. 1,500, Max. 13,500
Pipeline (ICW) Access: Direct from ICW
Upland Access: _____
Surficial Soils: QAB - Quartzipsamments, shaped
Misc.: _____

Environmental: Wetlands: 5% or less mangroves on W. side, 5% beach or intertidal zone
Wildlife Habitat: Mangroves and beach or intertidal zone valuable, rest is dominated
Surface Water: by Australian pine
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: DER, DNR, COE, P-DERM, SFWMD
Misc.: Other than small area (<10%) wetlands types, habitat value is minimal

Socio-Economic/Planning: Current Land Use (FLUCCS): _____
Planned Land Use: _____
Adjacent Land Use(s): Water
Ownership: Port of Palm Beach District Zoning: PC - planned com.
Assessed Value (tax records): $12,774,330
Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres
[ ] Little Potential Disposal Site Due to _____
[ ] No Potential Disposal Site Due to _____
[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [ ] Available, Scale 1" = _____ ft.

N/A - Not Applicable N/C - Not Completed

Primary Site - Reach III a.

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: Port of Palm Beach FIND Site No. N/A, [X] COE Easement, [ ] Ownership

Location: SE Quarter of ____ Quadrant, Section 34, Range 43 E, Town. 42 S

Description: COE Beach disposal area south of Palm Beach (N. Lake Worth) Inlet, used by COE for Port of Palm Beach projects

Engineering: Total Acreage: 10-15, Pumping Distance(ft) Min. 5000', Max. 8000'

Pipeline (ICW) Access: Via entrance channel

Upland Access: Via street along beach edge

Surficial Soils: Beach (BN)

Misc.: ____

Environmental: Wetlands: Open marine waters

Wildlife Habitat: Beach and Near shore

Surface Water: Ocean and TIDAL

Ground Water: N/A

Archaeological/Historical Sites: N/C

Regulatory Authority/Permit Requirements: COE, DER, DNR, PDERM, USCG

Misc.: ____

Socio-Economic/Planning: Current Land Use (FLUCCS): Beaches (710), Open Marine Waters

Planned Land Use: Beach Access, Recreation (551)

Adjacent Land Use(s): Residential

Ownership: Not Identified on Tax Rolls Zoning: N/A

Assessed Value (tax records): N/A

Misc.: ____

Preliminary Site Characterization: X Potential Disposal Site of 10-15 Acres

[ ] Little Potential Disposal Site Due to ____

[ ] No Potential Disposal Site Due to ____

[ ] Potential Trade Value, ____ Acres at Estimated $ ____/acre

Map/Aerial Photograph: [X] Attached [ ] Available, Scale 1" = 400± ft.

N/A - Not Applicable N/C - Not Completed

Secondary Site - Reach III b.

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: L.W. Golf Course FIND Site No. _____, [ ] Easement, [ ] Ownership

Location: _____ Quarter of _____ Quadrant, Section 15/32, Range 43 E, Town. 44 S

Description: Golf course area on west side of ICW

Engineering: Total Acreage: 97, Pumping Distance(ft) Min. 5000', Max. 10000'

Pipeline (ICW) Access: Via ICW

Upland Access: Via Golf Course property

Surficial Soils: AU - Arents - Urban

Misc.: Possible shoreline disposal or upland disposal at north end of Golf Course

Environmental: Wetlands: None

Wildlife Habitat: Minimal

Surface Water: N/C

Ground Water: N/C

Archaeological/Historical Sites: N/C

Regulatory Authority/Permit Requirements: DNR, COE, USCG, DER, PDERM

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): (172)

Planned Land Use: Recreation

Adjacent Land Use(s): Residential

Ownership: City of Lake Worth Zoning: Public & Open Space

Assessed Value (tax records): $446,920

Misc.: _____

Preliminary Site Characterization: Secondary Potential Disposal Site of 97 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [X] Attached [ ] Available, Scale 1" = 400± ft.

N/A - Not Applicable N/C - Not Completed

Primary Site - Reach III b.

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: Deep Holes FIND Site No. _____, [ ] Easement, [ ] Ownership

Location: NE/SE Quarter of _____ Quadrant, Section 3, Range 43 E, Town. 45 S

Description: Excavated holes in Lake Worth, West of ICW

Engineering: Total Acreage: 6-20, Pumping Distance(ft) Min. 3000', Max. 12000'

Pipeline (ICW) Access: Via ICW and Lake Worth

Upland Access: N/A

Surficial Soils: N/A

Misc.: Deep holes excavated for upland fill by others

Environmental: Wetlands: N/A

Wildlife Habitat: Estuary/Marine

Surface Water: Lake Worth

Ground Water: N/A

Archaeological/Historical Sites: N/C

Regulatory Authority/Permit Requirements: DNR, DER, COE, PDERM, USCG

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): 545 Open water

Planned Land Use: Recreation

Adjacent Land Use(s): Residential

Ownership: DNR Zoning: _____

Assessed Value (tax records): _____

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of 6-20 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [X] Attached [ ] Available, Scale 1" = 400± ft.

N/A - Not Applicable N/C - Not Completed

Primary Site - Reach III c.

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

South Lake Worth
Site Designation: Inlet FIND Site No. _____, [ ] Easement, [ ] Ownership

Location: SE Quarter of _____ Quadrant, Section 15, Range 43 E, Town. 43 S

Description: Beach disposal in area south of Inlet

Engineering: Total Acreage: 18±, Pumping Distance(ft) Min. 2500', Max. 5000'

Pipeline (ICW) Access: Via South Lake Worth Inlet

Upland Access: _____

Surficial Soils: Beach (BN)

Misc.: _____

Environmental: Wetlands: Open Marine Waters

Wildlife Habitat: Marine and Near shore

Surface Water: Ocean

Ground Water: N/A

Archaeological/Historical Sites: N/C

Regulatory Authority/Permit Requirements: COE, DER, DNR, PDERM, USCG

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Beaches (710), Open Marine Waters

Planned Land Use: Beach Disposal, Recreation (551)

Adjacent Land Use(s): Residential

Ownership: South Lake Worth Inlet District (18 Ac) Zoning: _____

Assessed Value (tax records): $1,647,172

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [X] Attached [ ] Available, Scale 1" = 400± ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O 605N, [ ] Easement, [X] Ownership

Location: SW Quarter of SW Quadrant, Section 31, Range 43 E, Town. 40 S

Description: Upland (60%±) and river water body (40%±), Uplands are mostly already developed. Fullerton Island (8.5± acres) recently released

Engineering: Total Acreage: 29.2, Pumping Distance(ft) Min. 900', Max. _____

Pipeline (ICW) Access: Good - no obstructions

Upland Access: Poor - unlikely to fill areas accessible to roads

Surficial Soils: on Fullerton Island: 80% AU - Arents (fine sand), 20% TM Tidal Marsh

Misc.: Note: Area planimetered, not from real estate maps peaty sands

Environmental: Wetlands: Mangrove and aquatic (50%±)

Wildlife Habitat: Possible Manatees; Mangrove recognized as good wildlife habitat

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM

Misc.: Filling of Mangrove and aquatic habitats always a permitting problem

Socio-Economic/Planning: Current Land Use (FLUCCS): Residential and Vacant Island

Planned Land Use: Residential

Adjacent Land Use(s): Residential

Ownership: 33 Lots - all private ownership Zoning: R3 & R1/Island = R1

Assessed Value (tax records): Approx. 33 residential lots approx. $100,000± each

Misc.: Island (11.9 ac) = $142,800

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Fully encroached, submerged

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND MSA No. 605S, [X] Easement, [ ] Ownership

Location: SE Quarter of NW Quadrant, Section 6, Range 43 E, Town. 41 S

Description: Trapezoidal parcel approximately 700' x 430' Upland, heavily vegetated

Engineering: Total Acreage: 24.9, Pumping Distance(ft) Min. 400, Max. _____

Pipeline (ICW) Access: Adjacent to ICW, west side

Upland Access: Good - adjacent to south of S.R. 706

Surficial Soils: AU - Arents - Urbanland Couplex Sandy fill

Misc.: _____

Environmental: Wetlands: Mangroves and aquatic (20%±)

Wildlife Habitat: minimal

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: COE, DNR, DER, P-DERM

Misc.: Due to disturbed nature of mangroves (ditched) and man-made aquatic environment permitting is possible. County Private buffer, retention pond

Socio-Economic/Planning: Current Land Use (FLUCCS): for waterway county park

Planned Land Use: Civic ctr on 3.8 ac. parcel park, see current L.V.

Adjacent Land Use(s): SR 706 to N.; Jonathan Landing to W&S; ICWW to East

Ownership: Palm Bch. Co./Jonathan Land. Prop. Assoc.* Zoning: RM/SE

Assessed Value (tax records): Total = $1,724,805

Misc.: Park = $1,560,000, Private buffer & retention & entrance = $375, Civic Center Parcel = $164,430

Preliminary Site Characterization: X Potential Disposal Site of 27.5 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed *See plats

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 607, [X] Easement, [ ] Ownership

Location: NE 1/2 Quarter of NE Quadrant, Section 7, Range 43 E, Town. 41 S

Description: Also, to the south, NE 1/4 of SE 1/4 S. 7 [East side of ICW] and NW 1/4 of SW 1/4 S.8, 2 parcels, nearly adjacent - north area is triangular, S. area is polygon, includes wetlands

Engineering: Total Acreage: 47.6, Pumping Distance(ft) Min. 650, Max. _____

Pipeline (ICW) Access: Adjacent to ICW - could use mosquito trenches.

Upland Access: 900' W. of US 1

Surficial Soils: Au, ScB, W, TM 80-90% Tidal Swamp

Misc.: _____

Environmental: Wetlands: Mangroves ditched for mosquito control; includes oxbow of crk

Wildlife Habitat: waterfowl, wading birds - potential for manatees in oxbow

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: FDER, SFWMD, COE, DNR, USCG, DER, P-DERM

Misc.: Mangrove forests highly protected

Socio-Economic/Planning: Current Land Use (FLUCCS): 622 (Mangrove), 544(Estuary)

Planned Land Use: _____

Adjacent Land Use(s): MacArthur Fndn. Commercial along N. half vacant S. half/ICW

Ownership: J.Corbally, J.Furman,P.Grace,Jupiter,PBC Zoning: C3 (N 1/2) R2 (S 1/2)

Assessed Value (tax records): Approx. = $1,208,645/(32.1 Ac upland)

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Environmental (mangroves, wetlands)

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 608, [X] Easement, [ ] Ownership

Location: NW Quarter of SE Quadrant, Section 8, Range 43 E, Town. 41 S

Description: Several small uplands islands adjacent to ICW and on interior of MSA607. Consists of the higher-elevation areas within the 607/608 area.

Engineering: Total Acreage: 6.2, Pumping Distance(ft) Min. 510, Max. _____

Pipeline (ICW) Access: Direct - no obstructions

Upland Access: Poor - must pass thru area 607, then 1000' from US 1

Surficial Soils: AU - Sandy soils/urban land arents

Misc.: _____

Environmental: Wetlands: Island areas mangrove, E. 1/3 mangrove; W 2/3 uplands

Wildlife Habitat: Mangroves-water birds -roostingect; uplands probably limited value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: FDER, SFWMD, COE, P-DERM, DNR

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): 622 (Mangrove); 191 (Undeveloped)

Planned Land Use: _____

Adjacent Land Use(s): MacArthur Foundation - 622 ac Vacant

Ownership: J. Corbally, J. Furman, P. Grace Zoning: R2

Assessed Value (tax records): $65,700

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Size, access, bird habitat adjacent to mangroves

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 614B, [ ] Easement, [X] Ownership
Location: NW Quarter of SE Quadrant, Section 20, Range 43 E, Town. 41 S
Description: Large Trapezoidal parcel adjacent to ICW

Engineering: Total Acreage: 30.15, Pumping Distance(ft) Min. _____, Max. _____
Pipeline (ICW) Access: _____
Upland Access: Poor - needs easement 700' N. (to residential area) or 1600' S. to Don.
Surficial Soils: 80% QAB and PhB Pomello fine to silty sand, 20% Sanibel w/surf. muck
Misc.: Similar land to S. and N. (see upland access) Good to excellent site-needs acc.

Environmental: Wetlands: Approx. 1/3 (West and Central) wetlands on Sanibel muck,ditch
Wildlife Habitat: Some scrub on east portion; wetlands
Surface Water: _____
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: Wetlands - DER, COE, DNR, SFWMD, P-Derm
Misc.: Upland - P-Derm

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant
Planned Land Use: _____
Adjacent Land Use(s): Vacant / ICW to West
Ownership: FIND Zoning: RS Palm Bch. Co.
Assessed Value (tax records): $3,286,350
Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres
[ ] Little Potential Disposal Site Due to Upland access and 2/3 wetlands
[ ] No Potential Disposal Site Due to _____
[X] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O 615D, [ ] Easement, [X] Ownership
Location: NE Quarter of NE Quadrant, Section 29, Range 43 E, Town. 41 S
Description: Small low-lying area approx. 500' E. of ICW shore, with pipeline access

Engineering: Total Acreage: 6.35, Pumping Distance(ft) Min. 1100, Max. _____
Pipeline (ICW) Access: Yes - along ditched easement approx. 35' wide x 500' long
Upland Access: Excellent - adjacent to road on E. and just S. of Donald Ross Road
Surficial Soils: 85% Sa - mucky sands, 15% PhB Pomello fine sand.
Misc.: Too small - if combined with 30 acre property adjacent to N. would be excellent

Environmental: Wetlands: About 4/5 of site appears to be wetlands ditched for mosquito
Wildlife Habitat: Wetlands and small area of scrub habitat in N. portion
Surface Water: _____
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: Wetlands - COE, FDER, DNR, SFWMD, P-DERM
Misc.: _____ Scrub (if present): P-DERM

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant
Planned Land Use: _____
Adjacent Land Use(s): Vacant
Ownership: FIND Zoning: RS (Palm Bch. Co.)
Assessed Value (tax records): $359,268
Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres
[ ] Little Potential Disposal Site Due to _____
[X] No Potential Disposal Site Due to Size, wetlands Possible easement for pipeline*
[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed *access to adj. sites

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O 617C, [ ] Easement, [X] Ownership

Location: SE Quarter of SE Quadrant, Section 29, Range 43 E, Town. 41 S

Description: Med-size site adjacent to ICW and ? Road

Engineering: Total Acreage: 9.5, Pumping Distance(ft) Min. 480, Max. _____

Pipeline (ICW) Access: Excellent - no obstructions

Upland Access: Excellent - adjacent to paved road on east side

Surficial Soils: 40% Pits (not apparent from FIND aerial) - 60% QAB silty sand

Misc.: Probably too small, Good site for sale or expansion (probably to east)

Environmental: Wetlands: none obvious

Wildlife Habitat: distrubed upland - minimal value to wildlife

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: None

Misc.: Disturbed upland character makes this site an excellent candidate

County

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: _____

Adjacent Land Use(s): Housing to North, Road to E., Vacant to South ICWW to W.

Ownership: FIND Zoning: RS (PB.Co)

Assessed Value (tax records): $1,035,500

Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 8.6 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, Approx. 8 ac.* Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [x] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed *Leave pipeline easement

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 619, [ ] Easement, [X] Ownership

Location: NE & NW Quarter of SE Quadrant, Section 32, Range 43 E, Town. 41 S

Description: Small rectangular parcel on W. bank of ICW

Engineering: Total Acreage: 5.10, Pumping Distance(ft) Min. 380, Max. _____

Pipeline (ICW) Access: Good - no obstructions

Upland Access: Adequate although paved road all around, residential area

Surficial Soils: 70% TM Mucky sand 30% PhB Pomello fine sand

Misc.: too small

Environmental: Wetlands: None obvious

Wildlife Habitat: disturbed upland with Casuarina - minimal habitat

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: None

Misc.: Doesn't appear to be any restrictive, environmental aspects

County

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: _____

Adjacent Land Use(s): Residential to N, W, S/ ICWW to E

Ownership: FIND Zoning: RS (Palm Bch. Co.)

Assessed Value (tax records): $479,400

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to too small

[X] Potential Trade Value, (High) 5.1 Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O 621, [ ] Easement, [X] Ownership

Location: NE Quarter of NE Quadrant, Section 5, Range 43 E, Town. 42 S

Description: Nearly square land parcel adjacent west ICW and to an inlet on the north

Engineering: Total Acreage: 2.3, Pumping Distance(ft) Min. 350, Max. _____

Pipeline (ICW) Access: Good - no obstruction

Upland Access: Poor - existing paved road through residential area

Surficial Soils: 100% AU Urban uplands - sand

Misc.: Much too small

Environmental: Wetlands: open water in northeast

Wildlife Habitat: open water, remainder ruderal uplands-low wildlife value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: open water: USCG, DNR,DER,COE,SFWMD

Misc.: Uplands appear to be good choice; avoid open water

County

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: _____

Adjacent Land Use(s): Residential to W./Marina to S./Water to N. & E.

Ownership: FIND Zoning: RS (Palm Bch. Co.)

Assessed Value (tax records): $300,000

Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 2.3 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 624, [X] Easement, [ ] Ownership

Location: SE Quarter of SE Quadrant, Section 5, Range 43 E, Town. 42 S

Description: Small parcel adj. to W. of ICW and N. of F.O. 624-E. From FIND aerial, appear that 70% cleared

Engineering: Total Acreage: 4.4, Pumping Distance(ft) Min. 450', Max. _____

Pipeline (ICW) Access: Good - no obstructions

Upland Access: Poor - must cross private land to get to street

Surficial Soils: 80% TM (Mucky sand) 10% AX-Sand w/ underlying organics, 10% QAB sand

Misc.: Per FIND staff: borders on MacArthur Fndn. land. May trade this and F.O. 624E for tract near Earman River, depending on our analysis.

Environmental: Wetlands: appears to be wetlands in N. half on TM soils

Wildlife Habitat: Much cleared-little value, small wetland area appears impacted

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: Wetlands; DER, COE, DNR, SFWMD, P-Derm

Misc.: Wetlands, if present, probably permittable; remainder of area of no environmental concern County

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: _____

Adjacent Land Use(s): Vacant to N., S. (624E) W., ICWW to E.

Ownership: John Corbally, et.al. Zoning: RS (Palm Bch. Co.)

Assessed Value (tax records): $500,000

Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 4.4 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O 624E, [ ] Easement, [ ] Ownership

Location: SE Quarter of SE Quadrant, Section 5, Range 43 E, Town. 42 S

Description: Small parcel adj. to and W. of ICW, and S. of MSA 624. From FIND aerial, appears that 100% cleared; possible low-lying area @ SE 1/8 of parcel

Engineering: Total Acreage: 2.3, Pumping Distance(ft) Min. 480, Max. _____

Pipeline (ICW) Access: Good - no obstructions

Upland Access: Poor - must cross privately owned land (check on land?)

Surficial Soils: 90% TM-Tidal Marsh, 10%, AX Arent (SP) sand, geotechnical

Misc.: See comment for MSA 624, too small, even with parcel 624

Environmental: Wetlands: no wetlands apparent - are cleared

Wildlife Habitat: entire site cleared - low wildlife value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: None

Misc.: few or no environmental constraints

County

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: Proposed for trade to McArthur Property for other spoil site

Adjacent Land Use(s): Marine to S., Vacant to N & W, ICWW to E.

Ownership: FIND Zoning: IL (Palm Bch. Co.)

Assessed Value (tax records): $425,799

Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 2.3 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, 2.3 Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 625B & 626B-ALT, [X] Easement, [ ] Ownership
Location: _____ Quarter of _____ Quadrant, Section _____, Range 43 E, Town. 42 S
Description: Waterbody in Lake Worth. In front of large hotel near intersection of ICW (north ditch) and Lake Worth

Engineering: Total Acreage: 20.6 , Pumping Distance(ft) Min. 2300 , Max. _____
Pipeline (ICW) Access: Poor from N. (no pipe easement) good from S. (across water)
Upland Access: Poor - no direct upland access to parcel, although US 1 is <1000' away
Surficial Soils: None
Misc.: The hotel would sue the District if they put spoil material here!

Environmental: Wetlands: All open water
Wildlife Habitat: Possible Manatee habitat
Surface Water: _____
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: COE, FDER, DNR, SFWMD, P-DERM, USCG
Misc.: oyster or grass beds? in any event, permitting may be formidable

Socio-Economic/Planning: Current Land Use (FLUCCS): 544 - Estuary
Planned Land Use: _____
Adjacent Land Use(s): Condos
Ownership: _____ Zoning: _____
Assessed Value (tax records): N/A
Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres
[ ] Little Potential Disposal Site Due to _____
[X] No Potential Disposal Site Due to Adjacent to existing marinas, envir. concerns
[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. LW-1, [X] Easement, [ ] Ownership

Location: E 1/2 of SE Quadrant, Section 9, Range 43 E, Town. 42 S

Description: 2866' X 1000' adjacent east of ICW. Water body.

Engineering: Total Acreage: 57.5, Pumping Distance(ft) Min. 700, Max. _____

Pipeline (ICW) Access: Excellent - no obstructions

Upland Access: Poor - parcel is on Lake Worth, water on all sides

Surficial Soils: N/A [None - water depth 1-4']

Misc.: _____

Environmental: Wetlands: All open water, appears to be grass beds on shoals in S. half

Wildlife Habitat: Manatees possible

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: Environmentally sensitive

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to 57.5 AC - open water; shoaling

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. LW-2 , [ ] Easement, [ ] Ownership

Location: _____ Quarter of _____ Quadrant, Section _____, Range 43 E, Town. 42 S

Description: Water body adjacent west of ICW and extending west to shore

Engineering: Total Acreage: 37.9, Pumping Distance(ft) Min. 750 , Max. _____

Pipeline (ICW) Access: Excellent - no obstructions

Upland Access: Poor - adjacent to residential area on west side

Surficial Soils: N/A - Water depth 2' - 7'

Misc.: _____

Environmental: Wetlands: All open water

Wildlife Habitat: Possible Manatee habitat

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-Derm, SFWMD

Misc.: Grass beds not apparent

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Housing

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Adjacent land impacts

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-3 , [X] Easement, [ ] Ownership

Location: SW Quarter of NW Quadrant, Section 22 , Range 43 E, Town. 42 S

Description: 2000' x 1000' water body adjacent to ICW on west side and approx. 20' from shore on east

Engineering: Total Acreage: 45.9 , Pumping Distance(ft) Min. 750' , Max. _____

Pipeline (ICW) Access: Excellent - no obstruction

Upland Access: Poor - not adjacent to shore

Surficial Soils: N/A water depth 4' - 6'

Misc.: Note - undeveloped property to west shown on FIND sheet PB-12 which, if purchased or if easement, might provide upland access

Environmental: Wetlands: Aquatic, probable grass beds

Wildlife Habitat: Manatee possible

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, DER, COE, DNR, P-DERM, SFWMD

Misc.: Grass beds may pose problems if extensive

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water (approx. 11 ac vacant parcel 20' to west)

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to Adjacent land impacts on north end

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-4 , [X] Easement, [ ] Ownership

Location: NW Quarter of NW Quadrant, Section 27 , Range 43 E, Town. 42 S

Description: 2000' X 1000' water body adjacent to ICW on W. side, approx. 450' from west shoreline

Engineering: Total Acreage: 45.9, Pumping Distance(ft) Min. 750 , Max. ____

Pipeline (ICW) Access: Excellent

Upland Access: Poor - no uplands adjacent

Surficial Soils: N/A water depth 2-8'; small E-W canal dredged for boats approx. 400' from N. end

Misc.: _____

Environmental: Wetlands: Aquatic; grass beds probably scattered throughout

Wildlife Habitat: Manatee possible

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: Extensive grass beds would complicate permitting

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to grass beds, permitting difficulties

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. LW-5 , [X] Easement, [ ] Ownership
Location: SE Quarter of SW Quadrant, Section 3 , Range 43 E, Town. 43 S
Description: 2000' X 1000' water body east of and adjacent to ICW. Approx. 3/4 mile S. of Lake Worth Inlet (and Peanut Island)

Engineering: Total Acreage: 45.9 , Pumping Distance(ft) Min. 750' , Max. _____
Pipeline (ICW) Access: Excellent - no obstruction
Upland Access: Poor - no uplands within 400' of site
Surficial Soils: N/A - water depth 7' - 8'
Misc.: _____

Environmental: Wetlands: Aquatic
Wildlife Habitat: Manatee possible
Surface Water: _____
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD
Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water
Planned Land Use: _____
Adjacent Land Use(s): Water
Ownership: _____ Zoning: _____
Assessed Value (tax records): N/A
Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres
[X] Little Potential Disposal Site Due to open water
[ ] No Potential Disposal Site Due to _____
[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-6, [X] Easement, [ ] Ownership

Location: NE Quarter of NW Quadrant, Section 10, Range 43 E, Town. 43 S

Description: 2000' X 1000' water body adjacent to (east of) ICW

Engineering: Total Acreage: 45.9, Pumping Distance(ft) Min. 750, Max. _____

Pipeline (ICW) Access: Excellent - no obstruction

Upland Access: Poor - no uplands within 300-400'

Surficial Soils: N/A - water depth 3-7'

Misc.: _____

Environmental: Wetlands: Aquatic

Wildlife Habitat: Manatee possible

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): _____

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Open water

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-6A, [X] Easement, [ ] Ownership

Location: SE Quarter of SW Quadrant, Section 10, Range 43 E, Town. 43 S

Description: 800' X 800' water body adjacent to and east of ICW

Engineering: Total Acreage: 14.7, Pumping Distance(ft) Min. 650', Max. _____

Pipeline (ICW) Access: Excellent - no obstructions

Upland Access: Poor - no adjacent uplands

Surficial Soils: N/A - water depth 3-5'

Misc.: _____

Environmental: Wetlands: Aquatic

Wildlife Habitat: Manatee possible

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-6B, [X] Easement, [ ] Ownership

Location: NW Quarter of SE Quadrant, Section 15, Range 43 E, Town. 43 S

Description: Approx. 1000' x 600' water body in Lake Worth

Engineering: Total Acreage: 13.8, Pumping Distance(ft) Min. 550, Max. _____

Pipeline (ICW) Access: Excellent - no obstruction

Upland Access: Poor - no adjacent wetlands

Surficial Soils: N/A - water depth 4' - 7'

Misc.: _____

Environmental: Wetlands: Aquatic

Wildlife Habitat: Manatee possible

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: No evidence of grass beds from photo

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-7, [X] Easement, [ ] Ownership
Location: W Quarter of SE Quadrant, Section 27, Range 43 E, Town. 43 S
Description: 4000' X 450' water body, parallel, adjacent to and east of the ICW, also parallel to and 100' west of Everglades Island

Engineering: Total Acreage: 41.3, Pumping Distance(ft) Min. 500, Max. _____
Pipeline (ICW) Access: Excellent
Upland Access: Poor
Surficial Soils: N/A - water depth 4' - 6'
Misc.: _____

Environmental: Wetlands: Aquatic
Wildlife Habitat: possible manatees
Surface Water: _____
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD
Misc.: No evidence of grass beds

Socio-Economic/Planning: Current Land Use (FLUCCS): Water
Planned Land Use: _____
Adjacent Land Use(s): Water
Ownership: _____ Zoning: _____
Assessed Value (tax records): N/A
Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres
[ ] Little Potential Disposal Site Due to _____
[X] No Potential Disposal Site Due to open land (note adjacent land use)
[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-8, [X] Easement, [ ] Ownership

Location: NW Quarter of SE Quadrant, Section 34, Range 43 E, Town. 43 S

Description: Water body adjacent to (east of) ICW and adjacent to Fisherman Island

Engineering: Total Acreage: 35.1, Pumping Distance(ft) Min. 600', Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor - adjacent to isolated island

Surficial Soils: N/A - water depth 0'-4'

Misc.: _____

Environmental: Wetlands: Aquatic; possible grass beds

Wildlife Habitat: possible manatees

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water and Vacant Island

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. LW-9, [X] Easement, [ ] Ownership

Location: SE Quarter of SE Quadrant, Section 3, Range 43 E, Town. 44 S

Description: Water body adjacent to (east of) ICW

Engineering: Total Acreage: 29.9, Pumping Distance(ft) Min. 700', Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor - no adjacent uplands

Surficial Soils: N/A - water depth 4'-5'

Misc.: very small island near south end

Environmental: Wetlands: Aquatic; mangroves likely on small island on S. end

Wildlife Habitat: Manatee possible; wading birds may make use of tiny island

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DNR, DER, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. LW-9BN, [X] Easement, [ ] Ownership

Location: NE Quarter of NE Quadrant, Section 10, Range 43 E, Town. 44 S

Description: Small (600' x 1000') water body adjacent to (east of) ICW

Engineering: Total Acreage: 13.8, Pumping Distance(ft) Min. 750, Max. _____

Pipeline (ICW) Access: Excellent 60

Upland Access: Poor - not adjacent to

Surficial Soils: N/A - water depth - up to 5' (sand bar on east side)

Misc.: _____

Environmental: Wetlands: Aquatic; possible grass beds on shoal on east side

Wildlife Habitat: Manatee possible

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: (Hunters Island)

Adjacent Land Use(s): Water / Small Island to South and Sandbar to East

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water adjacent to spoil island

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-9BS, [X] Easement, [ ] Ownership

Location: SE Quarter of NE Quadrant, Section 15, Range 43 E, Town. 44 S

Description: Water body west of and adjacent to ICW. Just west of "Ibis Isle"

Engineering: Total Acreage: 5.5, Pumping Distance(ft) Min. 450', Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor

Surficial Soils: N/A - water depth unknown (2'?)

Misc.: Too small, water only - recommend release

Environmental: Wetlands: Aquatic

Wildlife Habitat: Possible Manatees

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-10, [X] Easement, [ ] Ownership

Location: * Quarter of _____ Quadrant, Section _____, Range 43 E, Town. 44 S

Description: 2000' X 800' Water body E. of, adjacent to ICW. Abuts to golf course on E. Has one dock facility for hotel.

Engineering: Total Acreage: 36.7, Pumping Distance(ft) Min. 650', Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor - no public roads on east side

Surficial Soils: N/A water depth 1'-4'

Misc.: _____

Environmental: Wetlands: Aquatic

Wildlife Habitat: Possible manatees

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DRN, P-DERM, SFWMD

Misc.: Possible grass beds in shallows

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water / Public golf course and Condo to East

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water - adjacent land impacts

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

*At corner of Sections 14, 15, 22, 23

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. PL-643 , [X] Easement, [ ] Ownership

Location: SE Quarter of NE Quadrant, Section 23 , Range 43 E, Town. 44 S

Description: Pipeline easement to Atlantic Ocean. Crosses water and highway A1A.

Engineering: Total Acreage: 0.85, Pumping Distance(ft) Min. 1300', Max. _____

Pipeline (ICW) Access: Excellent - no obstructions to the easement

Upland Access: N/A

Surficial Soils: N/A - easement crosses urbanized land

Misc.: _____

Environmental: Wetlands: Aquatic and mangroves on west end

Wildlife Habitat: Possible manatees in aquatic portion; remainder urban, little

Surface Water: _____ wildlife value

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): _____

Planned Land Use: _____

Adjacent Land Use(s): _____

Ownership: Beach Point Condominim Corp. Zoning: _____

Assessed Value (tax records): N/A

Misc.: Approximately 12.6 Ac

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to not a disposal site.

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. LW-11, [X] Easement, [ ] Ownership

Location: SE Quarter of SE Quadrant, Section 22, Range 43 E, Town. 44 S

Description: Approx. 750' x 1100' water body, adjacent to and east of ICW

Engineering: Total Acreage: 18.6, Pumping Distance(ft) Min. 625, Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor - no contiguous uplands

Surficial Soils: N/A water depth Approx. 3'

Misc.: _____

Environmental: Wetlands: Aquatic

Wildlife Habitat: Possible Manatees

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. IW-12, [X] Easement, [ ] Ownership

Location: SW Quarter of NW Quadrant, Section 26, Range 43 E, Town. 44 S

Description: Water body east of and adjacent to ICW (2000' x 1000')

Engineering: Total Acreage: 45.9, Pumping Distance(ft) Min. 750', Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor

Surficial Soils: N/A water depth 4'-5'

Misc.: _____

Environmental: Wetlands: Aquatic

Wildlife Habitat: Possible Manatees

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. LW-13, [X] Easement, [ ] Ownership

Location: NW Quarter of NW Quadrant, Section 35, Range 43 E, Town. 44 S

Description: Water body, 2000' x 1000', adjacent to and east of ICW

Engineering: Total Acreage: 45.9, Pumping Distance(ft) Min. 750, Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor - None

Surficial Soils: N/A - water depth 4'-5'

Misc.: _____

Environmental: Wetlands: Aquatic

Wildlife Habitat: Possible Manatees

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. LW-14 , [X] Easement, [ ] Ownership

Location: ALL Quarters of NE Quadrant, Section 15 , Range 43 E, Town. 45 S

Description: Water body approx. 800' x 3000', adjacent to and east of ICW

Located just south of Hypoluxo Island

Engineering: Total Acreage: 55.1 , Pumping Distance(ft) Min. 650', Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor

Surficial Soils: N/A - water body 2'-7'

Misc.: _____

Environmental: Wetlands: Aquatic, possibly grass beds on shallows

Wildlife Habitat: Manatees possible

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: Grass beds, if extensive, would complicate permitting

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water, permitting

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. LW-14A , [X] Easement, [ ] Ownership

Location: SW Quarter of SE Quadrant, Section 15 , Range 43 E, Town. 45 S

Description: Small water body adjacent to and east of ICW and immediately south of the Boynton Inlet.

Engineering: Total Acreage: 4.8 , Pumping Distance(ft) Min. 650', Max. _____

Pipeline (ICW) Access: Excellent - no obstructions

Upland Access: Poor - not adjacent to land

Surficial Soils: N/A - water depth approx. 2'-5'

Misc.: Too small

Environmental: Wetlands: Aquatic; possibly, grass beds in west end

Wildlife Habitat: Manatees possible

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USGS, DER, COE, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Water (adjacent to LW-15)

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to open water, too small, grassbeds

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. LW-15, [X] Easement, [ ] Ownership

Location: SW Quarter of SE Quadrant, Section 15, Range 43 E, Town. 45 S

Description: Small water body adjacent to and east of ICW. Borders LW-14A on the north and residential area on the south.

Engineering: Total Acreage: 2.7, Pumping Distance(ft) Min. 650', Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Good - paved road adjacent to south

Surficial Soils: N/A - water depth approx. 2' ±

Misc.: Too small

Environmental: Wetlands: Aquatic; may be grass beds in western portion of site

Wildlife Habitat: Manatee possible

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Water

Planned Land Use: _____

Adjacent Land Use(s): Residential

Ownership: _____ Zoning: _____

Assessed Value (tax records): N/A

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Adj. land use, size, grass beds, disposal to bch

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 627-A, [ ] Easement, [X] Ownership

Location: SE Quarter of SW Quadrant, Section 22, Range 43 E, Town. 45 S

Description: Small (350' x 915') wetland area adjacent to (east of) ICW. Heavily vegetated (mangroves) - with mosquito control ditches.

Engineering: Total Acreage: 7.0, Pumping Distance(ft) Min. 700', Max. _____

Pipeline (ICW) Access: Good - across wetlands

Upland Access: Poor - no uplands directly adjacent, no easements

Surficial Soils: To: Tidal Swamp, Organic (silts and peats)

Misc.: Approved for donation to Palm Bch. County for Wilderness Islands Program

Environmental: Wetlands: Mangroves 90%, 10% aquatic (west end)

Wildlife Habitat: Manatees possible in aquatic; mangroves are valuable wildlife resource.

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: Mangrove forest always a formidable permitting effort

Ocean Ridge

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: Approved for Donation to Palm Bch. County Wilderness Island Program

Adjacent Land Use(s): Vacant / ICW to west

Ownership: FIND Zoning: PC (preservation/ conservation)

Assessed Value (tax records): $138,600

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Mangroves

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 630, [X] Easement, [ ] Ownership

Location: SE Quarter of SW Quadrant, Section 27, Range 43 E, Town. 45 S

Description: Small parcel, approx. 3/4 water body, 1/4 islet. Adjacent to and east of ICW.

Engineering: Total Acreage: 2.3, Pumping Distance(ft) Min. _____, Max. _____

Pipeline (ICW) Access: Good to excellent

Upland Access: Poor - parcel does not border on or have roadway access

Surficial Soils: AX - Arents (SP) with organic (PT) substratum

Misc.: Too small - water depth up to 7' in cove

Environmental: Wetlands: Aquatic 75%; mangrove/ruderal 25%

Wildlife Habitat: Manatees; mangrove habitat

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DNR, DER, P-DERM, SFWMD

Misc.: Mangroves "invaded" by Casuarina; may be permittable due to lowered value and small size.

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant Preservation/Water

Planned Land Use: Preservation

Adjacent Land Use(s): Vacant land S. (owned by City of Ocean Ridge)/Surrounded Water

Ownership: Pelican Cove Property Owners Zoning: RSF (single Fam. Res.)

Assessed Value (tax records): $27 for upland portion

Misc.: A part of Pelican Cove Preservation Area (10.39 ac)

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Mangrove, size

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 633, [X] Easement, [ ] Ownership

Location: SW Quarter of SW Quadrant, Section 27, Range 43 E, Town. 45 S

Description: Small area adjacent to (east of) ICW. Borders F.O. 634 to the south. Some standing water. Requested for release by owner.

Engineering: Total Acreage: 0.8, Pumping Distance(ft) Min. 350, Max. _____

Pipeline (ICW) Access: Good - across vegetation

Upland Access: Poor - borders undeveloped land to the E. Presently no easment to A1A

Surficial Soils: AX - sand with organic substrata

Misc.: Too small, even with parcel F.O. 634. However, purchase of this property and land to E. (all the way to A1A), might be an option if dredging is required nearby.

Environmental: Wetlands: Aquatic habitat on extreme west portion

Wildlife Habitat: Upland area dominated by Casuarina - low wildlife value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: Aquatic: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: Other than small aquatic habitat, the site is of low ecological value

Socio-Economic/Planning: Current Land Use (FLUCCS): Water / Vacant Land

Planned Land Use: _____

Adjacent Land Use(s): Fender parcel to E./Housing to N./ICW to W./Vac. to S. and E.

Ownership: Ocean Ridge Estates Zoning: RSF (single Fam. Res.)

Assessed Value (tax records): $44,000

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Adjacent land use, size

[X] Potential Trade Value, high Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 634, [ ] Easement, [X] Ownership

Location: SW Quarter of SW Quadrant, Section 27, Range 43 E, Town. 45 S

Description: Small islet, 70% land, Adjacent to (east of) ICW. Borders land to east Proposed for trade to Mr. Fender for other spoil site.

Engineering: Total Acreage: 2.3, Pumping Distance(ft) Min. 350', Max. _____

Pipeline (ICW) Access: Good to excellent

Upland Access: Poor - Borders undeveloped land to east. No easement or roads. A1A is approx. 1000' east

Surficial Soils: AX - sand with organic substata

Misc.: See note on FIND Site No. 633

Environmental: Wetlands: Aquatic on west, north, and east; some mangrove at south

Wildlife Habitat: possible manatees

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: Other than aquatic habitat, permitting may not be problematic

Socio-Economic/Planning: Current Land Use (FLUCCS): Water and Vacant Land

Planned Land Use: Proposed for trade to Mr. Fender for other spoil site

Adjacent Land Use(s): Fender property/Housing to S./ICW to W./Vacant to E./633 to N.

Ownership: FIND Zoning: RSF (single fam. res.)

Assessed Value (tax records): $66,550

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to mangroves/wetlands, aquatic

[X] Potential Trade Value, high Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 635, [X] Easement, [ ] Ownership
Location: NW Quarter of NW Quadrant, Section 34, Range 43 E, Town. 45 S
Description: Small sand parcel adjacent to (west of) ICW. East of F.O. 635A and north of 636 (all 3 parcels contiguous).

Engineering: Total Acreage: 3.05, Pumping Distance(ft) Min. 350, Max. _____
Pipeline (ICW) Access: Excellent
Upland Access: Poor - no roads adjacent. Need easement east of F.O. 635A
Surficial Soils: TM - Tidal Marsh - mucky, loamy sand (SP/SM)
Misc.: Might be suitable with F.O. 635A and 636, but still needs road access

Environmental: Wetlands: Mangroves (95%) with channel connecting ICW (5%)
Wildlife Habitat: Possible Manatees, mangroves considered valuable
Surface Water: _____
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: COE, DER, DNR, P-DERM, SFWMD
Misc.: Looks like good quality mangrove habitat

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant
Planned Land Use: High density residential (B.B.L.U. Plan) ICWW to E.
Adjacent Land Use(s): Commercial property to N./Vacant Land to W. & S. (636 and 635A)
Ownership: Wm. Koch et. al. Zoning: R3
Assessed Value (tax records): $21,291 (no Ac. given in tax records)
Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres
[ ] Little Potential Disposal Site Due to _____
[X] No Potential Disposal Site Due to Mangroves/wetlands
[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 635-A, [ ] Easement, [X] Ownership

Location: NE Quarter of NE Quadrant, Section 33, Range 43 E, Town. 45 S

Description: Small land parcel - adjacent to developed land N., W. and S. Adjacent to MSA parcels 635 and 636 to the east.

Engineering: Total Acreage: 3.3, Pumping Distance(ft) Min. 650, Max. _____

Pipeline (ICW) Access: Good - across parcel 635 or 636 (provided they are retained)

Upland Access: Poor - no roads in/out. Parking facilities adjacent to south and west.

Surficial Soils: Mu - Myakka sand (SP or SP/SM)

Misc.: See not for 635.

Environmental: Wetlands: 50% mangroves (east half)

Wildlife Habitat: Mangrove; adjacent uplands disturbed - probably low value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): _____

Planned Land Use: _____

Adjacent Land Use(s): _____

Ownership: Koch, Wm. F. Jr. Zoning: R3

Assessed Value (tax records): $21,291

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to mangroves

[X] Potential Trade Value, high Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 636, [X] Easement, [ ] Ownership
Location: NW Quarter of NW Quadrant, Section 34, Range 43 E, Town. 45 S
Description: Small land parcel adjacent to (west of) ICW. Bordered to N. by MSA-635 and to east by F.O.-635A. Parking facilities to south.

Engineering: Total Acreage: 2.7, Pumping Distance(ft) Min. 350, Max. _____
Pipeline (ICW) Access: Excellent
Upland Access: Poor
Surficial Soils: 60% TM - mucky sandy loam, 40% AX sand with muck substrata
Misc.: See note for 635

Environmental: Wetlands: 100% mangrove
Wildlife Habitat: valuable mangrove forest
Surface Water: _____
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: COE, DER, DNR, P-DERM, SFWMD
Misc.: Mangrove forest appears little disturbed - permitting may be difficult

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant land
Planned Land Use: High density residential (B.B. L.U. plan)
Adjacent Land Use(s): Condo's to S./Vac. to N. & W.(635 & 635A)/ICW to E.
Ownership: Wm Koch Zoning: RS
Assessed Value (tax records): $18,753 (no Ac. given in tax records)
Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres
[ ] Little Potential Disposal Site Due to _____
[X] No Potential Disposal Site Due to Mangroves
[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 638B, [ ] Easement, [X] Ownership

Location: NE Quarter of SE Quadrant, Section 33, Range 43 E, Town. 45 S

Description: Small upland parcel adjacent to and west of ICW, leased to City of Boynton Beach for recreational/municipal purposes

Engineering: Total Acreage: 5.49, Pumping Distance(ft) Min. 500', Max. _____

Pipeline (ICW) Access: Excellent - borders ICW

Upland Access: Excellent - borders Federal Highway (US 1)

Surficial Soils: 80% AX-Fine Sand overlying possible organics, 20% MU-Myakka fine sand

Misc.: Park area - too small, not likely

Environmental: Wetlands: Small aquatic habitat adjacent to ICW

Wildlife Habitat: Disturbed uplands - minimal value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: Aquatic - USCG, COE, DER, DNR, P-Derm

Misc.: Good site environmentally

Boynton Beach

Socio-Economic/Planning: Current Land Use (FLUCCS): Jaycee Park

Planned Land Use: Park -leased to City of Boynton Beach

Adjacent Land Use(s): Residential to N. & S./Fed. Hwy to West/ICWW to E.

Ownership: FIND Zoning: REC

Assessed Value (tax records): $569,957

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to _____

[X] Potential Trade Value, high Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

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Phone #	Phone #	
Fax #	Fax #	

FIND - Long-Range Dredged Ma
Intracoastal Waterway,

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 642A, [X] Easement, [ ] Ownership

Location: NW Quarter of NE Quadrant, Section 9, Range 43 E, Town. 46 S

Description: Heavily vegetated upland parcel adjacent to (West of) ICW

Engineering: Total Acreage: 7.2, Pumping Distance(ft) Min. 630', Max. _____

Pipeline (ICW) Access: Good - adjacent to ICW

Upland Access: Good - road directly west is 500' from US 1

Surficial Soils: 40% S.B (St. Lucie Sand [SP]); 40% Mu (Myakka Sand); 20% AX-Sand w/Or

Misc.: Too small - source undeveloped land adjacent south for expansion?

Environmental: Wetlands: Maybe mangroves adjacent to ICW

Wildlife Habitat: Uplands appear ruderel - probably of value only to urban-adapted species

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: If mangrove present - COE, DNR, DER, P-Derm

Misc.: Appears to be an excellent site environmentally

Delray

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: Proposed park site (Delray L.U. Plan)

Adjacent Land Use(s): Residential to N. & W. Mostly Vacant to S./ICWW to E.

Ownership: Barbara Yake Zoning: RM6 Annexed Delray

Assessed Value (tax records): 5.12 ac $1,228,784 12/88

Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 7.2 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, high Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O 645C, [ ] Easement, [X] Ownership

Location: SW Quarter of SE Quadrant, Section 9, Range 43 E, Town. 46 S

Description: Small land parcel adjacent to (East of) ICW. Abuts F.O. 645D to east heavily vegetated

Engineering: Total Acreage: 2.4, Pumping Distance(ft) Min. 350', Max. _____

Pipeline (ICW) Access: Excellent - borders the ICW

Upland Access: Excellent - provided F.O. 645D is also retained. To Andrew 8th St.

Surficial Soils: AX - Sand with underlying organics

Misc.: Even with F.O. 645D, parcel is small

Environmental: Wetlands: Possible mangrove fringe adjacent to ICW

Wildlife Habitat: Disturbed uplands - low value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: If mangrove - COE, DER, DNR, P-Derm

Misc.: Good site environmentally

Delray

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: Proposed Park Site (Delray L.U. Plan)

Adjacent Land Use(s): Residential to N. & S./Vacant (FO 645D) to E./ICWW to W.

Ownership: FIND Zoning: RIAA (single families)

Assessed Value (tax records): $505,050

Misc.: _____

w/645D

Preliminary Site Characterization: X Potential Disposal Site of 2.4 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, high Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 645D, [ ] Easement, [X] Ownership

Location: SE Quarter of SE Quadrant, Section 9, Range 43 E, Town. 46 S

Description: Small land parcel approximately 350' from ICW east shore, adjacent to F.O. 645C and Andrews Avenue

Engineering: Total Acreage: 5.0, Pumping Distance(ft) Min. 800', Max. _____

Pipeline (ICW) Access: Good - provided F.O. 645C is retained

Upland Access: Excellent - Andrews Avenue to 8th Street to US 1 or A1A

Surficial Soils: AX - sand with organic substata

Misc.: Small, even with F.O. 645C

Environmental: Wetlands: None

Wildlife Habitat: Disturbed uplands - high cover; value to urban species

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: N/A

Misc.: Excellent site

Delray

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: Proposed Park Site (Delray L.U. Plan)

Adjacent Land Use(s): Residential to N.,S., & E./Vacant Land (FO 645C) to W.

Ownership: FIND Zoning: R1AA (single fam. res)

Assessed Value (tax records): $503,000

Misc.: _____

w/645C

Preliminary Site Characterization: X Potential Disposal Site of 5.0 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, high Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 648A, [X] Easement, [ ] Ownership

Location: SW Quarter of SE Quadrant, Section 16, Range 43 E, Town. 46 S

Description: Very small water body adjacent to ICW and 648-D

Engineering: Total Acreage: 1.2, Pumping Distance(ft) Min. 250, Max. _____

Pipeline (ICW) Access: Excellent - no obstructions

Upland Access: Poor - no land

Surficial Soils: N/A - water depth 4'

Misc.: _____

Environmental: Wetlands: 100% aquatic

Wildlife Habitat: Possible manatee

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Marina Basin

Planned Land Use: Same

Adjacent Land Use(s): Marina / Residential / ICW

Ownership: _____ Zoning: RM-15

Assessed Value (tax records): _____

Misc.: Marina basin (see 648D)

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Adjacent land use, water

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 648-D, [X] Easement, [ ] Ownership

Location: SW Quarter of SE Quadrant, Section 16, Range 43 E, Town. 46 S

Description: Small water body adjacent to (east of) ICW and adjacent to 648-A. Large dock facilities along south and east borders.

Engineering: Total Acreage: 6.7, Pumping Distance(ft) Min. 500, Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Good - road at S.E. Corner

Surficial Soils: N/A - water depth to 4 feet

Misc.: _____

Environmental: Wetlands: 95% aquatic

Wildlife Habitat: Manatees possible; small upland area of low value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: COE, USCG, DNR, DER, P-DERM, SFWMD

Misc.: _____

Socio-Economic/Planning: Current Land Use (FLUCCS): Marina Basin

Planned Land Use: Same

Adjacent Land Use(s): Marina / Residential / ICW

Ownership: City of Delray Zoning: RM-15

Assessed Value (tax records): $2,590

Misc.: Marina Basin

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to open water, adjacent land use

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 650, [ ] Easement, [X] Ownership

Location: NE Quarter of SW Quadrant, Section 21, Range 43 E, Town. 46 S

Description: Mostly upland site adjacent to (West of) ICW. Small inlet on waterward side. Borders marina to north and buildings to south

Engineering: Total Acreage: 4.09, Pumping Distance(ft) Min. 450, Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Good - roadway (?) on S.E. corner

Surficial Soils: AU - 100% - Good - fine sand

Misc.: Probably small

Environmental: Wetlands: Basin adjacent to ICW

Wildlife Habitat: Disturbed - low value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: Aquatic; USCG, COE, DNR, DER, P-DERM

Misc.: Good site

Delray

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: Recreation Open Space (Delray L.U. Plan)

Adjacent Land Use(s): Residential to N. & S./Vacant to W./ICWW to E.

Ownership: FIND Zoning: CF (Community Facil.)

Assessed Value (tax records): None given in tax records

Misc.: _____

Preliminary Site Characterization: X Potential Disposal Site of 4.1 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, high Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 651, [X] Easement, [ ] Ownership

Location: NE Quarter of NW Quadrant, Section 28, Range 43 E, Town. 46 S

Description: Small parcel approx. 1/2 land and 1/2 water, adjacent to ICW. Includes land eastbound lanes of C.R. 782 bridge (extends north to the section boundary).

Engineering: Total Acreage: 4.0, Pumping Distance(ft) Min. 400, Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Excellent - road at south boundary

Surficial Soils: On - surficial peat/organics underlain by sand (SP/SM)

Misc.: Too small

Environmental: Wetlands: 1/2 aquatic; 1/2 wetland, possibly mangrove

Wildlife Habitat: Possible manatees; if mangroves present high wildlife value

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: Poor site environmentally

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant

Planned Land Use: Recreation Open Space (Delray L.U. Plan)

Adjacent Land Use(s): Bridge to N./Resident. & Commercial to W./ICW to E.

Ownership: Mike Blank Zoning: R1AA annexed in Del.

Assessed Value (tax records): $82,795.00

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to open water, environm, size, adj. land use south

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 653-C1, [X] Easement, [ ] Ownership

Location: NE Quarter of NW Quadrant, Section 33, Range 43 E, Town. 46 S

Description: Tropic Isle Harbor - Circular man-made cove. Parcel extends to 50 feet from shore. Connected to ICW by COE pipeline easement.

Engineering: Total Acreage: 8.3, Pumping Distance(ft) Min. 750, Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor

Surficial Soils: N/A - water depth to 6 feet

Misc.: _____

Environmental: Wetlands: 100% Aquatic

Wildlife Habitat: Possible manatees

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: _____

Delray

Socio-Economic/Planning: Current Land Use (FLUCCS): Marina Basin

Planned Land Use: Same

Adjacent Land Use(s): Condos

Ownership: Tropic Isle Harbor Plat Zoning: R1AAA

Assessed Value (tax records): _____

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Adjacent land use, open water

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 655-A, [ ] Easement, [X] Ownership
Location: NE Quarter of NW Quadrant, Section 4, Range 43 E, Town. 47 S
Description: Wetland parcel east of and adjacent to ICW with mosquito control ditches.

Engineering: Total Acreage: 4.5, Pumping Distance(ft) Min. 450, Max. _____
Pipeline (ICW) Access: Good - minimal obstruction by vegetation
Upland Access: Poor - no adjacent roadways or easements
Surficial Soils: TO - organic tidal swamp, mostly peat and silts
Misc.: Undeveloped land adjacent on all sides for expansion.

Environmental: Wetlands: 65% mangrove forest, 15% aquatic
Wildlife Habitat: manatees possible, mangroves valuable habitat, remainder casuarina
Surface Water: _____
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD
Misc.: Approx. 80% wetland types, even though mangroves are ditched, permitting will be difficult.

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant
Planned Land Use: _____
Adjacent Land Use(s): Vacant to S., E., and N. (under litigation)/ICW to W.
Ownership: FIND Zoning: GSD (Govt Srv. Dist.)
Assessed Value (tax records): $24,000.00
Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres
[ ] Little Potential Disposal Site Due to _____
[X] No Potential Disposal Site Due to Aquatic, wetlands
[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 656, [ ] Easement, [X] Ownership

Location: _____ Quarter of _____ Quadrant, Section 33, Range 43 E, Town. 46 S

Description: Wetland area east of and adjacent to ICW. Mosquito ditched. Leased to Town of Highland Beach for recreation/conservation.

Engineering: Total Acreage: 2.8, Pumping Distance(ft) Min. 300', Max. _____

Pipeline (ICW) Access: Good - no obstructions

Upland Access: Poor - no adjacent roads

Surficial Soils: TM - Tidal swamp mucky to peaty sand

Misc.: Too small by itself, adjacent lands are also wetland.

Environmental: Wetlands: 75% mangrove, 25% aquatic

Wildlife Habitat: potential manatees, mangrove valuable for a variety of wildlife

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: Permitting will be difficult

Location unknown

Socio-Economic/Planning: Current Land Use (FLUCCS): _____

Planned Land Use: _____

Adjacent Land Use(s): _____

Ownership: _____ Zoning: _____

Assessed Value (tax records): _____

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Aquatic/mangroves

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 680, [X] Easement, [ ] Ownership

Location: SW Quarter of SW Quadrant, Section 4, Range 43 E, Town. 47 S

Description: Wetland area adjacent to (west of) ICW. Mosquito control ditched.

Engineering: Total Acreage: 7.0, Pumping Distance(ft) Min. 350, Max. _____

Pipeline (ICW) Access: Excellent - no obstructions

Upland Access: Poor - no roads

Surficial Soils: TO - Tidal swamp - peats and silts

Misc.: Part of area provides access to new dock facility to west.

Environmental: Wetlands: 80% mangrove, 20% aquatic

Wildlife Habitat: manatees, valuable mangrove forest

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: Difficult permitting

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant (preservation)

Planned Land Use: Same

Adjacent Land Use(s): Vacant to N. & W./Housing to S./ICW to E.

Ownership: Boca Marina Homeowners Assoc. Zoning: R3E-R1B

Assessed Value (tax records): $62.00

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[ ] Little Potential Disposal Site Due to _____

[X] No Potential Disposal Site Due to Aquatic/wetland

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 686, [X] Easement, [ ] Ownership
Location: NW Quarter of NW Quadrant, Section 16, Range 43 E, Town. 47 S
Description: Very small triangular-shaped parcel west of and adjacent to ICW, and adjacent to MSA 687

Engineering: Total Acreage: 1.0, Pumping Distance(ft) Min. 300, Max. _____
Pipeline (ICW) Access: Good
Upland Access: Good - road adjacent to north - thru residential
Surficial Soils: Peaty sands - about 1/2 of the area is water
Misc.: Too small

Environmental: Wetlands: 95% mangrove or open water
Wildlife Habitat: Good wildlife habitat
Surface Water: _____
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD
Misc.: Difficult permitting

Socio-Economic/Planning: Current Land Use (FLUCCS): _____
Planned Land Use: _____
Adjacent Land Use(s): _____
Ownership: Frank Sawyer Zoning: _____
Assessed Value (tax records): $48,000
Misc.: 1 acre

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres
[ ] Little Potential Disposal Site Due to _____
[X] No Potential Disposal Site Due to Aquatic/mangroves wetlands
[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 687, [X] Easement, [ ] Ownership
Location: NE Quarter of NE Quadrant, Section 17, Range 43 E, Town. 47 S
Description: Upland and water (50-50±) parcel adjacent to (west of) ICW. Borders residential to north and west.

Engineering: Total Acreage: 4.0, Pumping Distance(ft) Min. 300, Max. _____
Pipeline (ICW) Access: Excellent
Upland Access: Excellent - roads adjacent north and west
Surficial Soils: AU - fine sand (SP, SP/SM)
Misc.: Too small - no room for expansion on west side ICW nearby.

Environmental: Wetlands: 90% mangrove or open water
Wildlife Habitat: Good wildlife habitat
Surface Water: _____
Ground Water: _____
Archaeological/Historical Sites: _____
Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD
Misc.: Difficult permitting

Boca Raton

Socio-Economic/Planning: Current Land Use (FLUCCS): Vacant
Planned Land Use: _____
Adjacent Land Use(s): Residential to N., S., and W./ICW to E.
Ownership: Frank Sawyer Zoning: R1B (residential)
Assessed Value (tax records): $145,985.00
Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres
[ ] Little Potential Disposal Site Due to _____
[X] No Potential Disposal Site Due to aquatic, mangroves
[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre
Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. F.O. 690, [ ] Easement, [X] Ownership

Location: NE Quarter of NE Quadrant, Section 20, Range 43 E, Town. 47 S

Description: Upland parcel adjacent to ICW on West side. At south end of Lake Wyman. Leased to Boca Raton for recreation and conservation. [Lake Wyman Park]

Engineering: Total Acreage: 8.2, Pumping Distance(ft) Min. 600, Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor - no roads, low land to immediate west

Surficial Soils: 90% AU - fine sand, 10% Tidal marsh (along S. edge)

Misc.: _____

Environmental: Wetlands: 10% mangrove or open water

Wildlife Habitat: Mangrove and aquatic valuable; 90% of site is Casuarina

Surface Water: dominated and of low value

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: Wetlands - COE, DER, DNR, P-Derm

Misc.: Majority of site is disturbed; small areas of wetland habitat should be permittable Boca Raton

Socio-Economic/Planning: Current Land Use (FLUCCS): Lake Wyman Park-Conservation Area

Planned Land Use: Recreation/Conservation (same)

Adjacent Land Use(s): Water to N. & E./Vacant land to W. & S.

Ownership: FIND Zoning: PL (Public Lands)

Assessed Value (tax records): 8.21 ac = $533,650; SM Parcel to E. = $80,906 (not shown as separate parcel on aerials)

Misc.: (poor upland access)

Preliminary Site Characterization: X Potential Disposal Site of 8.2 Acres

[ ] Little Potential Disposal Site Due to _____

[ ] No Potential Disposal Site Due to _____

[X] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Long-Range Dredged Material Management Plan
Intracoastal Waterway, Palm Beach County

Preliminary Disposal Site Evaluation

Site Designation: _____ FIND Site No. 694, [X] Easement, [ ] Ownership

Location: SE Quarter of NE Quadrant, Section 29, Range 43 E, Town. 47 S

Description: Water body approx. 500' x 500'. In Lake Boca Raton.

Engineering: Total Acreage: 5.7, Pumping Distance(ft) Min. 500, Max. _____

Pipeline (ICW) Access: Excellent

Upland Access: Poor - none available

Surficial Soils: N/A - water depth approx. 4 feet

Misc.: Approx. 3000 feet from Boca Raton Inlet.

Environmental: Wetlands: 100% aquatic; possibly grass beds in eastern half

Wildlife Habitat: Possible manatees

Surface Water: _____

Ground Water: _____

Archaeological/Historical Sites: _____

Regulatory Authority/Permit Requirements: USCG, COE, DER, DNR, P-DERM, SFWMD

Misc.: If grass beds or oyster beds are present, permitting will be more difficult.

Socio-Economic/Planning: Current Land Use (FLUCCS): Water (center of Lake Boca Raton)

Planned Land Use: _____

Adjacent Land Use(s): Water

Ownership: _____ Zoning: _____

Assessed Value (tax records): _____

Misc.: _____

Preliminary Site Characterization: _____ Potential Disposal Site of _____ Acres

[X] Little Potential Disposal Site Due to open water (poss. grass beds, manatee)

[ ] No Potential Disposal Site Due to _____

[ ] Potential Trade Value, _____ Acres at Estimated $ _____/acre

Map/Aerial Photograph: [ ] Attached [X] Available, Scale 1" = ±400 ft.

N/A - Not Applicable N/C - Not Completed

FIND - Palm Beach County
BCI File 8119

TABLE 1

Plant Species Commonly Encountered on FIND Sites

Scientific Name	Common Name
Abrus precatorius	Rosary pea
Asimina tetramera	Four-petal pawpaw
Avicennia germinans	Black mangrove
Blechnum serrulatum	Swamp fern
Caesalpinia bonduc	Gray nicker
Casuarina equisetifolia	Australian pine
Ceratiola ericoides	Rosemary
Chiococca alba	Snowberry
Coccoloba uvifera	Sea grape
Conocarpus erecta	Buttonwood
Cuscuta sp	Dodder
Cynanchum anqustifolium	Cynanchum
Ficus aurea	Strangler fig
Laguncularia racemosa	White mangrove
Lyonia ferruginea	Rusty lyonia
Myrica cerifera	Wax myrtle
Nephrolepis cordifolia	Boston fern
Ochrosia elliptica	Ochrosia
Panicum maximum	Guineagrass
Papaya carica	Papaya
Parthenocissus quinquefolius	Virginia creeper
Paspalum vaginatum	Seaside paspalum
Persea borbonia	Red bay
Phoenix reclinata	Phoenix palm
Pinus clausa	Sand pine
Pospalum rotatum	Bahia gras
Psychotria nervosa, P. sulzneri	Wild coffee
Quercus chapmanii	Chapman's oak
Quercus geminata	Sand live oak
Quercus laurifolia	Laurel oak
Quercus myrtifolia	Myrtle oak
Quercus virginiana	Live oak
Rhizophora mangle	Red mangrove
Rhoeo discolor	Oyster plant
Rhynchelytrum repens	Natal grass
Rivina humilis	Rouge plant
Sabal palmetto	Cabbage palm
Schefflera actinophylla	Schefflera
Schinus terebinthefolius	Brazilian pepper
Serenoa repens	Saw palmetto
Smilax auriculata	Greenbrier

TABLE 1
(Continued)

Plant Species Commonly Encountered on FIND Sites

Scientific Name	Common Name
Smilax bona-nox	Catbrier
Sporobolus virginicus	Dropseed
Stenotaphrum secundum	St. Augustine grass
Terminalia catappa	Tropical almond
Thevetia peruviana	Lucky nuts
Toxicodendron radicans	Poison ivy
Vitis munsoniana	Muscadine grape
Wedelia trilobata	Wedelia
Zanthoxylum fagara	Wild lime

FIND - Palm Beach County
BCI File 8119

MSA 609/609A (Combined)

MSA 609 and 609A are located approximately at ICW mile 268 within the northern portion of Reach II of the Palm Beach County ICW. The total land area of these two combined disposal areas is approximately 28 acres. These two sites are located on the eastern side of the ICW with the western property boundary being formed by the shoreline of the ICW channel. The combined areas are primarily upland land areas with some jurisdictional or transitional acreage immediately adjacent to the ICW right-of-way. The eastern boundary of MSA 609A is located approximately 2500 feet west of US Highway 1. Current access to the property is via an unimproved roadway that is located along the northern boundary of the section line for Section 17. No known public easement or right of way is available for access from US 1 to the boundary of MSA's 609 and 609A.

According to the USDA Soil Conservation Report for Palm Beach County, the near surface soils of 609 and 609A consist primarily of SCB (St. Lucie sand) with minor amounts of QAB (quartzipsamments) and TM (tidal swamp - mineral).

The ground surface elevations for these two contiguous sites is approximately 5 feet MSL as estimated from the USGS quadrangle map for this area. The ground water table is estimated to be a elevation 2 feet MSL.

The predominant plant community on both sites is Coastal Scrub as shown in Figure B-12. Site 609 contains fringes of Mangrove and Estuary. Characteristic plants of the coastal scrub include sand pine, sand live oak, myrtle oak, chapman's oak, and rosemary. Four-petal paw paw is also reported for this area.

This is considered an endangered plant by the Florida Committee on Rare and Endangered Plants and Animals (FCREPA) and threatened on the U.S. Fish and Wildlife list as reported in the Federal Register (9/86). The mangrove fringes likely contain red, black, and white mangroves. The estuarine area appears unvegetated based upon examination of aerial photos.

Deleting the probable jurisdictional or near shoreline areas, primarily in MSA 609, the available gross land area for upland disposal in these two areas is estimated to be 25 acres. Reducing the available storage to allow for a minimum 100 foot buffer around the disposal area, the available area for dike construction and dredge materials is reduced to approximately 15 acres.

A sketch of the available area and assumed dike geometry is shown in Figure B-2. The depth of excavation for construction of the dike is estimated to be 3 feet (approximately +2 feet MSL). Constructing the dike to the maximum area available and to the excavated depths of approximately 3 feet below existing grade, there is a deficit of fill materials of about 12,500 cubic yards for dike construction. The resulting maximum volume for dredge material handling in these combined areas is estimated to be 165,000 cubic yards.

Disposal areas MSA 609 and 609A are located in a portion of the Reach II that appears to have no immediate dredging history. As discussed in MSA 605S, minor dredging efforts may be required at cut P17 with quantities estimated to be less than 1,000 yards. Shoaling in the vicinity of cut P25 (1.7 miles to the south) and cut P27 (3.2 miles to the south) would generate quantities of about 40,000 cubic yards including a bulking factor of 2 and

overdredging for each dredging event.

Portions of MSA 609 and 609A have been included in a recent study identifying desirable scrub habitat in the Palm Beach County area. Thus, utilization of these sites for upland disposal may, in fact, require significant mitigation for upland scrub habitat for the endangered four-petal pawpaw (Asimina tetramera). In addition, due to the lack of public easement to the property, additional land easements would have to be acquired to obtain access for this site.

The upland nature of these sites and large size provide more than sufficient disposal capacity for the estimated quantities for dredged materials from central portion of the Reach II. It is our estimate that if all of Reach II was dredged simultaneously, the required disposal volume for this material would be on the order of 40,000 cubic yards per event.

Due to the lack of dredging history for Reach II, the frequency of future dredging is difficult to predict. However, realizing that this area was dredged to design grade approximately 28 years ago and shoaling has been observed in these areas up through 1987, it can be assumed that dredging of cuts P25, and P27 in Reach II would likely be required twice within the next 50 years. Once the spoiled dredged materials are fully drained, the resulting volume will be similar to the inplace dredged volume, which is estimated to be about 20,000 cubic yards for these cuts. Thus, the available storage MSA 609/609A appears to be adequate for at two or more dredging events without material rehandling.

FIND - Palm Beach County
BCI File 8119

MSA FO 610/FO 611A (Combined)

MSA FO 610 and 611A are located approximately at ICW mile 269 within the northern portion of Reach II of the Palm Beach County ICW. The total land area of these two combined disposal areas is approximately 26 acres. These two sites are located on the eastern side of the ICW with the western property boundary being formed by the shoreline of the ICW right-of-way. The combined areas are primarily upland land areas with some jurisdictional or transitional acreage immediately adjacent to the ICW right-of-way. The southern boundary of MSA FO 611A is located approximately 1000 feet north of the FIND offices on Marcinski Road. Current access to the property is via an improved roadway that is located near the southeast corner of MSA FO 611A.

According to the USDA Soil Conservation Report for Palm Beach County, the near-surface soils of 609 and 609A consist primarily of PCB (Paola sand) and QAB (Quartzipsamments) and minor amounts of TM (Tidal swamp-mineral). The groundwater table is estimated to be at 2 feet MSL.

The ground surface elevation for these two contiguous sites is estimated to be approximately 4 feet MSL as estimated from the USGS quadrangle map for this area.

The conspicuous plant community types of both sites are Other Hardwoods (Australian pine)/Xeric Oak and a fringe of Mangrove forest adjacent to the Intracoastal Waterway. As depicted in Figure B-13, the characteristic species of the first type are Australian pine, sand live oak, myrtle oak, chapman's oak and rosemary. Common components of the mangrove fringe are

red mangrove, black mangrove, white mangrove, buttonwood, and seaside paspalum in open areas.

Deleting the possible jurisdictional or near shoreline areas along the western edge of MSA FO 610/611A the available gross area for upland disposal in these two areas is estimated to be 25 acres. Reducing the available storage to allow for a minimum 100 foot buffer around the disposal area, the available area for dike construction and dredge materials is reduced to approximately 13 acres.

A sketch of the available area and assumed dike geometry is shown in Figure B-3. The depth of excavation for construction of the dike is estimated to be 2 feet or to approximately 2 feet MSL. Constructing the dike to the maximum area available and to the excavated depths of approximately 2 feet below existing grade, there is a deficit of fill materials for dike construction. The resulting volume for dredge material handling in these combined areas is estimated to be 109,000 cubic yards.

The disposal areas at FO 610 and 611A are located in a portion of the Reach II that appears to have no immediate dredging history. As discussed in MSA 605S, minor dredging efforts may be required at cut P17 with quantities estimated to be less than 1,000 yards. Shoaling in the vicinity of cut P25 (one mile to the south) and cut P27 (2.5 miles to the south) could generate quantities of about 40,000 cubic yards including a bulking factor of 2 and overdredging per dredging event.

The upland nature of these sites and large size provide more than sufficient disposal capacity for the estimated quantities for dredge materials in the Reach II area. Due to the

lack of dredging history for Reach II, the frequency of future dredging is difficult to predict. However, realizing that this area was dredged to design grade approximately 28 years ago and shoaling has been observed in these areas up through 1987, it can be assumed that dredging of Reach II would most likely be required at least two times within the next 50 years thus resulting in a maximum disposal volume need of approximately 80,000 cubic yards. Considering that the deposited sandy materials will drain to a volume similar to the dredged quantity between dredging events, MSA FO 610 and 611A appear to be of adequate size to handle the anticipated volume for dredged material for at least two dredging cycles of cut P25 and P-27 without material rehandling.

FIND - Palm Beach County
BCI File 8119

MSA FO 620B

MSA FO 620B is located approximately at ICW mile 272.5 within the southern portion of Reach II of the Palm Beach County ICW. The total land area of this disposal area is approximately 14 acres. This site is located on the eastern side of the ICW with the western property boundary being formed by the ICW right-of-way. The eastern boundary of MSA FO 620B is formed by Ellison Wilson Road. The area is currently leased to Palm Beach County for use as a Park (Juno Park), with approximately 6 acres of the park having been improved as baseball fields.

According to the USDA Soil Conservation Report for Palm Beach County, the near surface soils of MSA FO 620B consist primarily of AU (Arents-Urban land complex) and PcB (Paola Sand).

The ground surface elevation for this site is estimated to be approximately 10 to 12 feet MSL as estimated from the USGS quadrangle map for this area.

The following FLUCCS categories were observed: Other Hardwood (Live oak hammock), Xeric Oak, Scraped Areas, and Parks. The live oak hammock (Other Hardwoods) is characterized by live oak, cabbage palm, and strangler fig in the canopy. Typical understory taxa are saw palmetto, Boston fern, swamp fern, dodder, muscadine grape, guinea grass, and rosary pea. The Xeric Oak community is dominated by sand live oak, myrtle oak, chapman's oak, rusty lyonia, and rosemary. Associated with this community type is a small population of four-petal pawpaw (at least 3 individuals). Scraped areas are either barren or sparsely vegetated by a variety of weeds, especially natal grass.

The Parks "community" is a developed area with recreational facilities and hammock remnants and lawn areas planted with bahia grass. A vegetative cover map is shown in Figure B-16.

Even though this area is currently used as a park, the entire acreage of the site was considered available for a buffer zone and disposal area construction. Reducing the available storage to allow for a minimum 100 foot buffer around the disposal area, the available area for dike construction and dredge materials is approximately 7.5 acres.

A sketch of the available area and assumed dike geometry is shown in Figure B-6. The depth of excavation for construction of the dike is estimated to be 6.5 feet or to approximately 4 feet MSL. Constructing the dike to the maximum area available and to the excavated depths of approximately 6.5 feet below existing grade, adequate fill materials are available for dike construction. The resulting available volume for dredge material handling in this area is estimated to be 88,500 cubic yards.

The disposal area at MSA FO 620B is located in a portion of the Reach II were shoaling has been reported both to the north at cut P25 and P27 and to the south at cut P-31. Shoaling in the vicinity of cuts P25 (2 miles to the north), P27 (0.5 mile to the north), and P31 (2 miles to the south) could generate a quantity of about 50,000 cubic yards including a bulking factor of 2 and overdredging, per dredging event.

The primarily upland nature of this site and its moderate size provide sufficient disposal capacity for the estimated quantities for dredge materials in the southern portions of Reach II. It is estimated that if the cuts of the southern portions of

Reach II are dredged simultaneously, the required disposal volume for this material would be on the order of 50,000 cubic yards per event. Due to the lack of dredging history for Reach II, the frequency of future dredging is difficult to predict. However, realizing that this area was dredged to design grade approximately 28 years ago and shoaling has been observed in these areas up through 1987 it can be assumed that dredging of Reach II would most likely be required at least two times within the next 50 years thus resulting in a total disposal volume need of approximately 110,000 cubic yards. Site MSA FO 620B appears to be of adequate size to handle the anticipated volume for dredged material for at least one dredging cycle for cuts P-25, P27 and P31.

Draining of materials after dredging is completed would result in volumes of materials being approximately equal to the inplace dredged volume (estimate 26,000 cy for P25, P27, and P-31). Thus about 62,500 cy yards of volume would be available after the first dredging event, a volume sufficient to handle a second dredging cycle disposal volume of 50,000 cy.

FIND - Palm Beach County
BCI File 8119

MSA FO 640/640A WITH EXPANSION

MSA FO 640/640A is located approximately at ICW mile 298.1 within the central portion of Reach IV of the Palm Beach County ICW. The total land area of the two MSA's and expanded disposal area is approximately 15 acres. This site is located on the western side of the ICW with the eastern property boundary being formed by the shoreline of the ICW channel. The area is primarily upland with some jurisdictional or transitional acreage immediately adjacent to the ICW right-of-way. The western boundary of this area is located at US Highway 1 (Federal Highway). The property is bounded by residential property to the north. The expanded area for this site is a vacant 8 acre lot west of FO 640A.

According to the USDA Soil Conservation Report for Palm Beach County, the near surface soils of 640/640A consist primarily of AX (Arents-Urban land complex).

The ground surface elevations for this site is estimated to be approximately 5 feet MSL as estimated from the USGS quadrangle map for this area.

Based on aerial photos, three communities occur, Navigable waterway, Other Hardwoods (Australian pine), and Scraped Areas exist at MSA 641A. The small portion of Navigable Waterway on this site appears to support no vascular plants. Other Hardwoods is predominately vegetated with Australian pine and Brazilian pepper with some live and laurel oaks. Scraped areas are barren or vegetated by a variety of used forbs. The vegetative cover map for this area is shown in the appendix section.

The available gross area for upland disposal in this area is estimated to be 15 acres. Reducing the available storage to

allow for a minimum 100 foot buffer around the disposal area the available area for dike construction and dredge materials is reduced to approximately 8 acres.

A sketch of the available area and assumed dike geometry is shown in enclosed figure. The depth of excavation for construction of the dike is estimated to be 3 feet or to approximately 2 feet MSL. Constructing the dike to the maximum area available and to the excavated depths of approximately 3 feet below existing grade. There is a deficit of fill materials for dike construction of about 33,000 cy. The resulting available volume for dredge material handling in this area is estimated to be 46,700 cubic yards.

The disposal area at MSA FO 640/640A is located in a portion of the Reach IV that appears to have no recent dredging history or future dredging requirements. Dredging of cut P-50 (5 miles to the north) will probably utilize beach disposal. The shoaling at cuts P87 and 88 is located about 9 miles to the south.

This area, though apparently viable for upland disposal of dredged materials, is in an area of the ICW where major dredging in the next fifty years will most likely not be required. However, because of its central location in Reach IV, it appears desirable to retain this site.

MSA 641A

MSA 641A is located approximately at ICW mile 298.7 within the central portion of Reach IV of the Palm Beach County ICW. The total land area of this disposal area is approximately 12 acres. This site is located on the western side of the ICW with the eastern property boundary being formed by the shoreline of the ICW channel. The area is primarily upland with some jurisdictional or transitional acreage immediately adjacent to the ICW right-of-way. The western boundary of MSA FO 614A is located approximately 700 feet east of US Highway 1 (Federal Highway). The property is bounded by private property to the west, however, there is an access easement to this site from US 1.

According to the USDA Soil Conservation Report for Palm Beach County, the near surface soils of 641A consist primarily of AX (Arents-Urban land complex) and SUB (Saint Lucie Urban land complex).

The ground surface elevations for this site is estimated to be approximately 5 feet MSL as estimated from the USGS quadrangle map for this area.

Based on aerial photos, four communities occur, Navigable waterway, Mangroves, Other Hardwoods (Australian pine), and Scraped Areas exist at MSA 641A. The small portion of Navigable Waterway on this site appears to support no vascular plants. Mangrove areas are dominated by red, black and/or white mangroves. Other Hardwoods is predominately vegetated with Australian pine and Brazilian pepper with some live and laurel oaks. Scraped areas are barren or vegetated by a variety of used

forbs. The vegetative cover map for this area is shown in Figure B-18.

Deleting the possible jurisdictional or near shoreline areas the available gross area for upland disposal in this area is estimated to be 9 acres. Reducing the available storage to allow for a minimum 100 foot buffer around the disposal area the available area for dike construction and dredge materials is reduced to approximately 4 acres.

A sketch of the available area and assumed dike geometry is shown in Figure B-8. The depth of excavation for construction of the dike is estimated to be 3 feet or to approximately 2 feet MSL. Constructing the dike to the maximum area available and to the excavated depths of approximately 3 feet below existing grade. There is a deficit of fill materials for dike construction of about 16,000 cy. The resulting available volume for dredge material handling in this area is estimated to be 33,000 cubic yards.

The disposal area at MSA FO 641A is located in a portion of the Reach IV that appears to have no recent dredging history or future dredging requirements. Dredging of cut P-50 (5 miles to the north) will probably utilize beach disposal. The shoaling at cuts P87 and 88 is located about 9 miles to the south.

This area, though apparently viable for upland disposal of dredged materials, is in an area of the ICW where major dredging in the next fifty years will most likely not be required. However, because of its central location in Reach IV, it appears desirable to retain this site.

MSA 684A

MSA 684A is located approximately at ICW mile 305.7 within the southern portion of Reach IV of the Palm Beach County ICW. The total land area of this MSA is approximately 20 acres. This site is located on the eastern side of the ICW with the western property boundary being formed by the right-of-way for the ICW channel. The area is primarily upland with possibly a narrow band of jurisdictional wetlands immediately adjacent to the waterway. The northern and eastern boundaries of MSA 684A are formed by Ocean Boulevard and SR 800, respectively. The site is currently leased to the County and known as Spanish Park.

According to the USDA Soil Conservation Report for Palm Beach County, the near-surface soils of MSA 684A consist primarily of AU (Arents Urban complex) and QAB (Quartzipsamments).

The ground surface elevations for the site are estimated to be approximately 7 to 8 feet MSL as estimated from the USGS quadrangle map for this area.

Two communities exist at 684A; other Hardwood (Australian pine) and Park. Exotics predominate in the Other Hardwoods area. Common species include Australian pine in the canopy and papaya, oyster plant, rouge plant, wild coffees, Ochrosia, lucky nuts, and schleffera in the understory. The Parks area is primarily lawn and picnic facilities. A vegetative cover map is shown in Figure B-19.

Reducing the available storage to allow for a minimum 100 foot buffer around the disposal area, the area available for dike

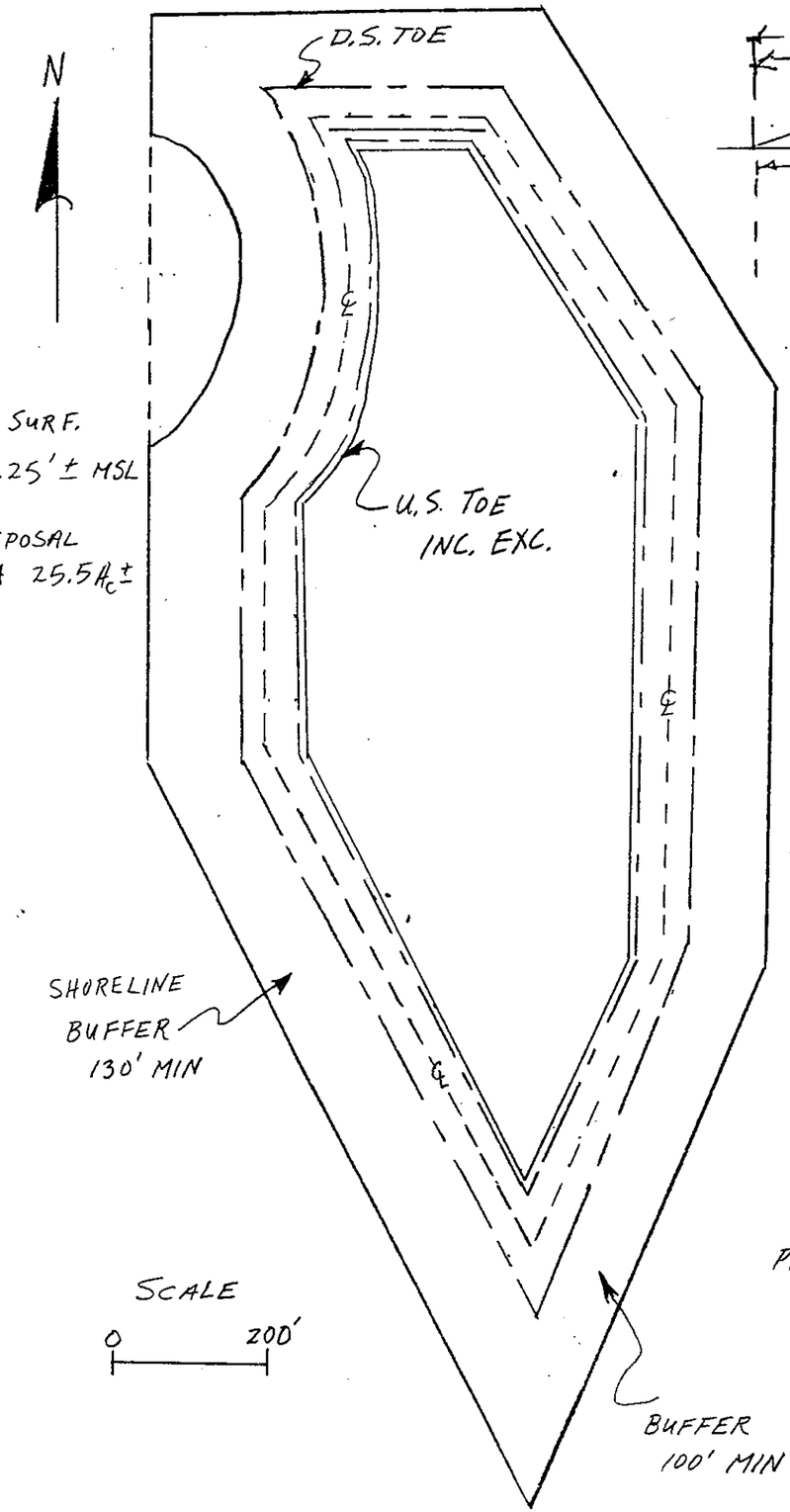
construction and dredge materials is reduced to approximately 10 acres.

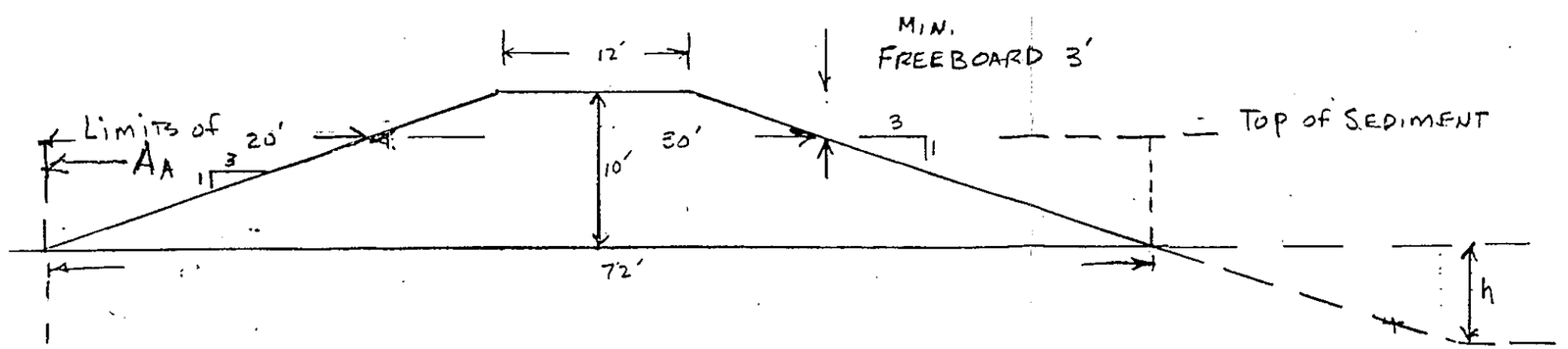
A sketch of the available area and assumed dike geometry is shown in Figure B-9. The depth of excavation for construction of the dike is estimated to be 5.5 feet or to approximately 2 feet MSL. Constructing the dike to the maximum area available and to the excavated depths of approximately 3 feet below existing grade there is a deficit of fill materials of about 5,000 cy for dike construction. The resulting available volume for dredge material handling in this area is estimated to be 115,000 cubic yards.

The disposal area at MSA 684A are located in a portion of the Reach II that appears to have no immediate dredging history or future dredging requirements. Cut P87 and P88, 2.5 miles to the south, may generate 1,000 cy or less of materials based on COE reconnaissance survey data. Review of aerial photograph reveals that some side-channel shoaling, at these cuts may generate considerably more dredged materials.

The upland nature of this site and its relatively large size provide more than sufficient disposal capacity for the estimated and possible quantities of dredge materials in the southern portion of Reach IV. Due to the uncertainties of dredged material quantities for cuts P-87 and P-88, this site should be retained in the inventory of candidate sites. Portions of the overall site could be used for small volumes of dredged materials, while the remainder of the area could continue to be used as a park.

MSA 609 & MSA 609A





A_D = CROSS SECTION AREA OF DIKE = $\frac{12+72}{2}(10) = 420$ CF/LF

VOLUME OF DIKE MATERIAL = $A_D * L = \frac{420 \text{ CF/LF} * 3430 \text{ FT}}{27 \text{ CF/CY}} = 53{,}360$ cy ✓

ASSUME L = LENGTH OF DIKE @ ℄ = 3430 FT.

VOLUME OF EXCAVATED MATERIAL FOR DIKE CONSTRUCTION

AREA AVAIL = A_A = TOTAL SITE − BUFFER

$A_A = 25.5 A_c \pm - 10.3 A_c \pm = 15.2 A_c \pm$ ✓

A_E = EXCAVATED AREA $\cong A_A - \frac{72+(72+3h)}{2}(L) = A_A - \left[144+3h\left(\frac{3430}{2}\right)\right] = 662{,}110 - 246960 - 5145h$ ✓

EXC. VOLUME OF MATERIAL FOR DIKE CONST.

$V_c = A_E * h = [415150 - 5145h]h$ Let $h = 3.25$ Ft. $V_c = 47{,}959$ cy ✓

ASSUME 15% SHRINKAGE FOR COMPACTION $V_c' = 40{,}770$ cy ✓

DEFICIENT IN EMBANKMENT FILL 53360 − 40770 = **12,590 cy** ✓

DISPOSAL VOL CAPACITY = Exc. Vol $(V_c) + \left[A_A(7) - \frac{72+50}{2}(7)L\right] = 47960 + [171660 \text{ cy} - 54240 \text{ cy}]$

= **165,380 cy** ✓ = DISPOSAL VOLUME CAPACITY

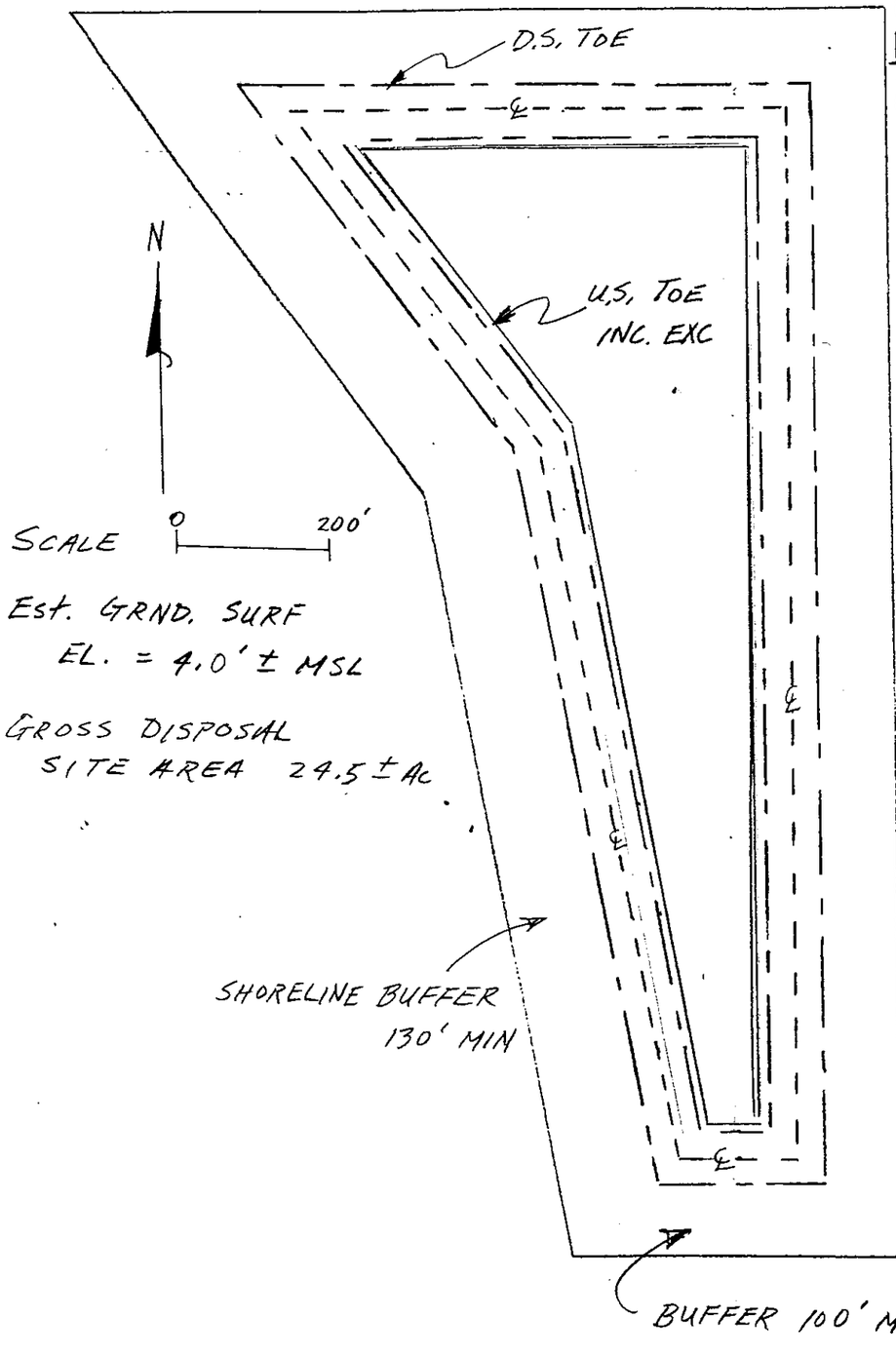
Planimeter AREA — US TOE = 10.2; FB LINE 12.4 / Avg 11.3

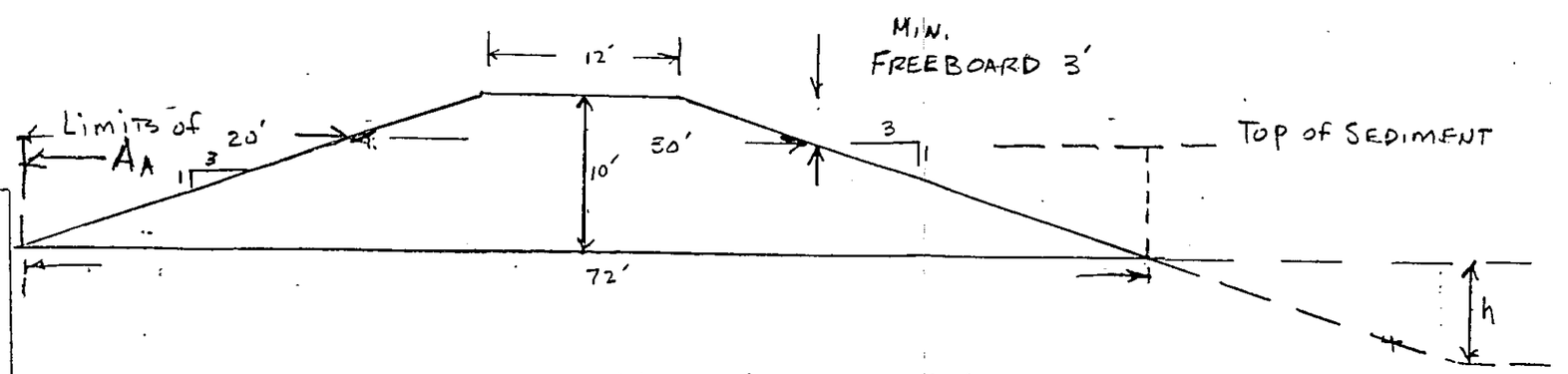
$\left(40{,}000 \frac{SF}{SQ.IN.} * 10.25 \text{ FT} \div 27 \frac{CF}{CY}\right)$

= 171,590 cy ✓

FIND-PALM BEACH
BCI 8119
B-2

MSA FO 610 & MSA FO 611A





A_D = CROSS SECTION AREA OF DIKE = $\frac{12+72}{2}(10) = 420$ CF/LF

VOLUME OF DIKE MATERIAL = $A_D * L = \frac{3750 * 420 \text{ CF/LF}}{27 \text{ CF/CY}} = 58,330$ CY

ASSUME L = LENGTH OF DIKE @ ℄ = 3750

h = EXCAVATION DEPTH

DISPOSAL AREA BOTTOM AT ≥ 2' MSL

VOLUME OF EXCAVATED MATERIAL FOR DIKE CONSTRUCTION

AREA AVAIL = A_A = TOTAL SITE − BUFFER

$A_A = 24.5$ AC ± − 11.5 ± = 13 Ac.

A_E = EXCAVATED AREA ≅ $A_A - \frac{72+(72+3h)}{2}(L) = A_A - \left[(144+3h)\left(\frac{3750}{2}\right)\right]$

$= 566,280' - 270,000' - 5625h' = 296280 - 5625h$

EXC. VOLUME OF MATERIAL FOR DIKE CONSTR.

$V_C = A_E * h = [296280 - 5625h]h$ let H = 2 FT.

$V_C = 21,113$ CY ASSUME 15% SHRINKAGE FOR COMPACTION $V_C' = 17,950$

DEFICIENT IN EMBANKMENT FILL 58330 CY − 17950 CY = **40,380 CY**

DISPOSAL VOL CAPACITY = EXC. VOL(V_C) + $A_A(7) - \frac{72+50}{2}(7)L$

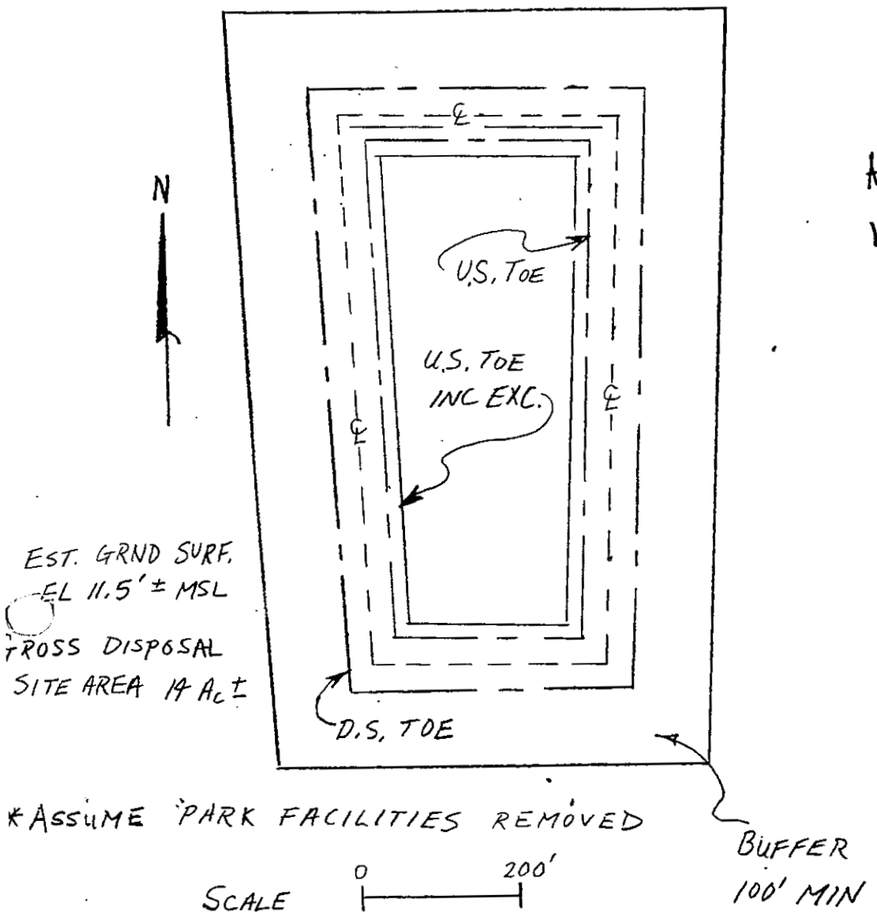
= 21,110 CY + 146,810 − 59310

= 108,610 CY

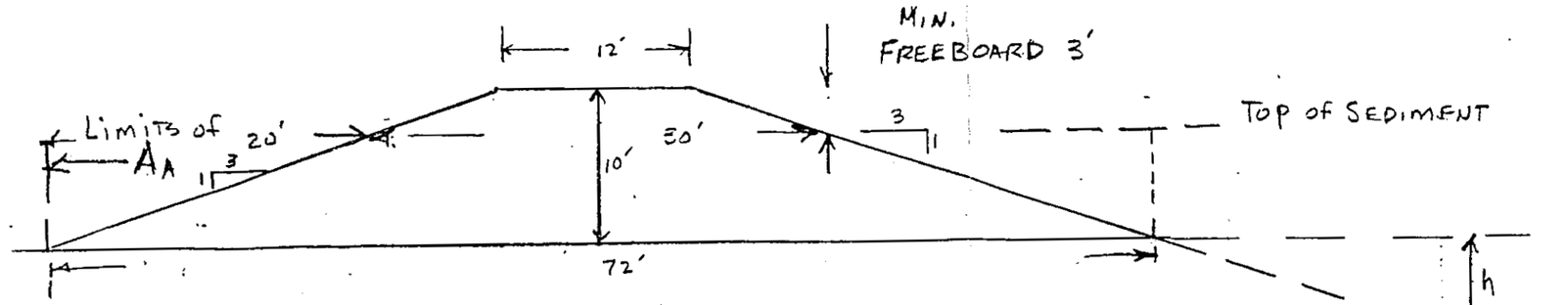
AVG. PLANIMETER AREA AT U.S. ℄ TOE = 8.35 SQ IN * 10,000 SF/SQ IN * 9 FT/27 CF/CY

FIND PALM BEACH
BCI · 8119
B-3

MSA FO - 620 B



*ASSUME PARK FACILITIES REMOVED



A_D = CROSS SECTION AREA OF DIKE = $\frac{12+72}{2}(10) = 420$ CF/LF

VOLUME OF DIKE MATERIAL = $A_D * L = \frac{420 \text{ CF/LF} * 2050 \text{ FT}}{27 \text{ CF/CY}} = 31{,}890$ CY

ASSUME L = LENGTH OF DIKE @ ℄ = 2050

VOLUME OF EXCAVATED MATERIAL FOR DIKE CONSTRUCTION

AREA AVAIL = A_A = TOTAL SITE − BUFFER

$A_A = 14\ A_c \pm - 6.6\ A_c \pm = 7.4\ A_c \pm$

A_E = EXCAVATED AREA $\cong A_A - \left[\frac{72+(72+3h)}{2}(L)\right] = A_A - \left[(144+3h)\frac{2050}{2}\right] = 322340 - 147600 - 3075h$

EXC. VOLUME OF MATERIAL FOR DIKE CONST.

$V_c = A_E * h = [174{,}740 - 3075h]\,h$

Let $h = 6$ $V_c = 34\,731$ cy

ASSUME 15% SHRINKAGE FOR COMPACTION

$V_c' = 29\,520$

Let $h = 7$ $V_c = 39{,}722$ cy

$V_c' = 33{,}764$ cy

Let $h = 6.5$ $V_c = 37{,}255$ cy

$V_c' = 31\,670$ cy

DISPOSAL VOL. CAPACITY = D.V.C.

D.V.C. = EXC VOL (V_c) + $[A_A(7) - \frac{72+50}{2}(7')L]$

= 37255 cy + 83570 − 32420 cy

= 88405 cy

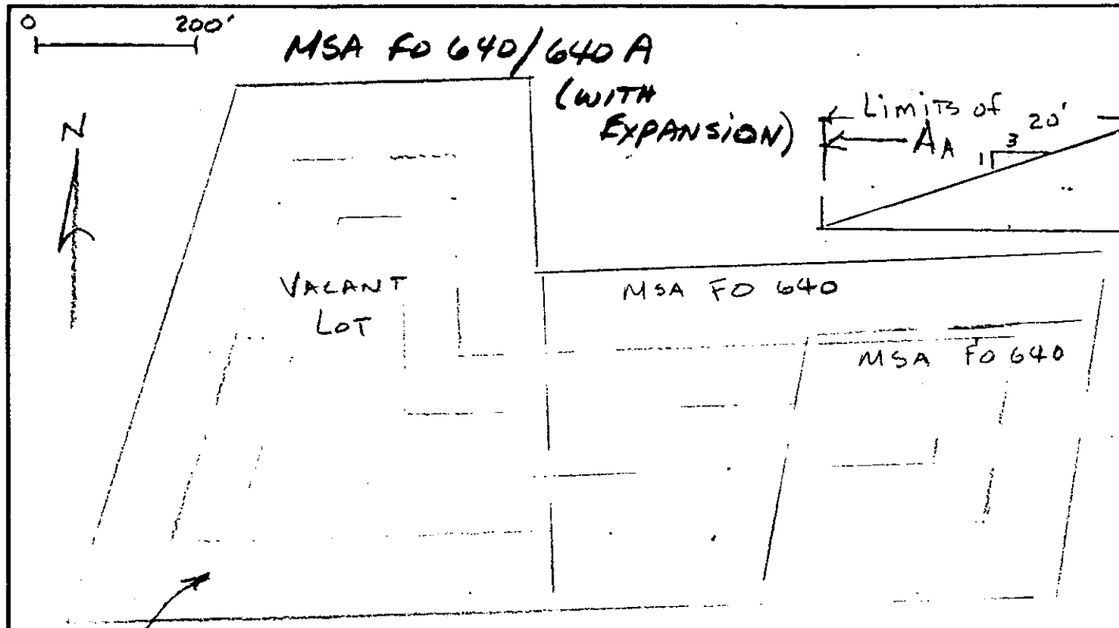
Planimeter

Area at Freeboard Line = 5.3 SQ IN

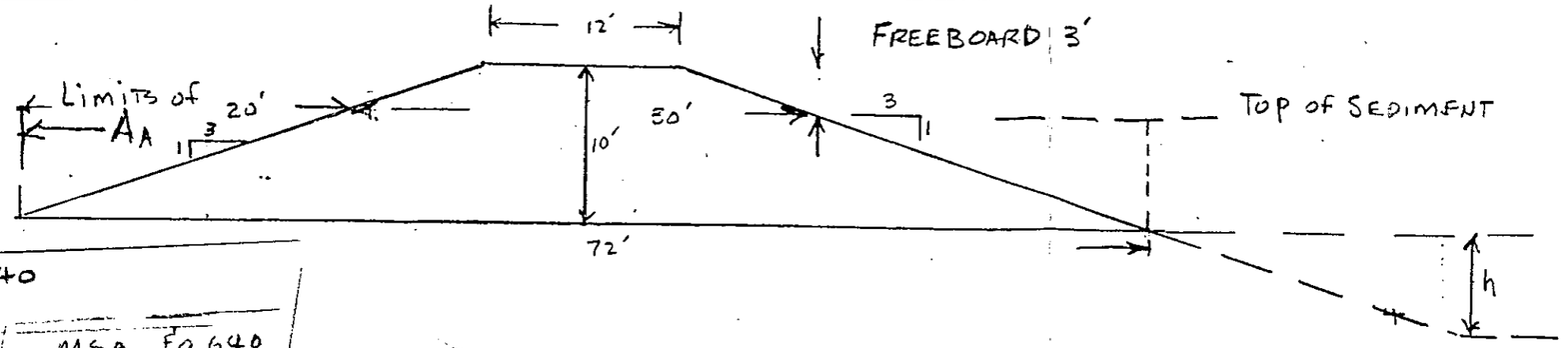
Area at U.S. Toe = 3.5 SQ IN

8.8/2 = 4.4 in^2 * 40,000 $\frac{SF}{in^2}$ * 13.5 FT. ÷ 27 $\frac{CF}{CY}$ = 88,000 cy check

FIND - PALM BEACH
BCI 8119
B-6



BUFFER 100' MIN
EST GROUND SURF EL. 5' ± MSL
GROSS DISPOSAL AREA = 15 ± AC



h = EXCAVATION DEPTH
DISPOSAL AREA BOTTOM AT ≥ 2' MSL

VOL OF DIKE MATERIAL

2700 L.F. * 420 CF/L.F. = 42,000 CY

VOL OF EXCAV. MATERIAL FOR DIKE CONST.

TOTAL AREA - BUFFER = AA

AA = 15 AC - 8 = 7 AC

AREA EXCAVATED = AE = AA - DIKE AREA

= 305,000 - 19900 - 4050 (h)

DISPOSAL VOL CAPACITY

$DVC = Vc + \sum A_A(7) - \frac{72+50}{2}(7)(L)$

= 10,400 cy + [79,000 - 42700]

= 46,700 cy

EXC. VOL OF MATERIAL FOR DIKE CONSTRUCTION = Vc

Vc = AE * h = [105,600 - 4050h] h let h = 3 FT

Vc = 10,400 cy * .85 (SHRINKAGE) = 8800 cy

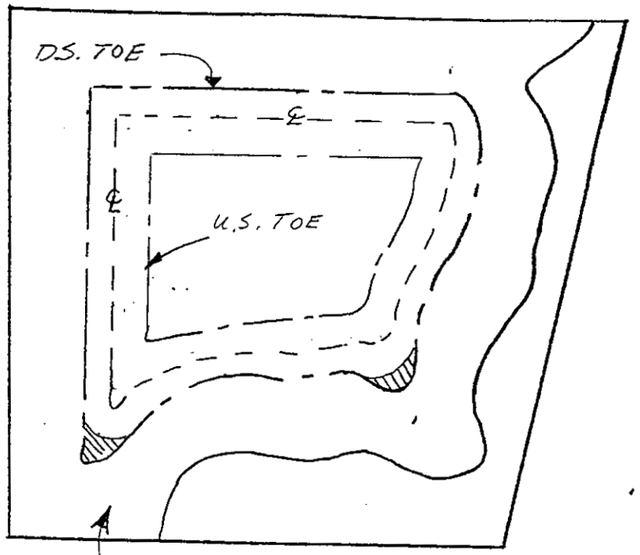
FILL DEF. = 33,200 cy

FIND - Palm Beach
BCL 8119
B-7

BROMWELL & CARRIER, INC.

BAZ REPRO, NY

USA PO-641A

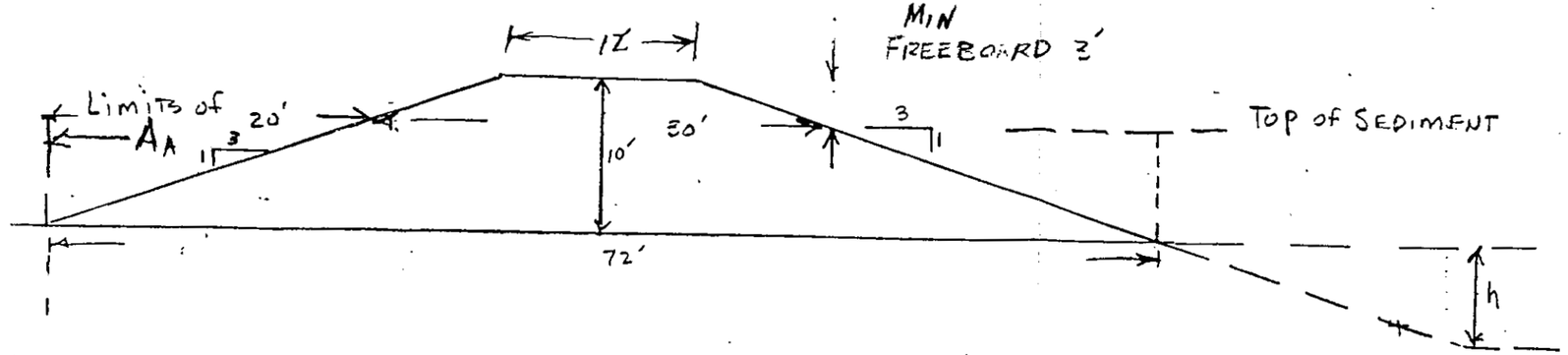


EST. GRND SURFACE ELEV. = 5' ± MSL

GROSS DISPOSAL SITE AREA = 9.3 A_c ±

SCALE

0 200'



A_D = CROSS SECTION AREA OF DIKE =

VOLUME OF DIKE MATERIAL = $A_E * L$ = $\frac{1485 * 420}{27\ CF/CY}$ = 23,100 cy

ASSUME L = LENGTH OF DIKE ℄ = 1485 FT.

VOLUME OF EXCAVATED MATERIAL FOR DIKE CONSTRUCTION

AREA AVAIL = A_A = TOTAL SITE − BUFFER

A_A = 9.3 A_c ± − 5.0 A_c ± = 4.3 A_c ±

A_E = EXCAVATED AREA ≅ $A_A - \left[\frac{72 + 72 + 34\ (L)}{2}\right] = A_A - \left[144 + 34\left(\frac{1485}{2}\right)\right]$ = 187,308 − 106 920 − 2227 h

EXC. VOLUME OF MATERIAL FOR DIKE CONST.

$V_c = A_E * h = \left[80,388 - 2227h\right] h$ Let h = 3 ft. V_c = 8190 cy

Assume 15% Shrinkage For Compaction

V_c' = 6960 cy

DEFICIENT IN EMBANKMET FILL

23100 − 6960 = 16 140 cy

DISPOSAL VOLUME CAPACITY = DVC

DVC = EXC. VOL (V_c) + $\left[A_A(7) - \frac{72+50}{2}(7)L\right]$

= 8190 + 48560 − 23480

= 33270 cy

Planimeter

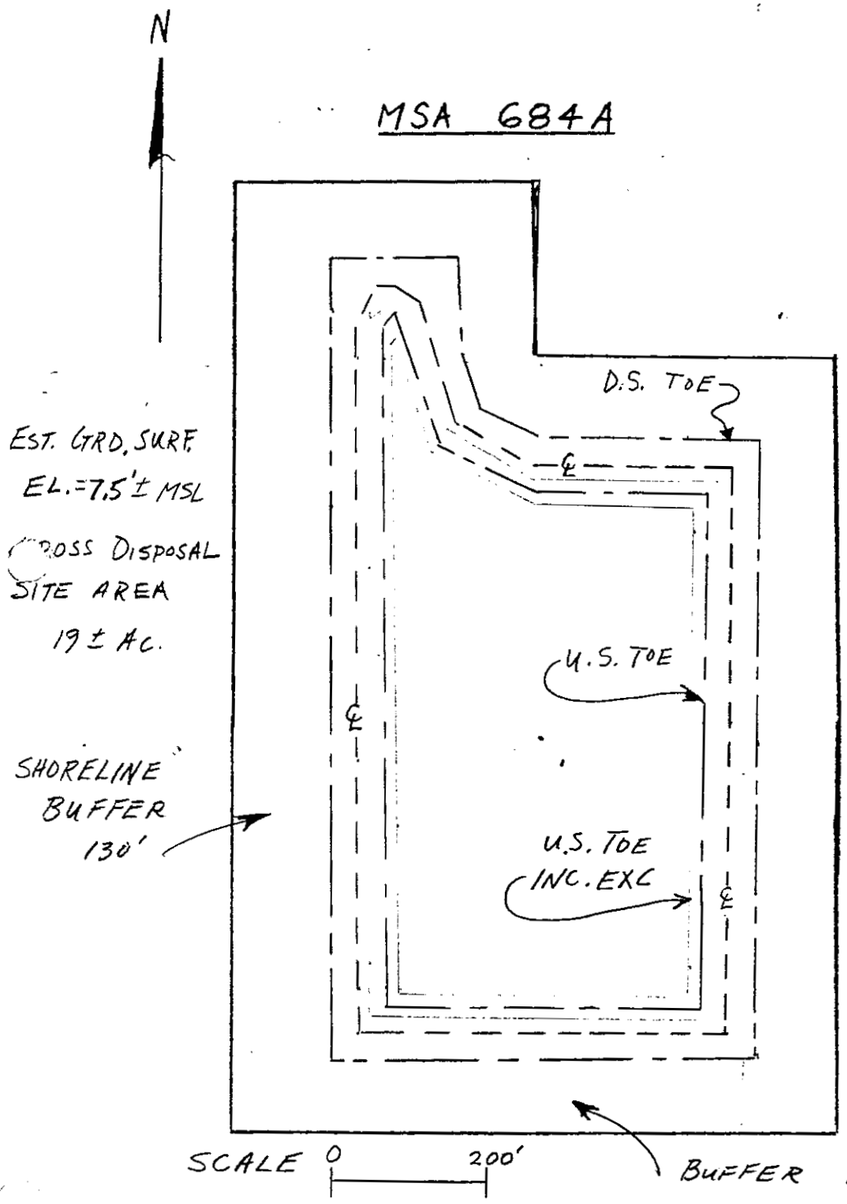
Area at FB line = 2.6 SQ IN

Area at US toe = 1.8 SQ IN

4.4/2 * 40,000 SF/SQ IN * 10 FT / 27 CF/CY = 32,590 cy

FIND-PALM BEACH
BCI 8119

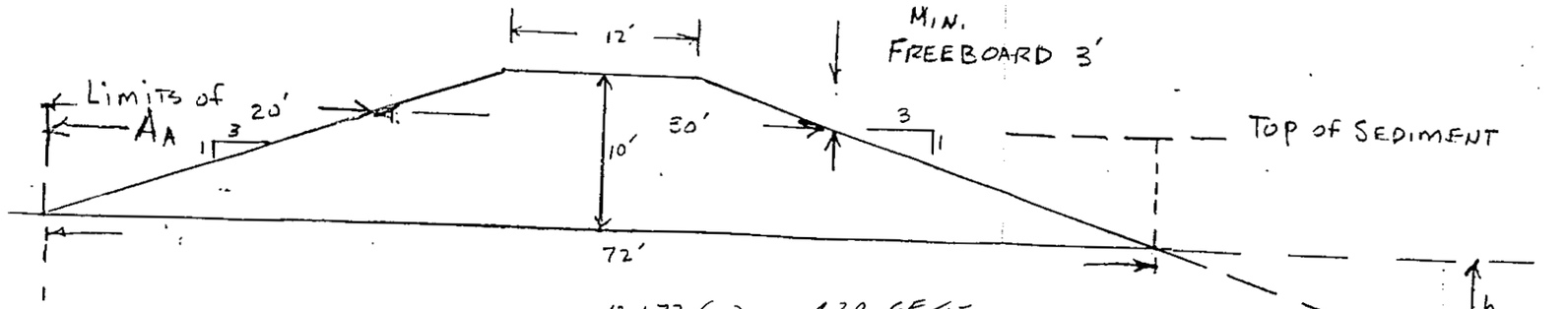
MSA 684A



Avg. Planimeter Area @ U.S. TOE and F.B. Line = 6.8 sq inch

= 272000 SF * 12.5/27

= 125,930 cy



A_D = CROSS SECTION AREA OF DIKE = $\frac{12+72}{2}(10)$ = 420 CF/LF

VOLUME OF DIKE MATERIAL = $A_D * L$ = $\frac{2770 \text{ ft} * 420 \text{ CF/LF}}{27 \text{ CF/CY}}$ = 43090 cy

ASSUME L = LENGTH OF DIKE @ ℄ = 2770 ft.

VOLUME OF EXCAVATED MATERIAL FOR DIKE CONSTRUCTION

AREA AVAIL = A_A = TOTAL SITE − BUFFER

A_A = 19 Ac ± − 8.9 Ac ± = 10.1 Ac ±

A_E = EXCAVATED AREA ≅ $A_A - \left[\frac{72+(72+3h)}{2}(L)\right] = A_A - \left[\frac{144+3h}{2}(2770)\right]$ = 439956 − 199440 − 4155 h

= 240,516 − 4155 h

EXC. VOLUME OF MATERIAL FOR DIKE CONST.

$V_C = A_E * h$

$= [240,516 - 4155\,h]\,h$

Disposal Volume Capacity = DVC

$DVC = \text{Exc Vol } (V_C) + [A_A(7) - \frac{72+5^0}{2}(7)L]$

= 44,338 cy + [114,060 cy −

= 44338 cy + 114,060 cy − 43810 cy

= 114,590 cy

let h = 5.5

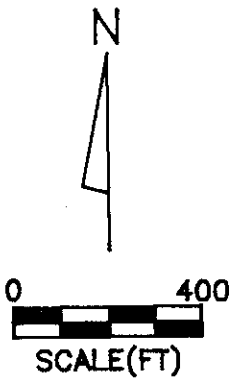
V_C = 44,338 cy

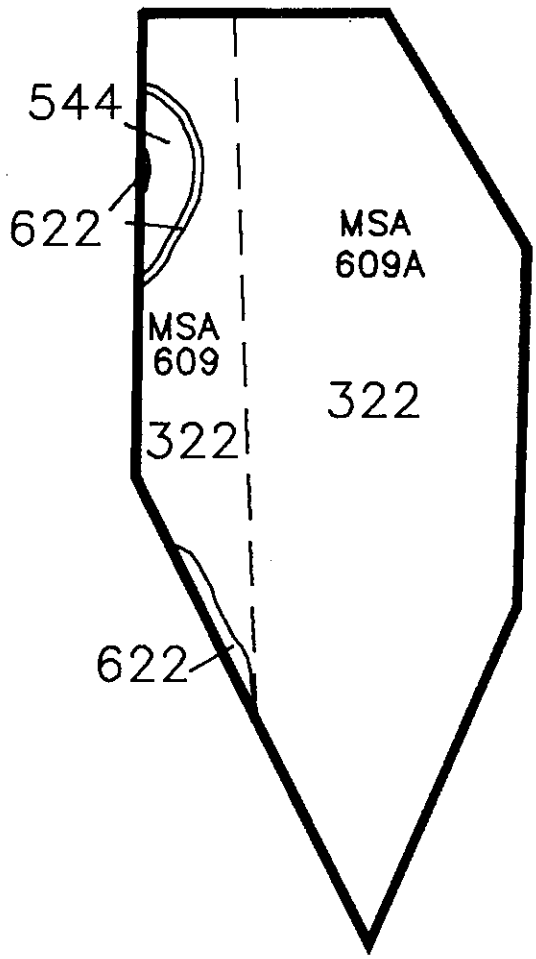
Assume 15% shrinkage for compaction

V_C' = 37,690 cy

∴ Deficient In EMBANKMENT FILL 43090 − 37,690 cy = 5400 cy

FIND − PALM BEACH
BCI 8119
B-9





Florida Land Use and Cover Classification System

L E G E N D

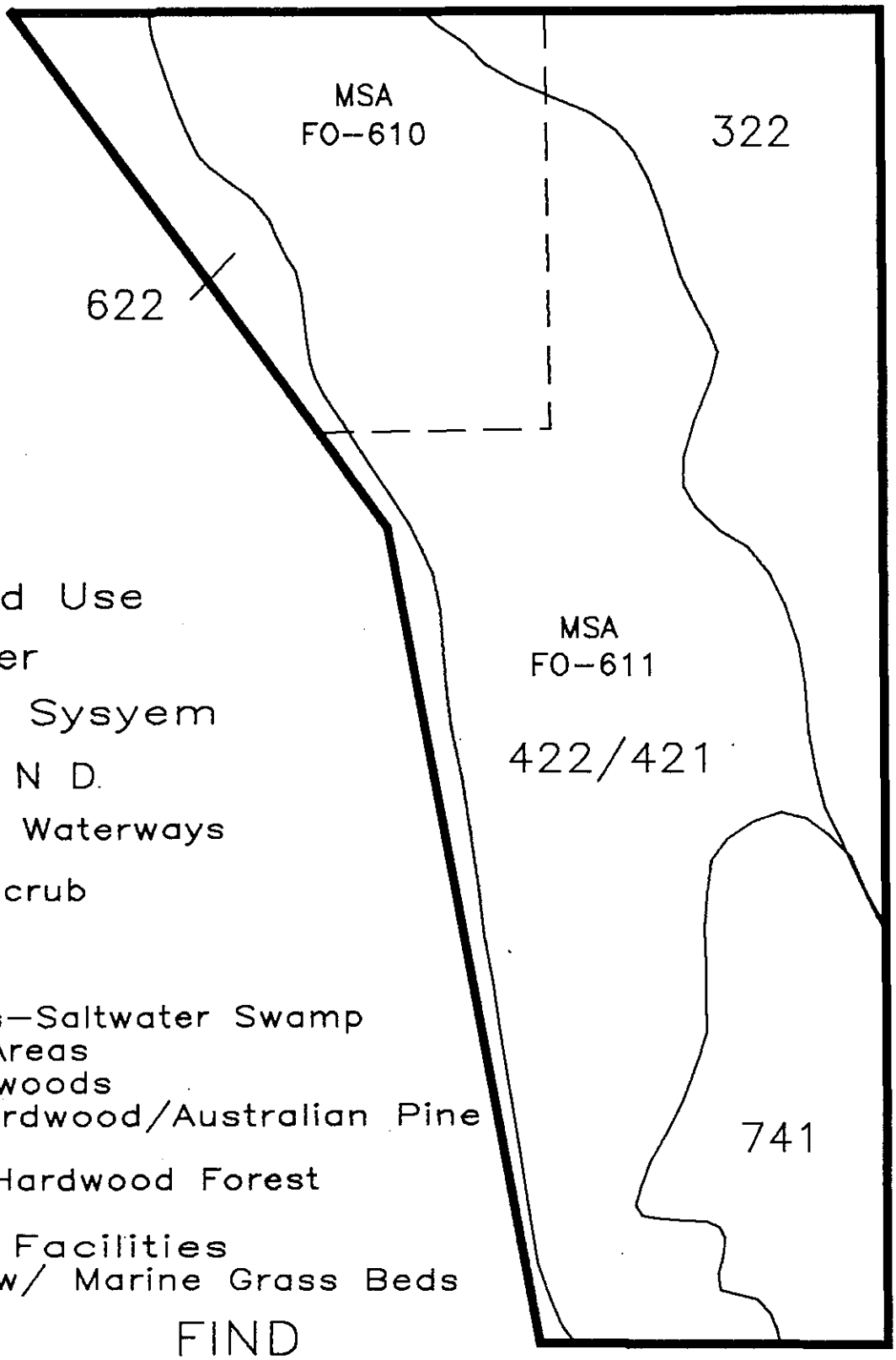
146 Navigable Waterways
173 Parks
322 Coastal Scrub
421 Xeric Oak
513 Canals
544 Extuaries
622 Mangroves—Saltwater Swamp
741 Scraped Areas
411 Pine Flatwoods
422 Other Hardwood/Australian Pine
561 Ponds
620 Wetland—Hardwood Forest
710 Beach
165 Military Facilities
545 Estuarie w/ Marine Grass Beds

FIND
Palm Beach County
Candidate Disposal Sites

Vegetative Mapping

FIG. B-12

REF.MAP NO.PB—4



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SCALE(FT)

Florida Land Use
and Cover
Classification Sysyem

L E G E N D

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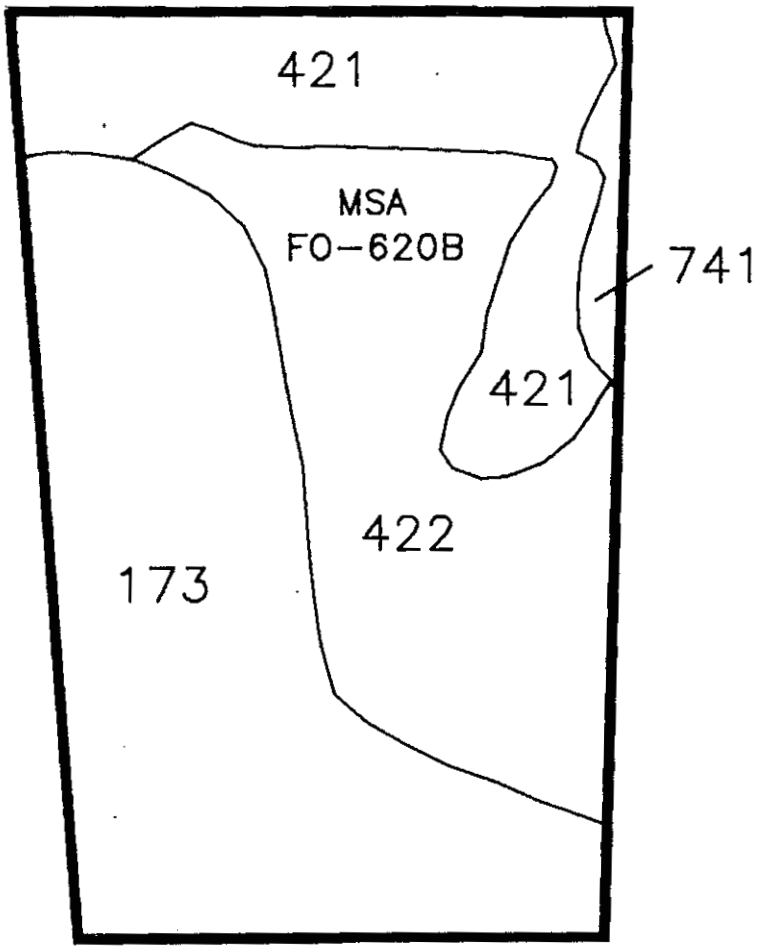
FIND

Palm Beach County
Candidate Disposal Sites

Vegetative Mapping

FIG. B-13

REF.MAP NO.PB-5



Florida Land Use
and Cover
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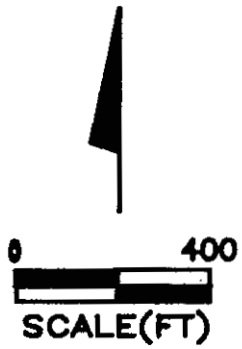
FIND

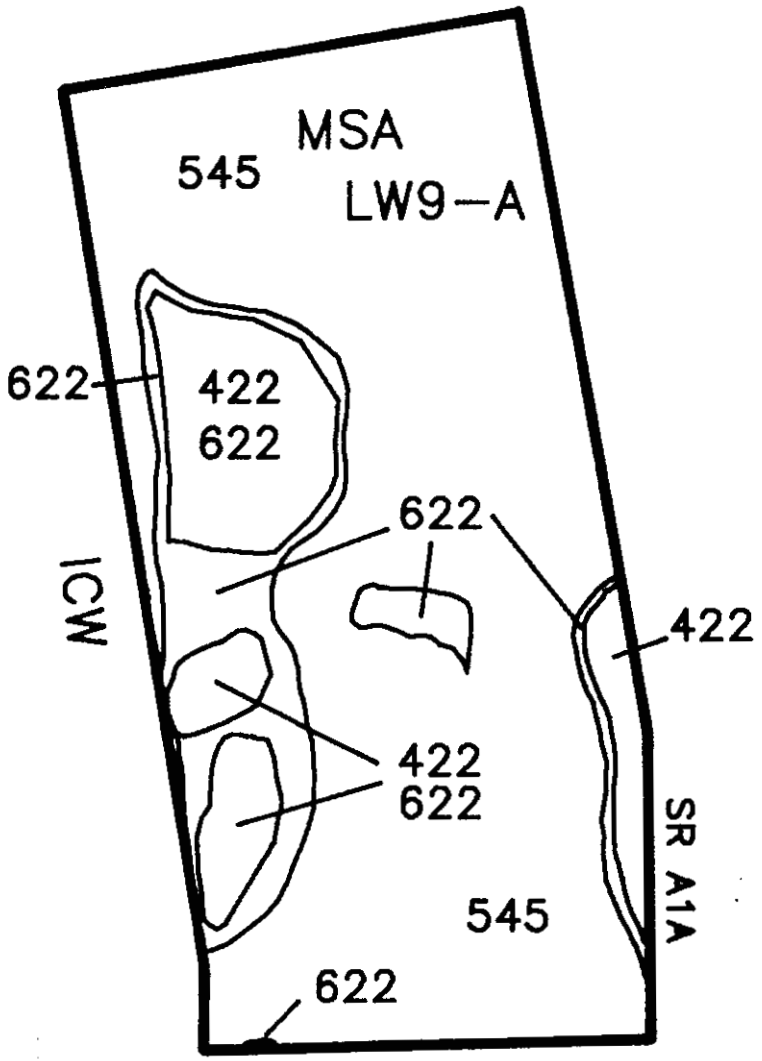
Palm Beach County
Candidate Disposal Sites

Vegetative Mapping

FIG. B-16

REF.MAP NO.PB-8





Florida Land Use and Cover Classification System

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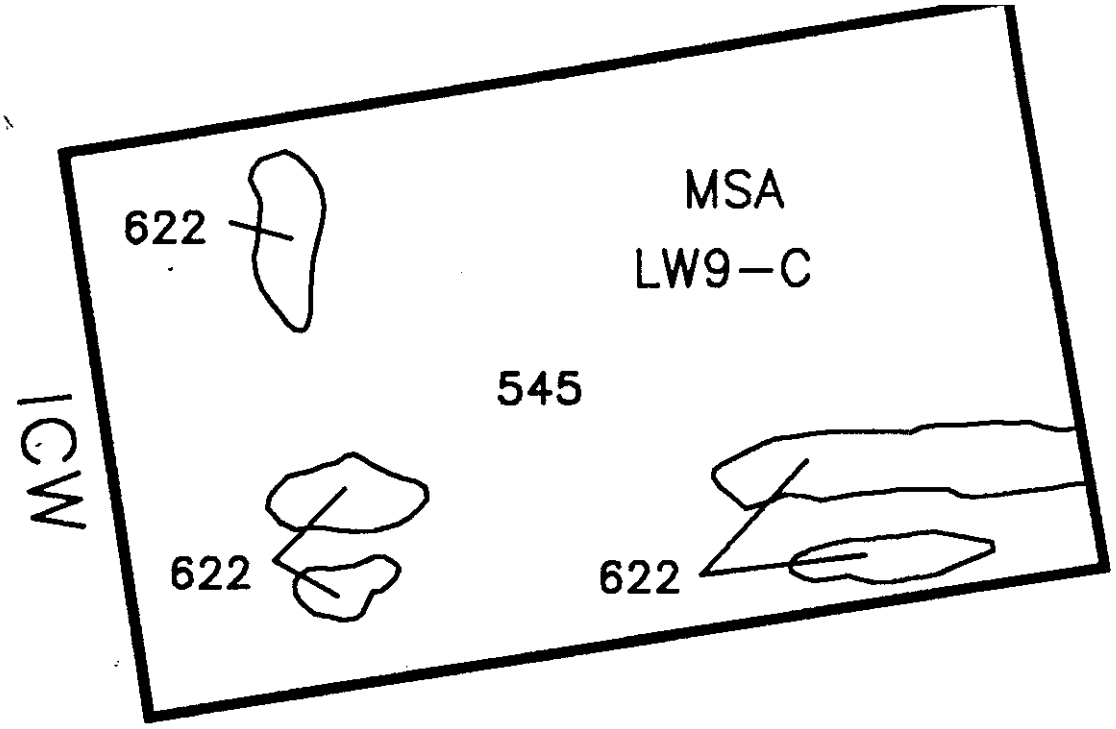
FIND

Palm Beach County Candidate Disposal Sites

Vegetative Mapping



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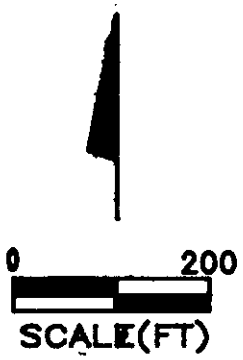
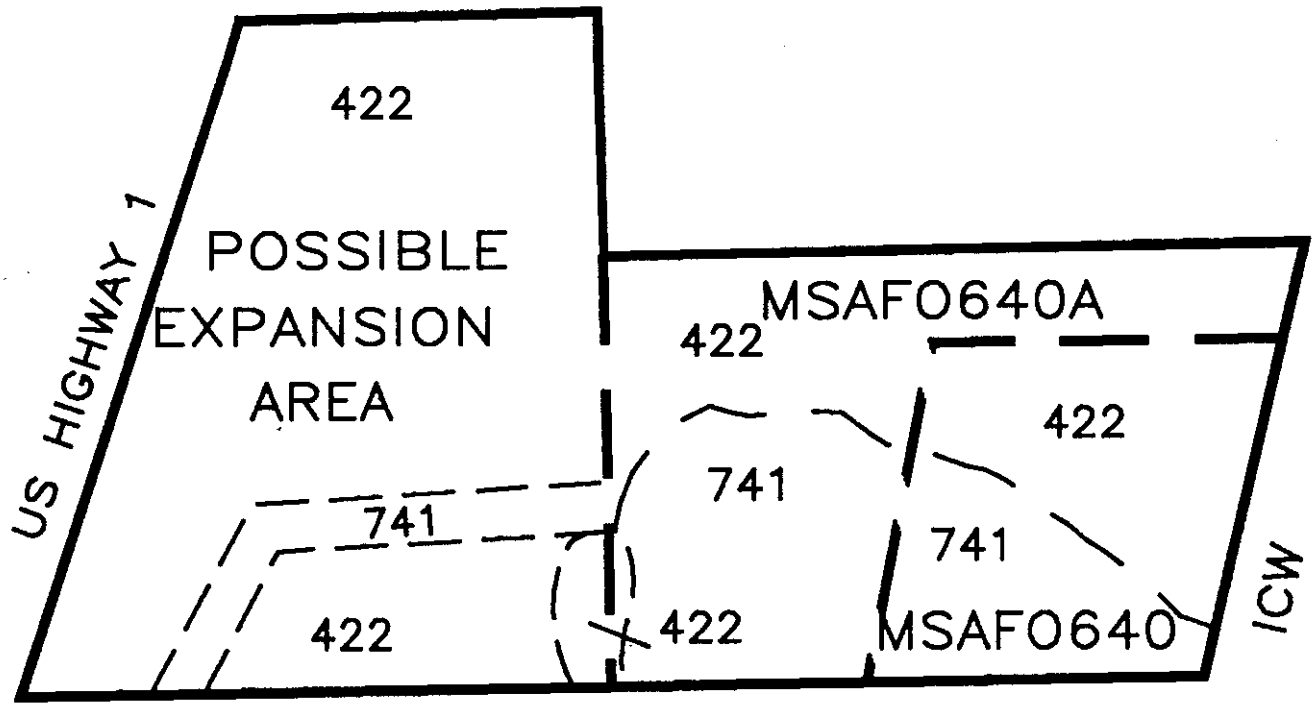


FIND

Palm Beach County Candidate Disposal Sites

Vegetative Mapping



Florida Land Use
and Cover
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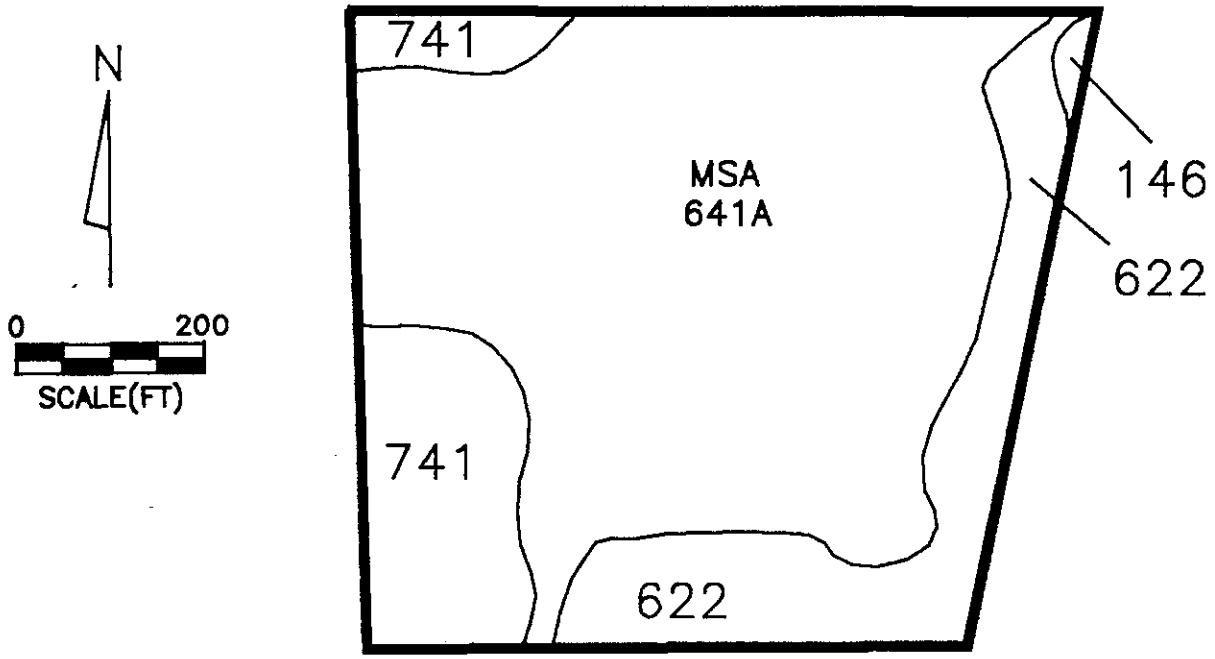
SCALE(FT)

FIND

Palm Beach County Candidate Disposal Sites

Vegetative Mapping



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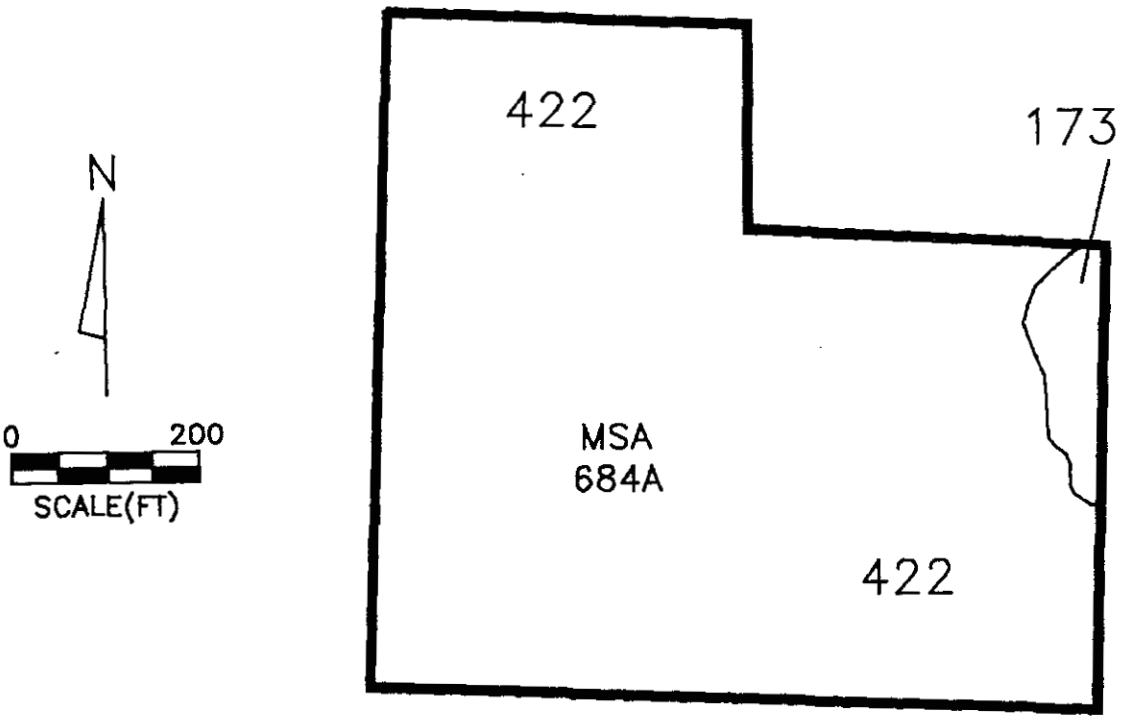
FIND
Palm Beach County
Candidate Disposal Sites

Vegetative Mapping

FIG. B-18

REF,MAP NO.PB—33



Florida Land Use and
Cover Classification System

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FIND
Palm Beach County
Candidate Disposal Sites

Vegetative Mapping

FIG. B-19

REF.MAP NO.PB-39

FIND - Palm Beach County
BCI File 8119

BEACH DISPOSAL SOUTH OF JUPITER INLET

Beach disposal would be feasible south of Jupiter Inlet. This easement on the beach has been included in previous COE dredging contracts for cuts P-1 thru P-4. Pipeline access to this easement would be via a MLW easement along the beach, adjacent to the beach disposal area used by the Inlet District.

The disposal areas south of the inlet is designated D/A-J-1.

The near surface soils of these beach areas classified as beach materials (BN), according to the SCS soil survey.

This disposal easement has a surface areas of about 11 acres, which could likely handle in excess of 100,000 cy yards of beach quality dredged materials.

FIND - Palm Beach County
BCI File 8119

BEACH DISPOSAL SOUTH OF JUPITER INLET

Beach disposal would be feasible south of Jupiter Inlet. This easement on the beach has been included in previous COE dredging contracts for cuts P-1 thru P-4. Pipeline access to this easement would be via a MLW easement along the beach, adjacent to the beach disposal area used by the Inlet District.

The disposal areas south of the inlet is designated D/A-J-1.

The near surface soils of these beach areas classified as beach materials (BN), according to the SCS soil survey.

This disposal easement has a surface areas of about 11 acres, which could likely handle in excess of 100,000 cy yards of beach quality dredged materials.

FIND - Palm Beach County
BCI File 8119

PEANUT ISLAND

The Peanut Island site is located approximately at ICW mile 278 within the northern portion of Reach III of the Palm Beach County ICW. The total land area of this disposal area is about 77 acres. This site is located east of the ICW channel and north of the Port of Palm Beach entrance channel. Current access to the island is via water crossings. The proposed location for a 10-acre site would probably be in the northern half of the island in conjunction with a similar sized disposal area proposed by the Port of Palm Beach.

According to the USDA Soil Conservation Report for Palm Beach County, the near-surface soils of Peanut Island consist primarily of QAB (quartzipsamments). These soils are the result of previous upland disposal of dredged materials to form the island. The upland ground surface elevations range from about 5 to 20 feet MSL as estimated from the USGS quadrangle map for this area.

Four vegetation types are discernible from aerial photos. These are Other Hardwoods (Australian Pine), Mangrove, Beaches, and Military Installation (Coast Guard Station). The Other Hardwoods community is dominated by Australian Pine. The Mangrove Swamp is likely to contain red, white, and black mangroves as well as buttonwood. Areas designated as beach include both intertidal areas as well as permanently exposed sand. Though largely unvegetated, several herbaceous species such as seaside paspalum likely occur. The Coast Guard station is planted in lawn with no significant components of native vegetation. A vegetative cover map is shown in Figure C-10.

FIND - Palm Beach County
BCI File 8119

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LAKE WORTH GOLF COURSE

The Lake Worth (LW) Golf Course site is located west of ICW mile 288 to 289 within Reach III b. of the Palm Beach County ICW. The total land area of this site is approximately 97 acres. This site is located on the west side of the ICW with the western property boundary being defined by a residential area. Current access to the property is via the golf course property. Ownership by the City of Lake Worth includes submerged lands that extend about 500 feet east of the lake shoreline.

A review of the USDA soil survey indicates the near-surface soils are Arents-Urban land complex (AU). The ground surface elevation for this site is estimated to be approximately 5 feet MSL.

The entire upland area is designated as golf course. The near shore areas are marine/estuary.

The proposed disposal area at the L.W. Golf Course is located in a portion of the Reach III that appears to have minor future dredging requirements. Shoaling at cuts P-41 and 42 and cut 44 could generate quantities of about 20,000 cubic yards including a bulking factor of 2.

Due to the lack of dredging history for Reach III, the frequency of future dredging is difficult to predict. However, realizing that this area was dredged to design grade approximately 28 years ago and shoaling has been observed in these areas up through 1987, it can be assumed that dredging of Reach III would most likely be required at least two times within the next 50 years. Due to the recreational use of this site, dredged materials would most likely have to be handled and removed after the sediment has drained.

FIND - Palm Beach County
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DEEP HOLE DISPOSAL, LAKE WORTH

Reach III b.

In the vicinity of cuts P-4 and P-43, along the west shoreline of Lake Worth, deep holes in the lake bottom were identified by staff of the Palm Beach County Department of Environmental Resource Management. The specific locations, depths, or size of these holes were not confirmed during this study.

These deep holes are assumed to be in excess of 20 feet deep and are believed to be the result of dredging for upland fill

This portion of the lake revealed some shoaling history, as discussed in the report text. The nature of the shoaled materials could be affected by sewer effluent disposal that occurred in the past and fresh water discharges from canal C-51.

The use of these deep holes for dredged material disposal will require detailed surveys of them and environmental studies of the area and the dredged materials that would be deposited in these holes.

The deep hole at cuts P-42 and P-43 are assumed to be about 5 to 20 acres in size each, and probably could handle on the order of 25,000 cy or greater of material.

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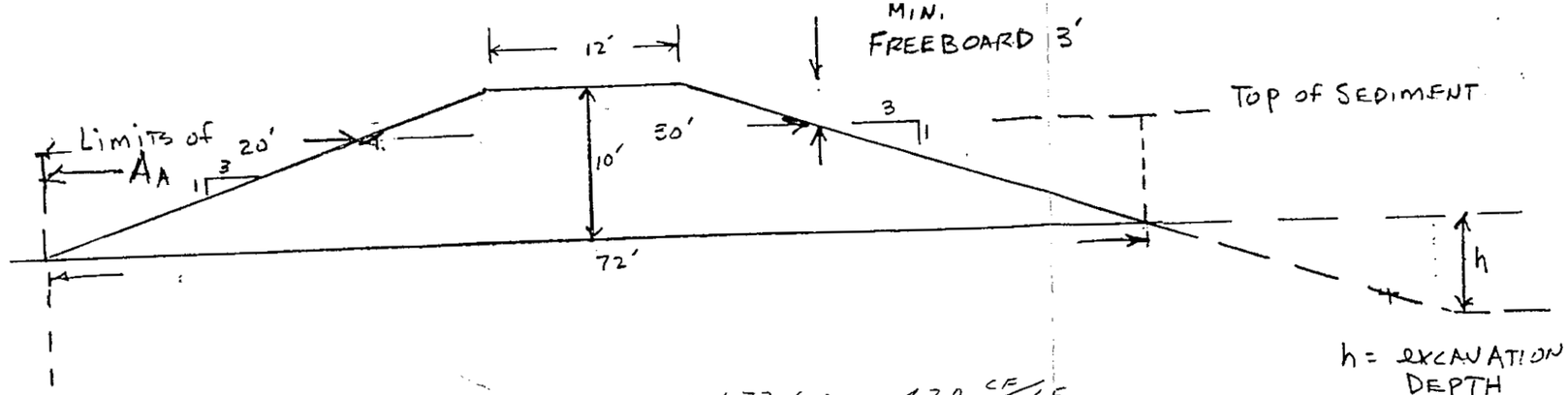
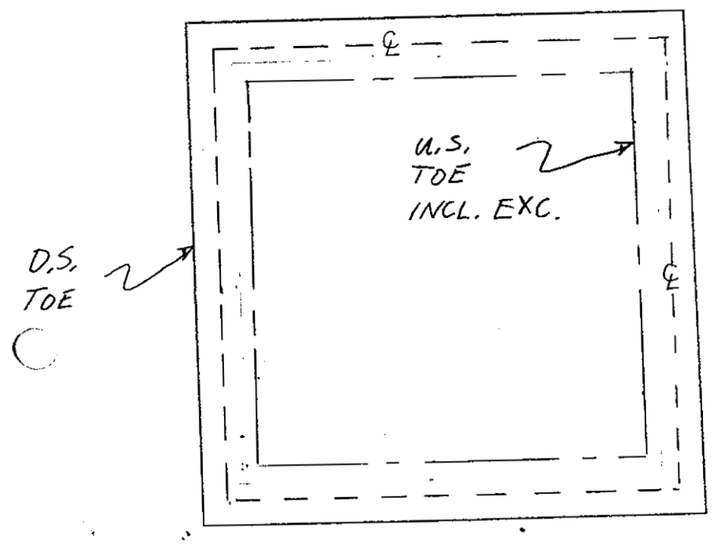


A_D = CROSS SECTION AREA OF DIKE = $\frac{12+72}{2}(10) = 420\ CF/LF$

VOLUME OF DIKE MATERIAL = $A_D * L = \frac{420\ CF/LF * 2352\ FT}{27\ CF/CY} = 36590\ CY$

ASSUME L = LENGTH OF DIKE @ ℄ = 2352 FT.

10-ACRE PLOT - PEANUT ISLAND



EST GRND. SURF. ELEV. = 5' ± MSL

SCALE 0 — 200'

VOLUME OF EXCAVATED MATERIAL FOR DIKE CONSTRUCTION

AREA AVAIL = A_A = TOTAL SITE − BUFFER

A_A = 10 AC. ±

A_E = EXCAVATED AREA $\cong A_A - \left[\frac{72+(72+3h)}{2}(L)\right] = A_A - \left[\frac{144+3h}{2}(2352)\right] = 435606 - 169344 - 3528h$

EXC. VOLUME OF MATERIAL FOR DIKE CONST.

$V_c = A_E * h = [266,256 - 3528h]h$

Let $h = 3$ $\quad V_c = 28408$ CY ✓

Assume 15% Shrinkage For Compaction.

$V_c' = 24150$ CY

DEFICIENT IN EMBANKMENT FILL 36590 − 24150 CY

= 12,440 CY ✓

DISPOSAL VOLUME CAPACITY = Exc Vol. $(V_c) + \left[A_A(7) - \frac{72+50}{2}(7)(L)\right]$

= 28408 CY + 112,933 CY − 37196 CY

= 104,145 CY

PLANIMETER

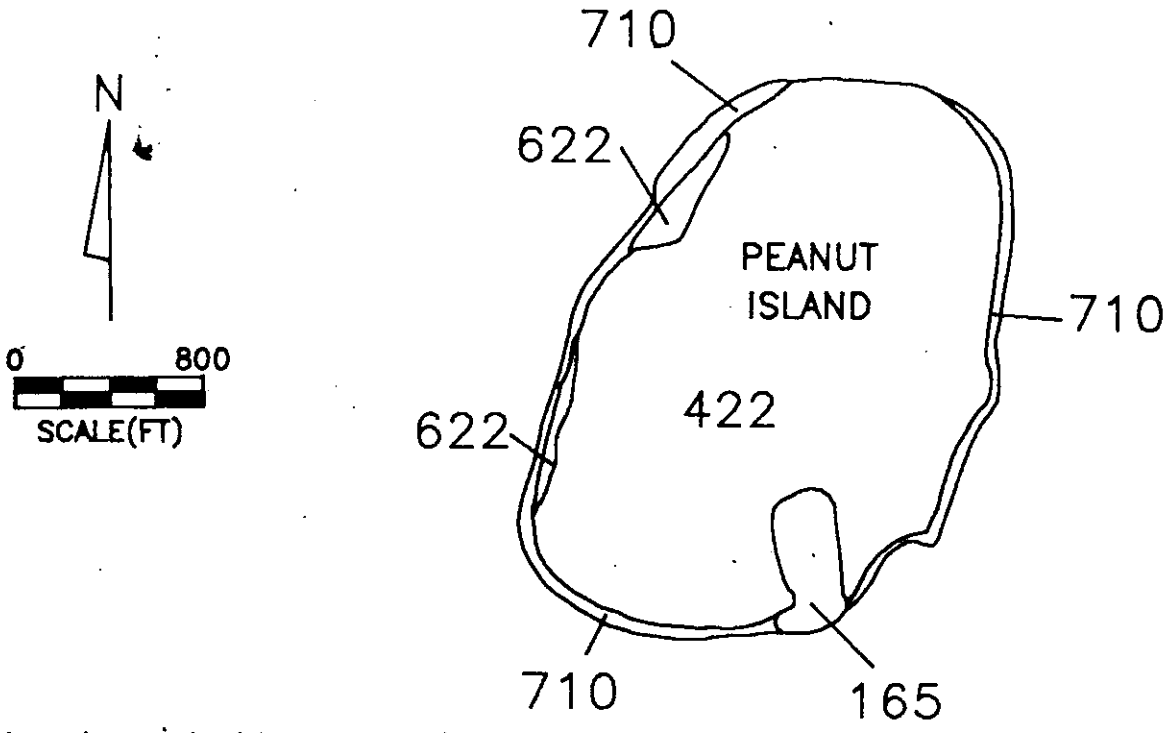
AREA @ FREE BOARD LINE = 7.8 SQ. IN.

AREA @ U.S. TOE = 6.2 SQ. IN.

14/ac * 20,000 SF/SQ * 10 FT ÷ 27 CF/CY = 103700 CY ✓

FIND - PALM BEACH

BCI 8119



Florida Land Use and
Cover Classification System

L E G E N D

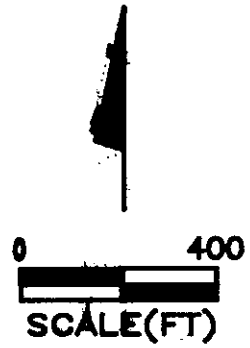
146 Navigable Waterways
173 Parks
322 Coastal Scrub
421 Xeric Oak
513 Canals
544 Extuaries
622 Mangroves—Saltwater Swamp
741 Scraped Areas
411 Pine Flatwoods
422 Other Hardwood/Australian Pine
561 Ponds
620 Wetland—Hardwood Forest
710 Beach
165 Military Facilities
545 Estuarie w/ Marine Grass Beds

FIND
Palm Beach County
Candidate Disposal Sites

Vegetative Mapping

FIG. C-10

REF. MAP NO. PB-14



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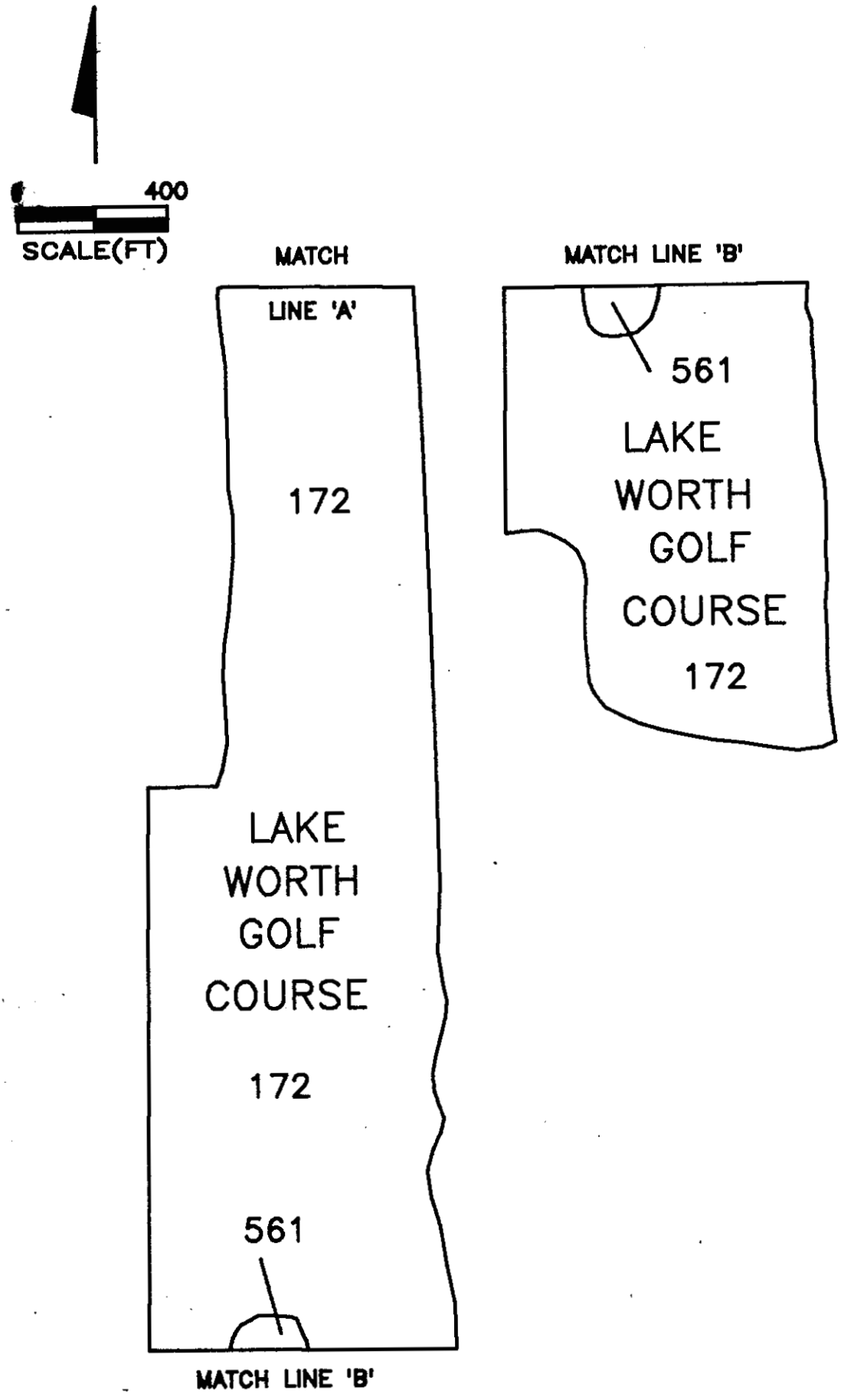
FIND

Palm Beach County Candidate Disposal Sites

Vegetative Mapping


400
SCALE(FT)
MATCH
LINE 'A'
172
LAKE
WORTH
GOLF
COURSE
172
561
MATCH LINE 'B'
MATCH LINE 'B'
561
LAKE
WORTH
GOLF
COURSE
172

DATA COLLECTION SYSTEM FOR SUPERIMPOSING INTRACOASTAL RIGHT OF WAY INFORMATION AND FLORIDA INTRACOASTAL NAVIGATIONAL DISTRICT

The mapping process required that information be acquired from three primary sources. These sources were:

1. The Intracoastal Waterway Plats as found in Palm Beach County Records Plat Book #17.

2. U.S. Army Corps of Engineers 10-Foot Project Control Data, U.S.A.C.O.E. File #8B-24,258. Intracoastal Waterway Jacksonville to Miami (shows cut line and X, Y, coordinates of each cut)

3. Maintenance Spoil Area Maps showing bearing and Distance ties to section corners. These section corners have State Plan Coordinate values.

Using traditional coordinate geometry (COGO), all Right of Way maps were coordinated on the state plane coordinate system. Next the Cut Line was coordinated using COGO. The bearing base was different for both groups of information. Because the Right of Way maps bearings base was more closely related to the State Plane Coordinate system the coordinates of the Cut Lines were rotated and transposed into the Right of Way coordinate system.

All coordinate values were then dumped into Autocad using the D.C.A. enhancement program. Actual line work was then established between Right of Way points.

With this completed, the digitizing began. This was

necessary to correlate the theoretical Right of Way and cut lines with the existing topographic features. The digitizing of bridges and abrupt coastline changes were most important in obtaining a good match. Other features such as lighthouses, buoys and channel markers were inserted using their coordinate values. These provided a check where coastline areas might have been undistinguishable.

The Right of Way lines, and Cut lines were then plotted to the scale of the aerial photos. By using the digitized coastline and the location of lighthouse and markers the aerial photos were overlaid and aligned on the plotted maps. Finally the Right of Way lines, cut lines and check marks were hand drafted onto the aerials maps.

SOCIO/ECONOMIC PLANNING INFORMATION

Each FIND parcel, easement and selected alternative disposal site was investigated for its potential economic and sociological impacts. The economic data collected was the current ownership, the assessed value of the property and the total acreage being taxed. The sociological data collected was the current zoning, adjacent land uses and planned land uses. Other criteria investigated was the accessibility of upland equipment and affects to adjacent properties should a site be used for dredge spoil.

The economic data was obtained by first locating each site on Palm Beach County Appraisers Maps. The individual Property Control numbers were then used to obtain the tax records. The tax records contained the information regarding ownership, easements, assessed values and the acreage. The tax assessors appraised value is the value shown, however, in those instances were an easement occupied only a portion of the property the assessed value was based upon its aerial percentage.

The current zoning was obtained from the individual municipalities or the Palm Beach County Planning Department. Future land use was obtained by comparing the current land use with the individual municipalities' proposed Comprehensive Land Use Plans. In most instances no change to the Comprehensive Land Use Plan had been prepared, therefore the future land use remained the same. Also, in the case of vacant properties proposed as alternative sites the local municipality was asked if any plans had been submitted for a proposed development.

The remaining information was gathered by viewing recent aerial photos and site visits. This provided the information regarding the accessibility and adjacent land uses. Also, local knowledge of political views and practices was used to determine its overall sociological impact, i.e., it is highly unlikely the Town of Palm Beach will allow us to truck spoil material through their city.

SOIL LEGEND

The first letter, always a capital, is the initial letter of the soil name. The second letter is a lower case letter for a narrowly defined unit, and a capital letter for a broadly defined unit.1/ The third position, if used, is a capital letter and connotes slope class. Most symbols without a slope letter are those for nearly level soils, but some are for land types or broadly defined units that have a considerable range in slope.

SYMBOL	NAME
AdB	Adamsville sand, organic subsoil variant
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ASF	Arents, very steep1/
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AX	Arents-Urban land complex, organic substratum
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Bc	Basinger-Urban land complex
BM	Basinger and Myakka sands, depressional1/
Bn	Beaches
Bo	Boca fine sand
Cc	Canaveral-Urban land complex
Ch	Chobee fine sandy loam
CuB	Cocoa-Urban land complex
Da	Dania muck
Fa	Floridana fine sand
Ha	Hallandale sand
Ho	Holopaw fine sand
Im	Immokalee fine sand
Ju	Jupiter fine sand
La	Lauderhill muck
Mk	Myakka sand
Mu	Myakka-Urban land complex
Oc	Okeechobee muck
On	Okeelanta muck
Os	Oldsmar sand
Pa	Pahokee muck
PbB	Palm Beach-Urban land complex
PcB	Paola sand, 0 to 8 percent slopes
Pd	Pineda sand
Pe	Pinellas fine sand
Pf	Pits
Pg	Placid fine sand
PhB	Pomello fine sand
Po	Pompano fine sand
QAB	Quartzipsamments, shaped1/
Ra	Riviera sand
Rd	Riviera sand, depressional
Ru	Riviera-Urban land complex
Sa	Sanibel muck
ScB	St. Lucie sand, 0 to 8 percent slopes
SuB	St. Lucie-Urban land complex
Ta	Tequesta muck
Tc	Terra Ceia muck
TM	Tidal swamp, mineral1/
TO	Tidal swamp, organic1/
Tr	Torry muck
UD	Udorthents1/
Ur	Urban land
Wa	Wabasso fine sand
Wn	Winder fine sand

1/ The composition of these units is apt to be more variable than the other units in the survey area. Mapping has been controlled well enough, however, to be interpreted for the anticipated use of the soils.

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline

AD HOC BOUNDARY (label)

- Small airport, airfield, park, oilfield, cemetery, or flood pool (Davis Airstrip; FLOOD POOL LINE)

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEMS & DESIGNATIONS

- Interstate (75)
- Federal (410)
- State (52)
- County, farm or ranch (318)

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small (water)

PITS

- Pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound
- Located object (label) (Tower)
- Tank (label) (GAS)
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) (CANAL)
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial (water)
- Intermittent (int)

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS (CeA, FoB2)

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

GULLY

DEPRESSION OR SINK

SOIL SAMPLE SITE (normally not shown)

MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot

FIGURE E-1

8

N

1 Mile 5000 Feet

Scale 1:20000

R. 43 E.

PbB (Joins inset)

DA-J-3

DA-J-2

DA-J-1

JUPITER ISLAND

Jupiter Inlet Beach Colony

Jupiter Inlet

ATLANTIC OCEAN

T. 41 S. | T. 40 S.

(Joins sheet 7)

(Joins sheet 17)

800 000 FEET

940 000 FEET

MARTIN COUNTY

R. 43 E.

(Joins inset, sheet 160)

MDA-2

ATLANTIC OCEAN

955 000 FEET

795 000 FEET

(Joins upper left)

4000 AND 5000 FOOT GRID TICKS

FIGURE E-2

PALM BEACH COUNTY, FLORIDA — SHEET NUMBER 17

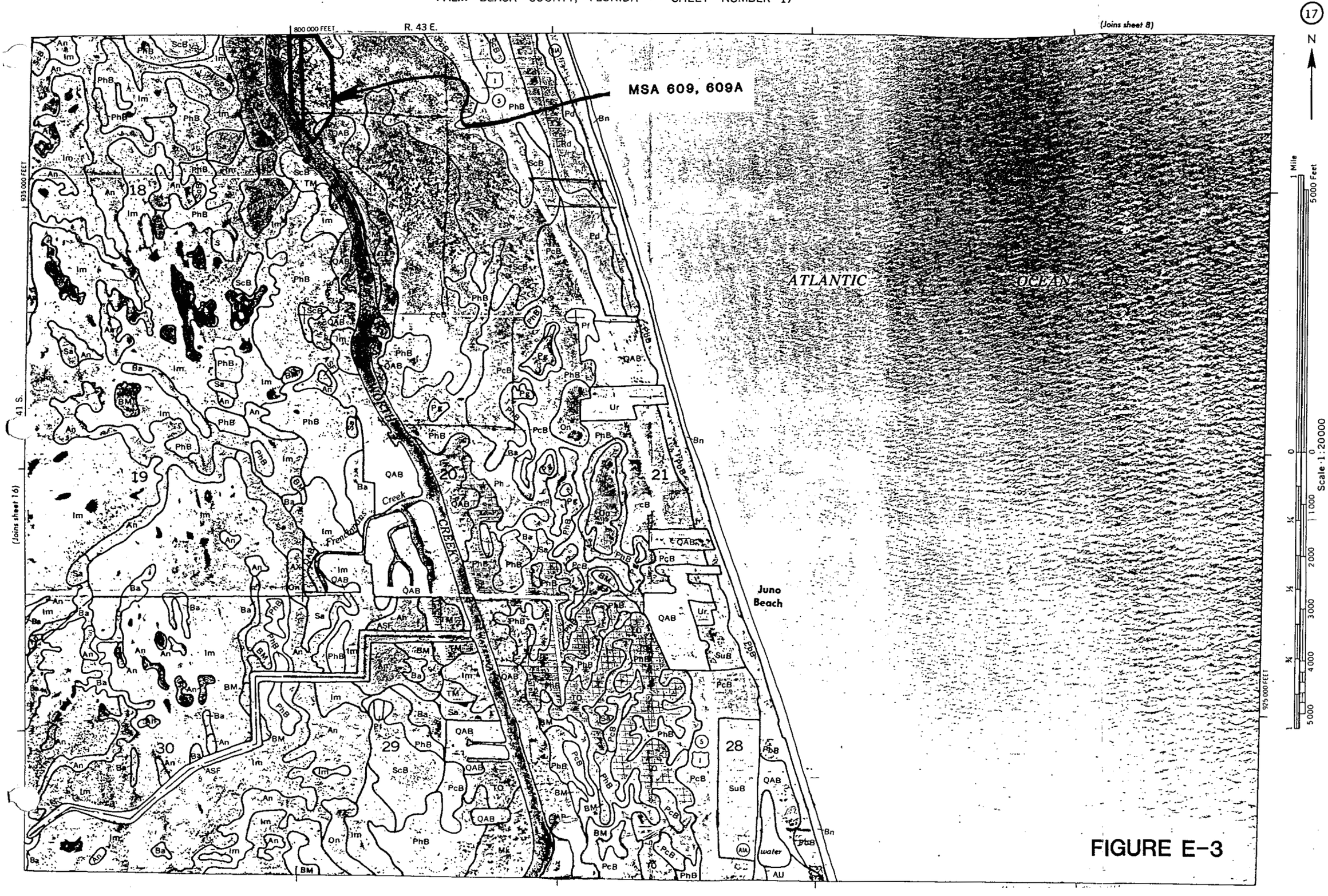


FIGURE E-3

(26)

PALM BEACH COUNTY, FLORIDA — SHEET NUMBER 26

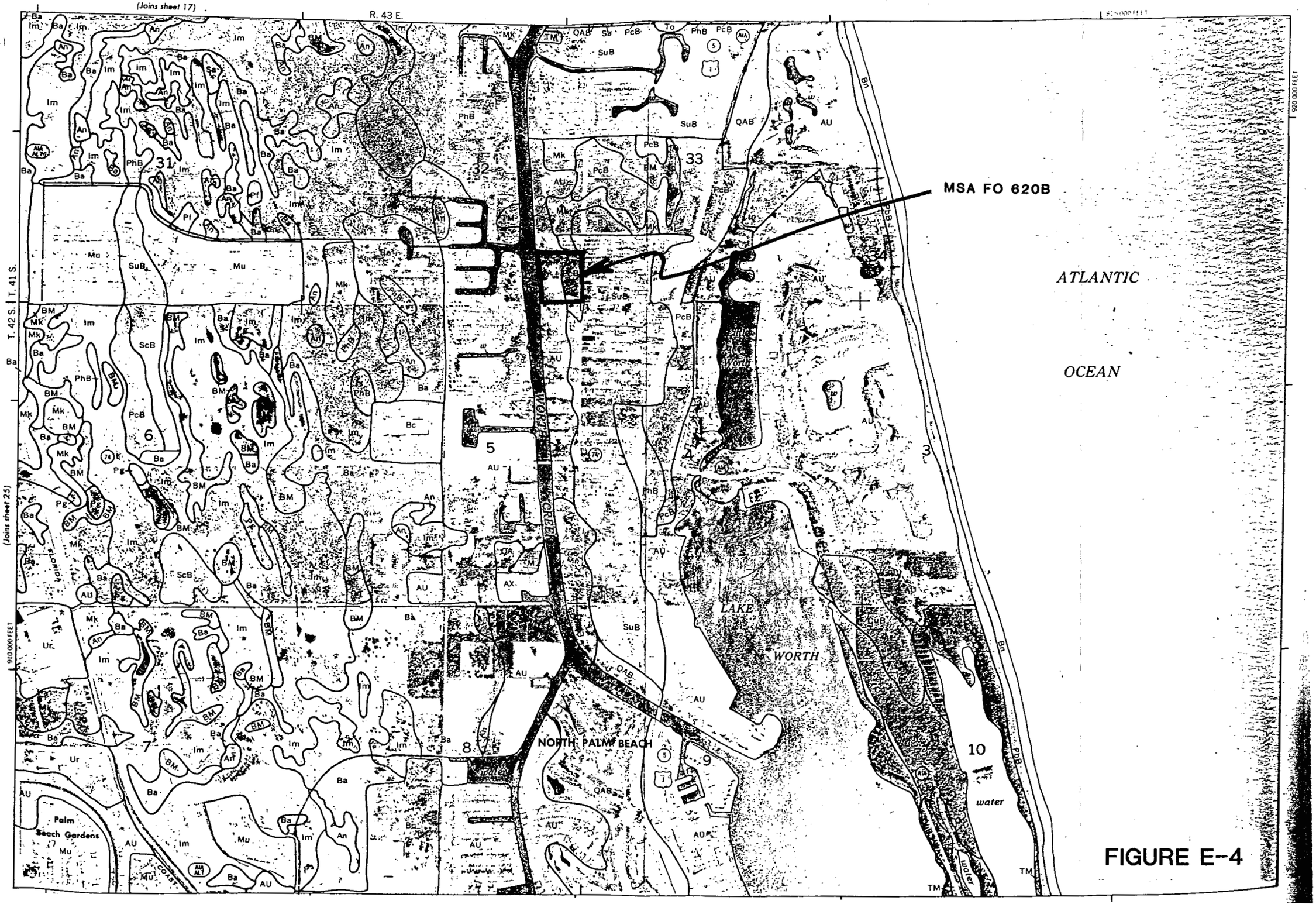


FIGURE E-4

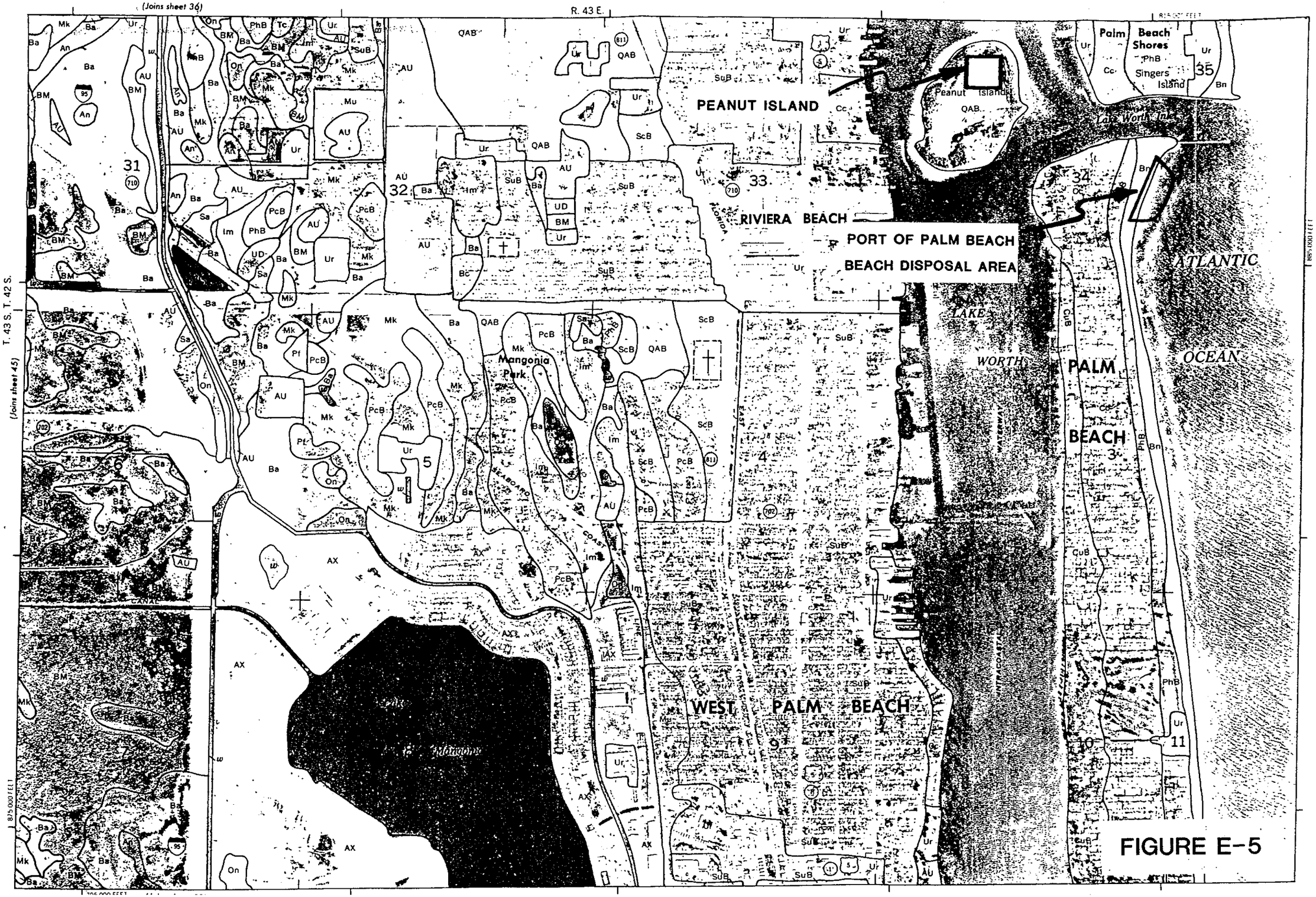

(Joins sheet 36)
R. 43 E.
T. 43 S. T. 42 S.
(Joins sheet 45)
PEANUT ISLAND
RIVIERA BEACH
PORT OF PALM BEACH
BEACH DISPOSAL AREA
Peanut Island
Palm Beach Shores
Singers Island
Lake Worth Inlet
ATLANTIC OCEAN
LAKE WORTH
PALM BEACH
WEST PALM BEACH
Mangonia Park
SEABOARD COAST LINE
FLORIDA
INTRACOASTAL WATERWAY
5000 Feet
Scale 1:20000

FIGURE E-5

PALM BEACH COUNTY, FLORIDA — SHEET NUMBER 82

82

N

1 Mile

5000 Feet

Scale 1:20000

(Joins sheet 70)

(Joins sheet 81)

1830 000 FEET

840 000 FEET

815 000 FEET

R. 43 E.

T. 44 S.

WEST PALM BEACH

WEST PALM BEACH CANAL

Lake Clark Shores

LAKE WORTH GOLF COURSE

LAKE WORTH

South Palm Beach

PALM BEACH

OCEAN

ATLANTIC

INTRACOASTAL WATERWAY

FLORIDA EAST COAST RAILWAY

SEABOARD SYSTEM

PALM SPRINGS

FIGURE E-6

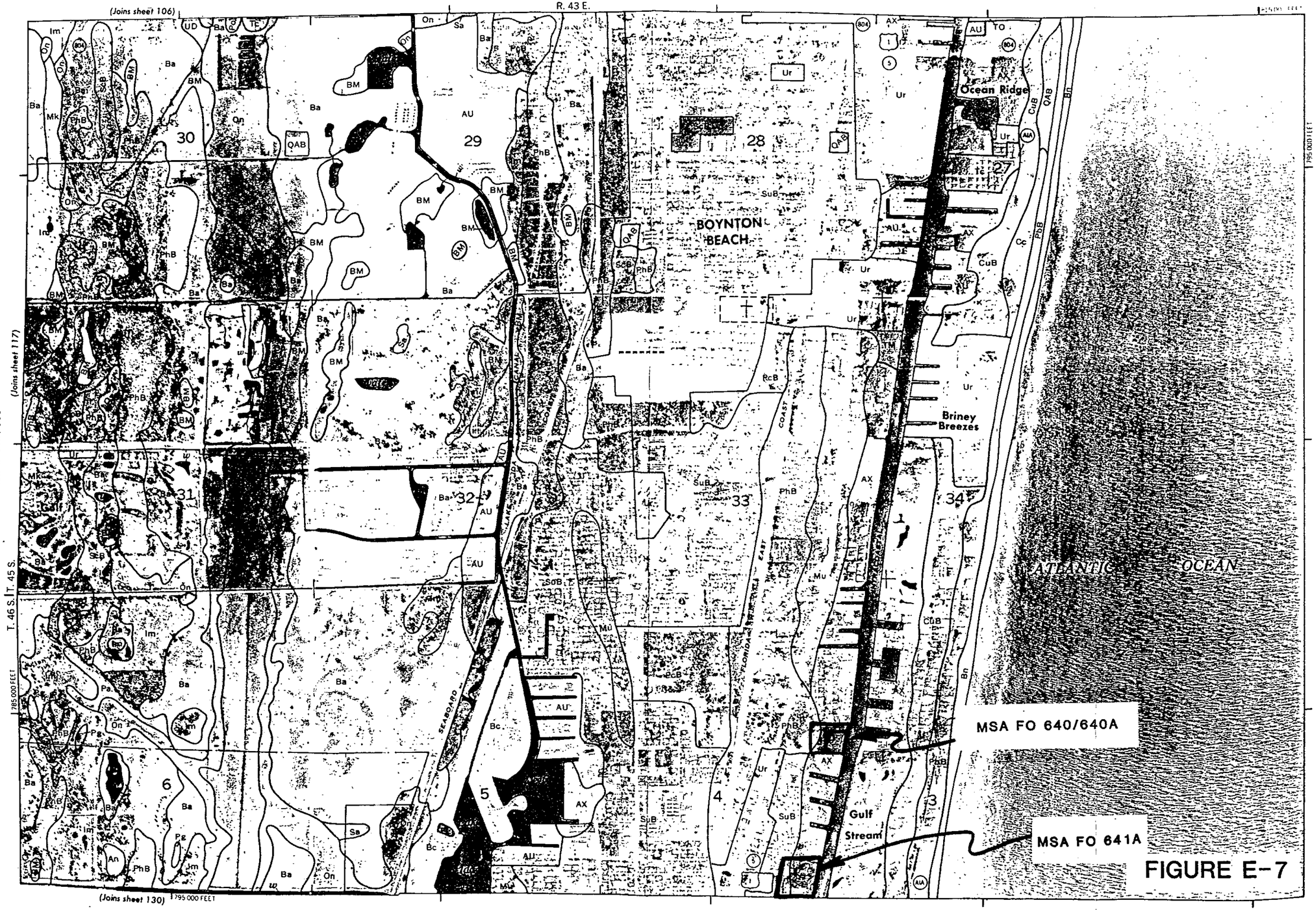

R. 43 E.
(Joins sheet 106)
(Joins sheet 117)
(Joins sheet 130)
T. 45 S.
T. 46 S.
795 000 FEET
785 000 FEET
BOYNTON BEACH
Ocean Ridge
Briney Breezes
ATLANTIC OCEAN
Gulf Stream
SEABOARD
COAST
EAST FLORIDA
MSA FO 640/640A
MSA FO 641A
30
29
28
27
31
32
33
34
6
5
4
3
N
1 Mile
5000 Feet
Scale 1:20000
0
¼
½
¾
1
1000
2000
3000
4000
5000

FIGURE E-7

PALM BEACH COUNTY, FLORIDA — SHEET NUMBER 154

154

N

(Joins sheet 142)

R. 43 E.

815 000 FEET

MSA 684A

BOCA RATON

ATLANTIC OCEAN

"SEABOARD COAST LINE"

CANAL

EL RIO

COAST

FLORIDA

T. 47 S.

1 Mile

5000 Feet

Scale 1:20000

(Joins sheet 153)

(Joins sheet 161)

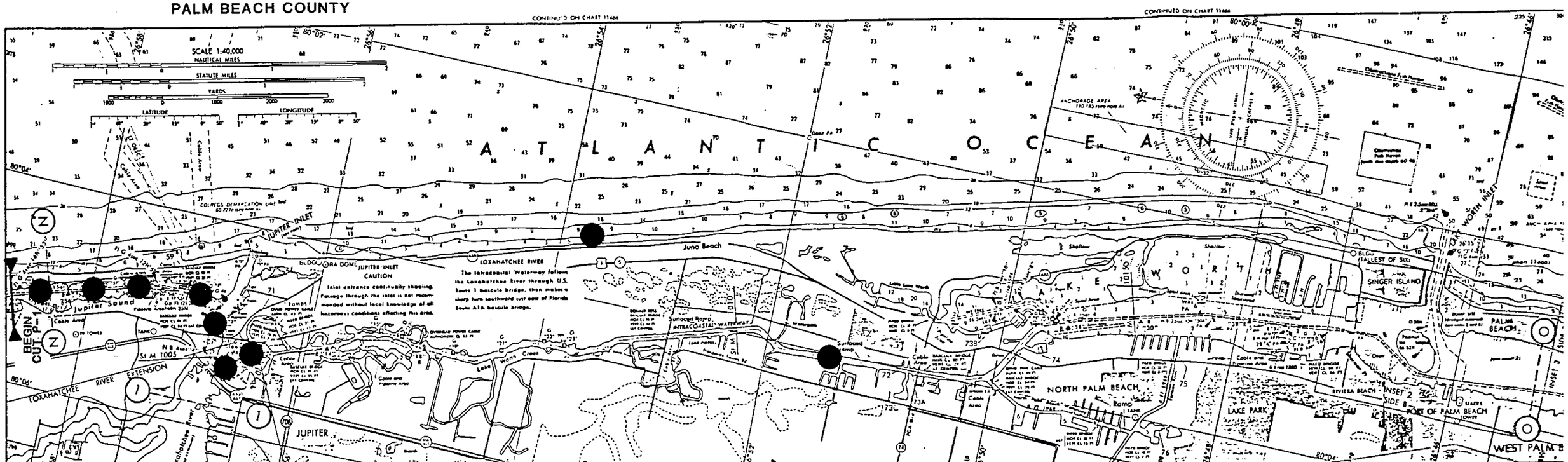
795 000 FEET

735 000 FEET

FIGURE E-8

ICWW SEDIMENT QUALITY
HISTORICAL SAMPLE LOCATIONS

PALM BEACH COUNTY



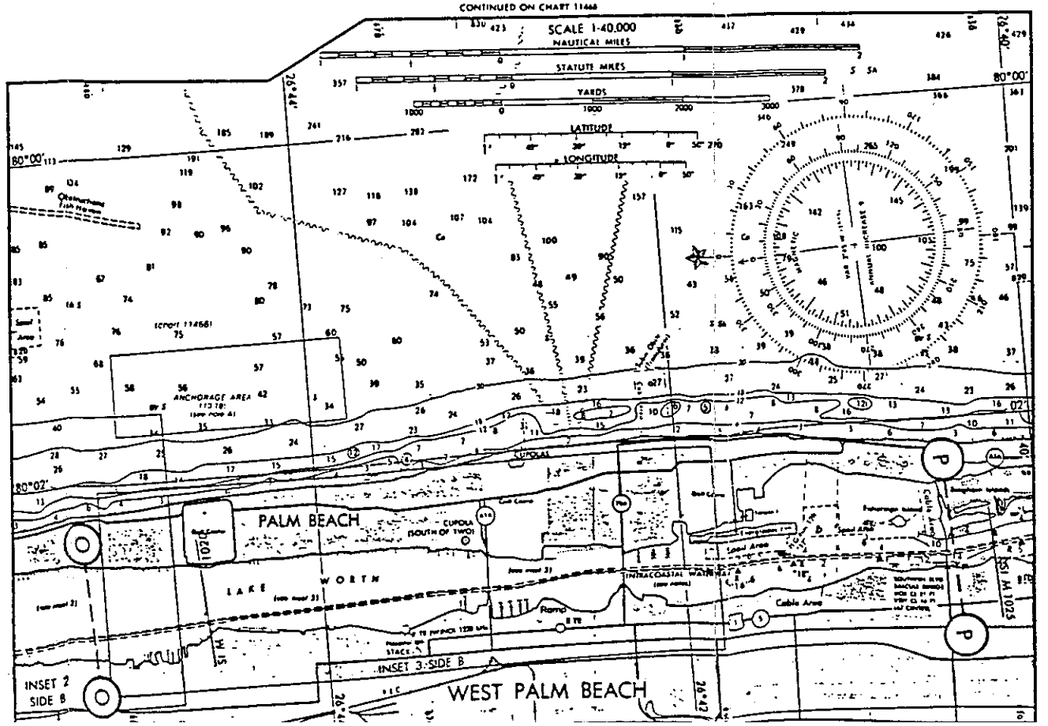


FIGURE F1
PCL NO. 8119

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Bc	Basinger-Urban land complex
BM	Basinger and Myakka sands, depressional1/
Bn	Beaches
Bo	Boca fine sand
Cc	Canaveral-Urban land complex
Ch	Chobee fine sandy loam
CuB	Cocoa-Urban land complex
Da	Dania muck
Fa	Floridana fine sand
Ha	Hallandale sand
Ho	Holopaw fine sand
Im	Immokalee fine sand
Ju	Jupiter fine sand
La	Lauderhill muck
Mk	Myakka sand
Mu	Myakka-Urban land complex
Oc	Okeechobee muck
On	Okeelanta muck
Os	Oldsmar sand
Pa	Pahokee muck
PbB	Palm Beach-Urban land complex
PcB	Paola sand, 0 to 8 percent slopes
Pd	Pineda sand
Pe	Pinellas fine sand
Pf	Pits
Pg	Placid fine sand
PhB	Pomello fine sand
Po	Pompano fine sand
QAB	Quartzipsamments, shaped1/
Ra	Riviera sand
Rd	Riviera sand, depressional
Ru	Riviera-Urban land complex
Sa	Sanibel muck
ScB	St. Lucie sand, 0 to 8 percent slopes
SuB	St. Lucie-Urban land complex
Ta	Tequesta muck
Tc	Terra Ceia muck
TM	Tidal swamp, mineral1/
TO	Tidal swamp, organic1/
Tr	Torry muck
UD	Udorthents1/
Ur	Urban land
Wa	Wabasso fine sand
Wn	Winder fine sand

1/ The composition of these units is apt to be more variable than the other units in the survey area. Mapping has been controlled well enough, however, to be interpreted for the anticipated use of the soils.

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline

AD HOC BOUNDARY (label)

- Small airport, airfield, park, oilfield, cemetery, or flood pool (Davis Airstrip; FLOOD POOL LINE)

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEMS & DESIGNATIONS

- Interstate (75)
- Federal (410)
- State (52)
- County, farm or ranch (318)

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small (water)

PITS

- Pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound
- Located object (label) (Tower)
- Tank (label) (GAS)
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) (CANAL)
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial (water)
- Intermittent (int)

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS (CeA, FoB2)

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

GULLY

DEPRESSION OR SINK

SOIL SAMPLE SITE (normally not shown)

MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot

FIGURE E-1

ICWW SEDIMENT QUALITY
HISTORICAL SAMPLE LOCATIONS
(cont'd)

PALM BEACH COUNTY

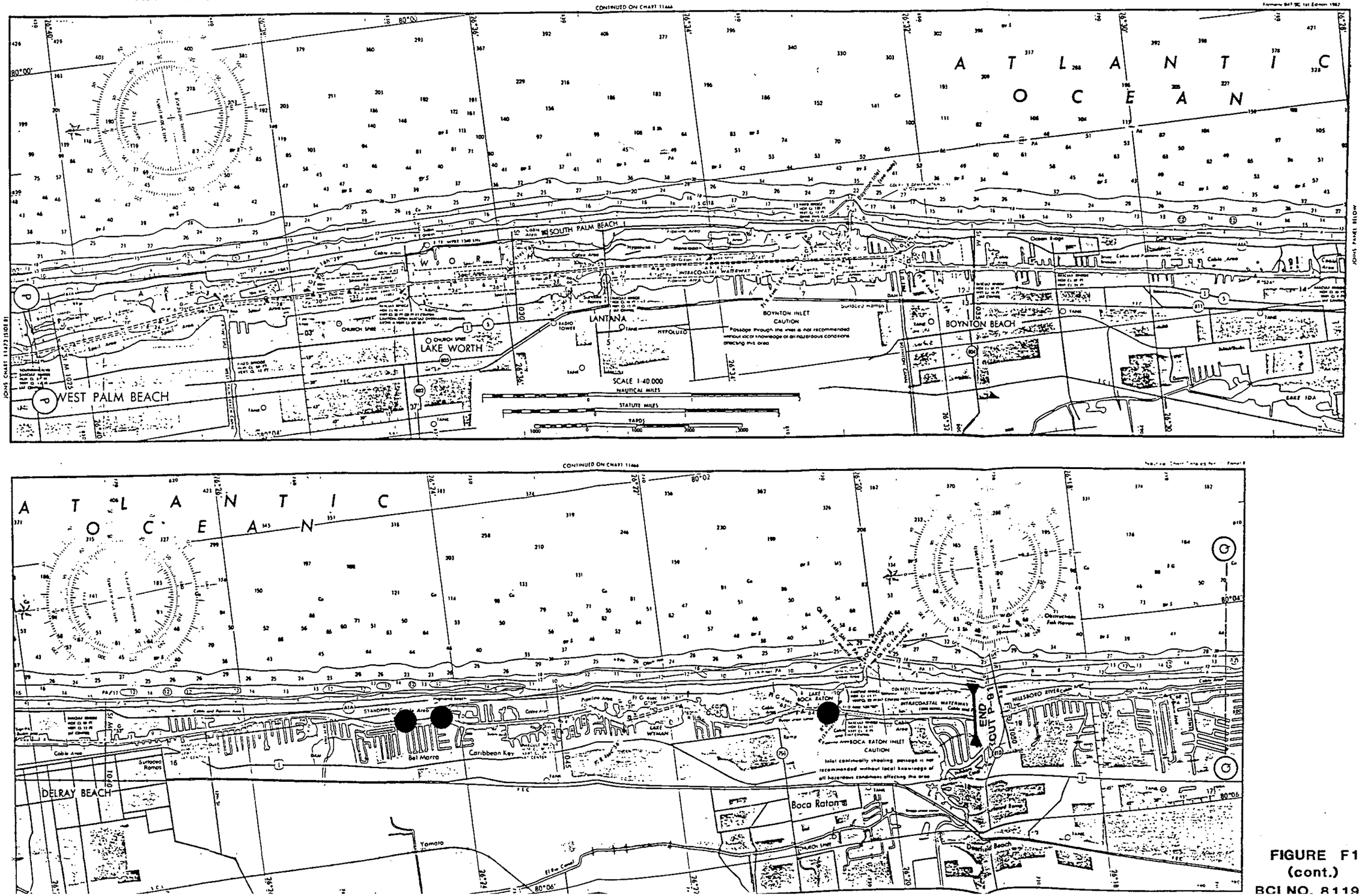


FIGURE F1 (cont.)
BCI NO. 8119

ICWW SEDIMENT QUALITY
HISTORICAL SAMPLE LOCATIONS
(cont'd)

PALM BEACH COUNTY

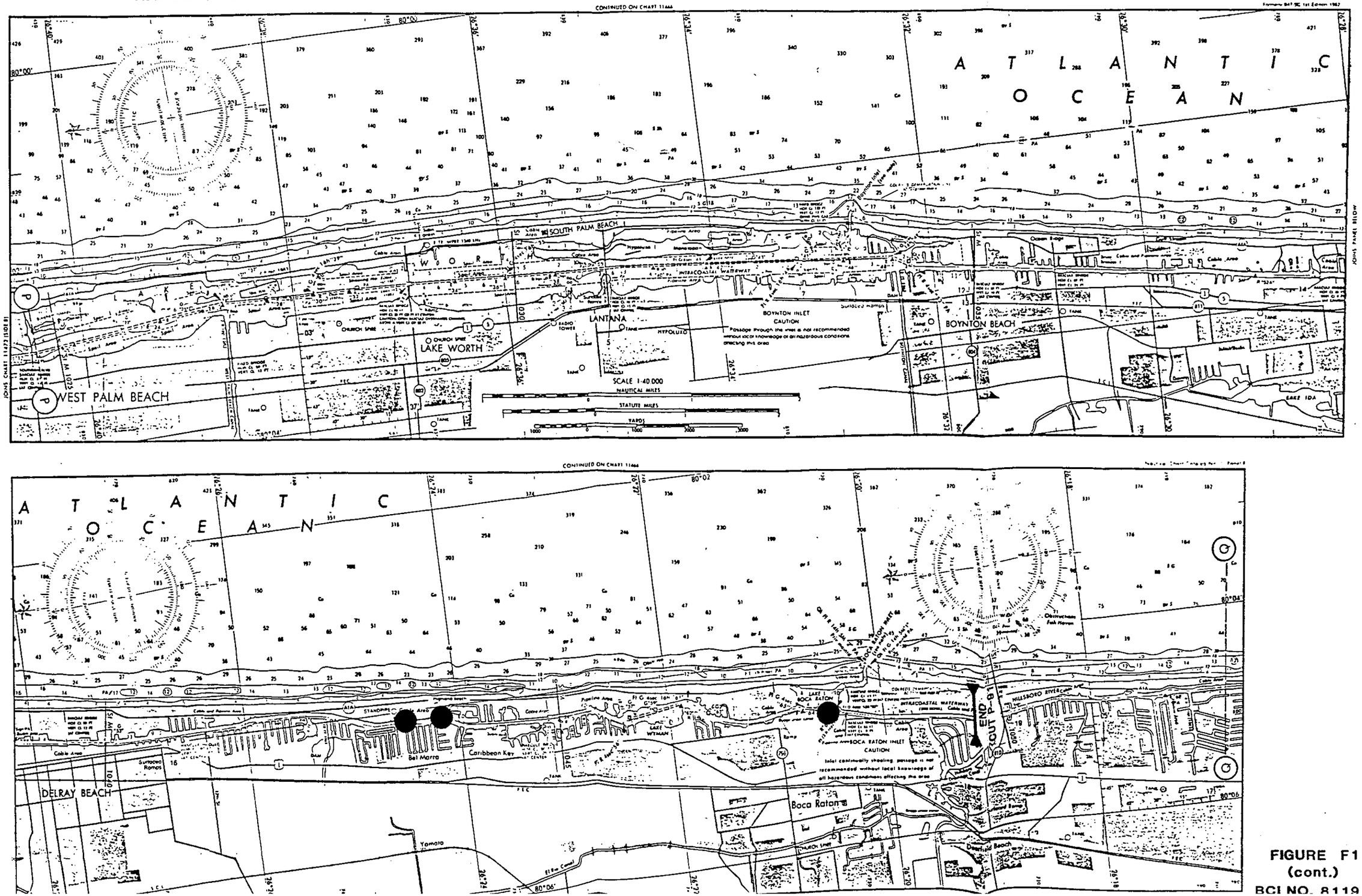
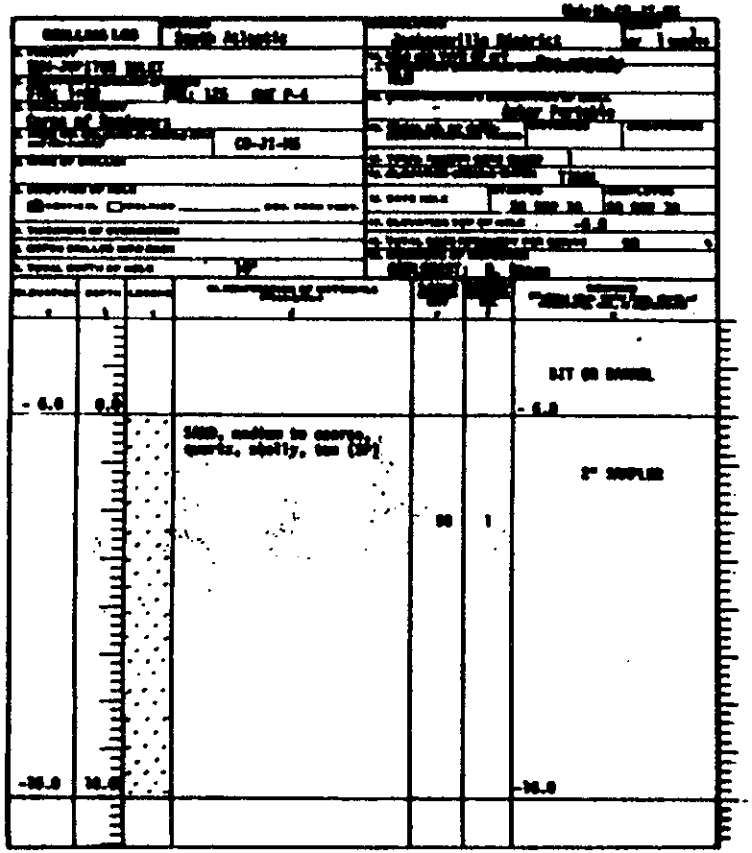
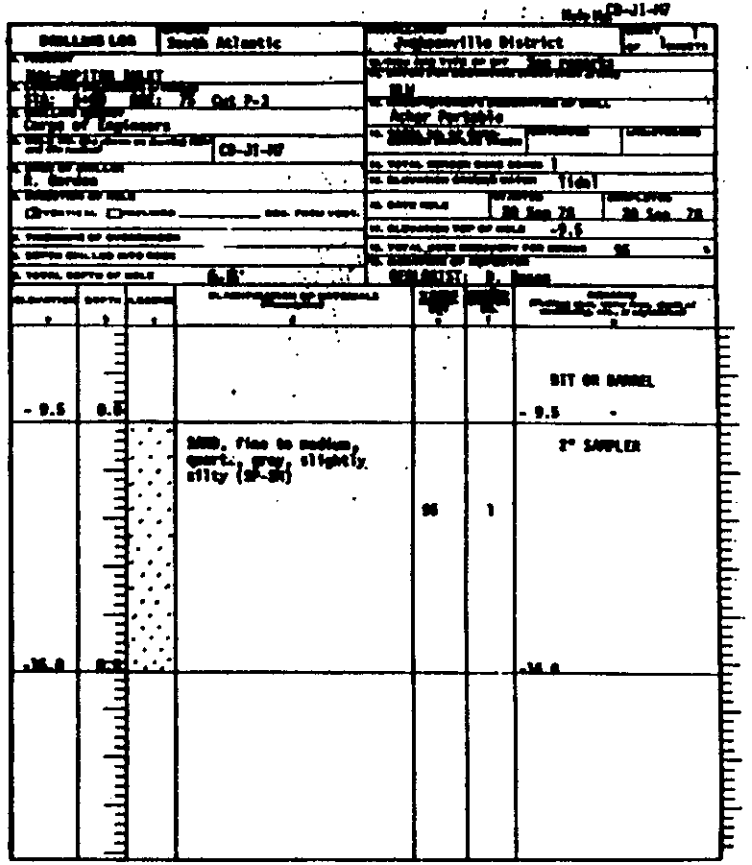


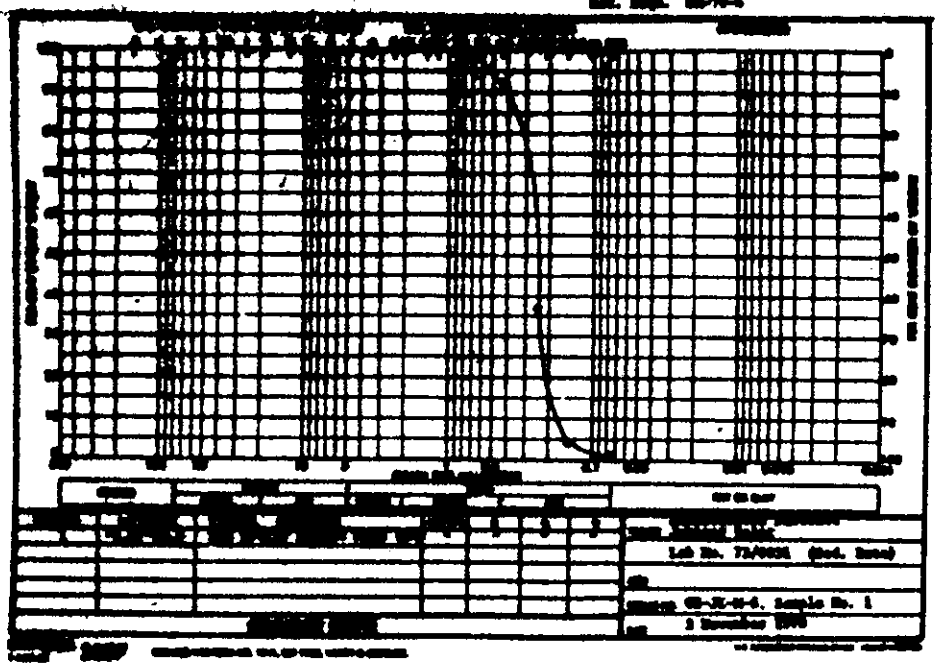
FIGURE F1 (cont.)
BCI NO. 8119

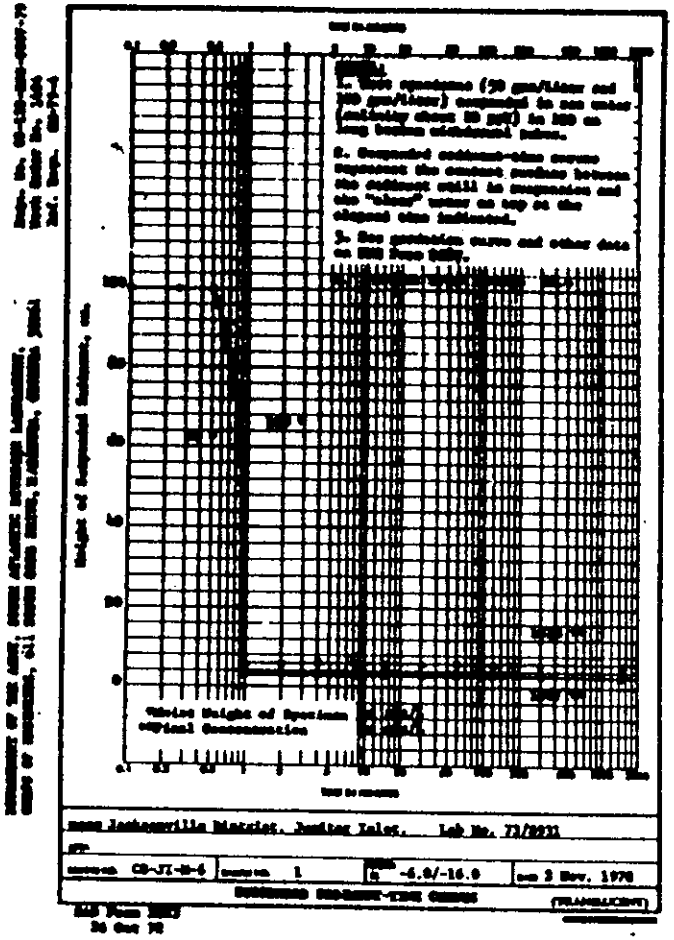
TYPICAL SEDIMENT AND WATER QUALITY DATA

REACH I : VICINITY OF JUPITER INLET
ICWW CUTS P-1 THROUGH P-13


DRILLING LOG
South Atlantic
Jacksonville District
Acker Portable
CB-J1-H6
SAND, medium to coarse, quartz, shelly, tan (SP)
SPT OR BARREL
2" SAMPLER
-6.0
-16.0
16
1


DRILLING LOG
South Atlantic
Jacksonville District
Acker Portable
CB-J1-H7
SAND, fine to medium, quart., gray, slightly silty (SP-SM)
SPT OR BARREL
2" SAMPLER
-9.5
-16.0
16
1




Height of Suspended Sediment, cm
Water Height of Specimen
at Final Consolidation
Lab No. 73/9931
CB-JI-B-6
-6.0/-16.0

Hole No. CB-JI-M4

DRILLING LOG	DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT: IWW-JUPITER INLET	10. SIZE AND TYPE OF BIT: See Remarks
2. LOCATION (Coordinates or Station): STA: 78+00 R&E: 25 CUT P-1	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW
3. DRILLING AGENCY: Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL: Acker Portable
4. HOLE NO. (As shown on drawing title and file number): CB-JI-M4	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: UNDISTURBED:
5. NAME OF DRILLER: R. Gordon	14. TOTAL NUMBER CORE BOXES: 1
6. DIRECTION OF HOLE: XX VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: TIDAL
7. THICKNESS OF OVERBURDEN	16. DATE HOLE: STARTED 19 SEP 78 COMPLETED 19 SEP 78
8. DEPTH DRILLED INTO ROCK	17. ELEVATION TOP OF HOLE: -9.5
9. TOTAL DEPTH OF HOLE: 6.5'	18. TOTAL CORE RECOVERY FOR BORING: 100 %
	19. [redacted]: GEOLOGIST: D. ROSEN

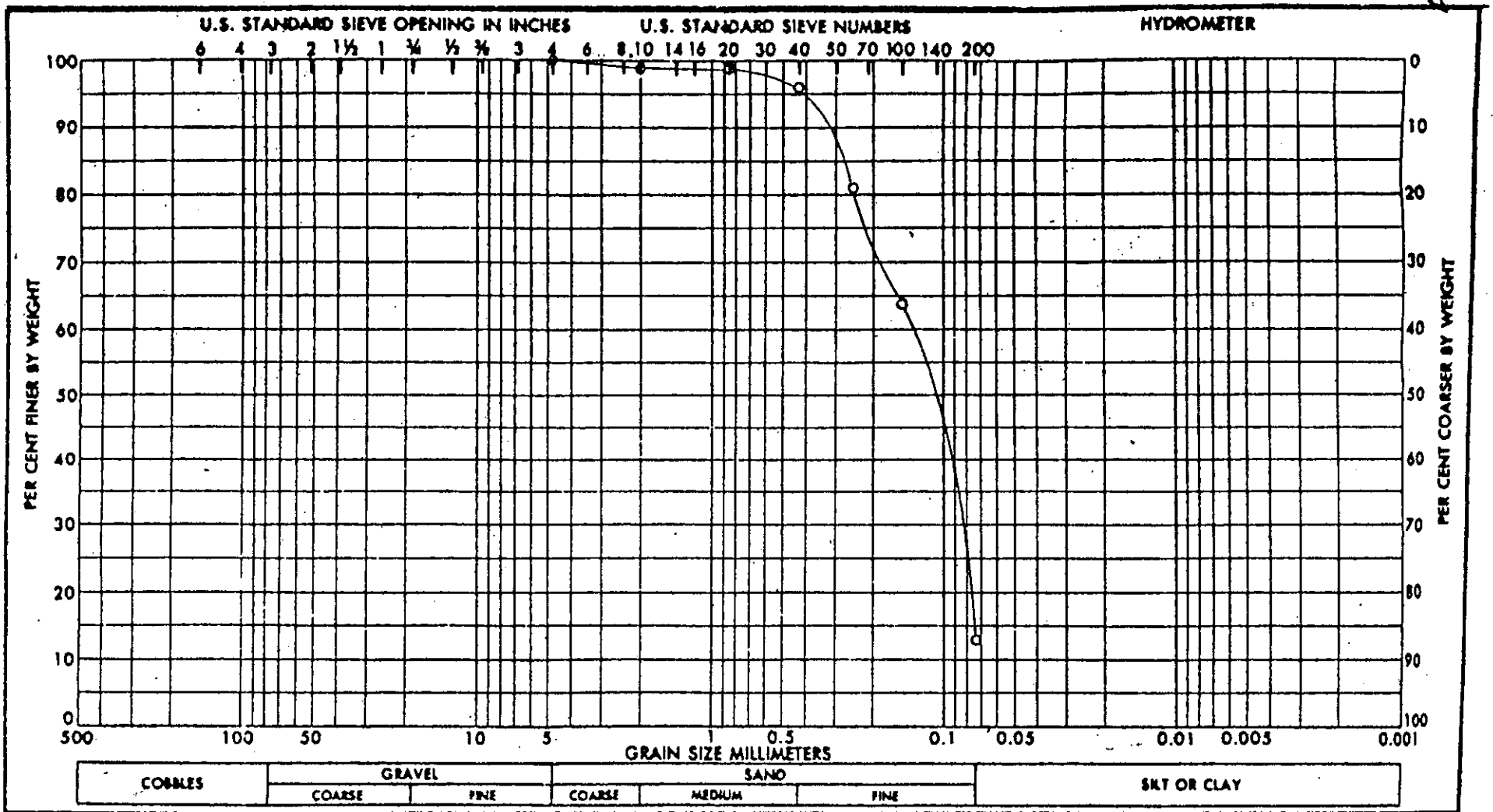
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
- 9.5	0.0					BIT OR BARREL - 9.5
-16.0	6.5		SAND, fine to medium, quartz, slightly shelly (SM)	100	1	2" SAMPLER -16.0

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA 30061

WORK ORDER NO. 1494
Reg. No. [illegible]

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30061

WORK ORDER NO. 1494
Req. No. 08-123-ENG-0007-79
Ref. Reqn. GM-79-4



SAMPLE NO.	ELEV OR DEPTH	Visual CLASSIFICATION	NAT W%	LL	PL	PI
1	-9.5/-16.0	Light gray silty sand (SM) < 1% shell	-	-	-	-

GRADATION CURVES

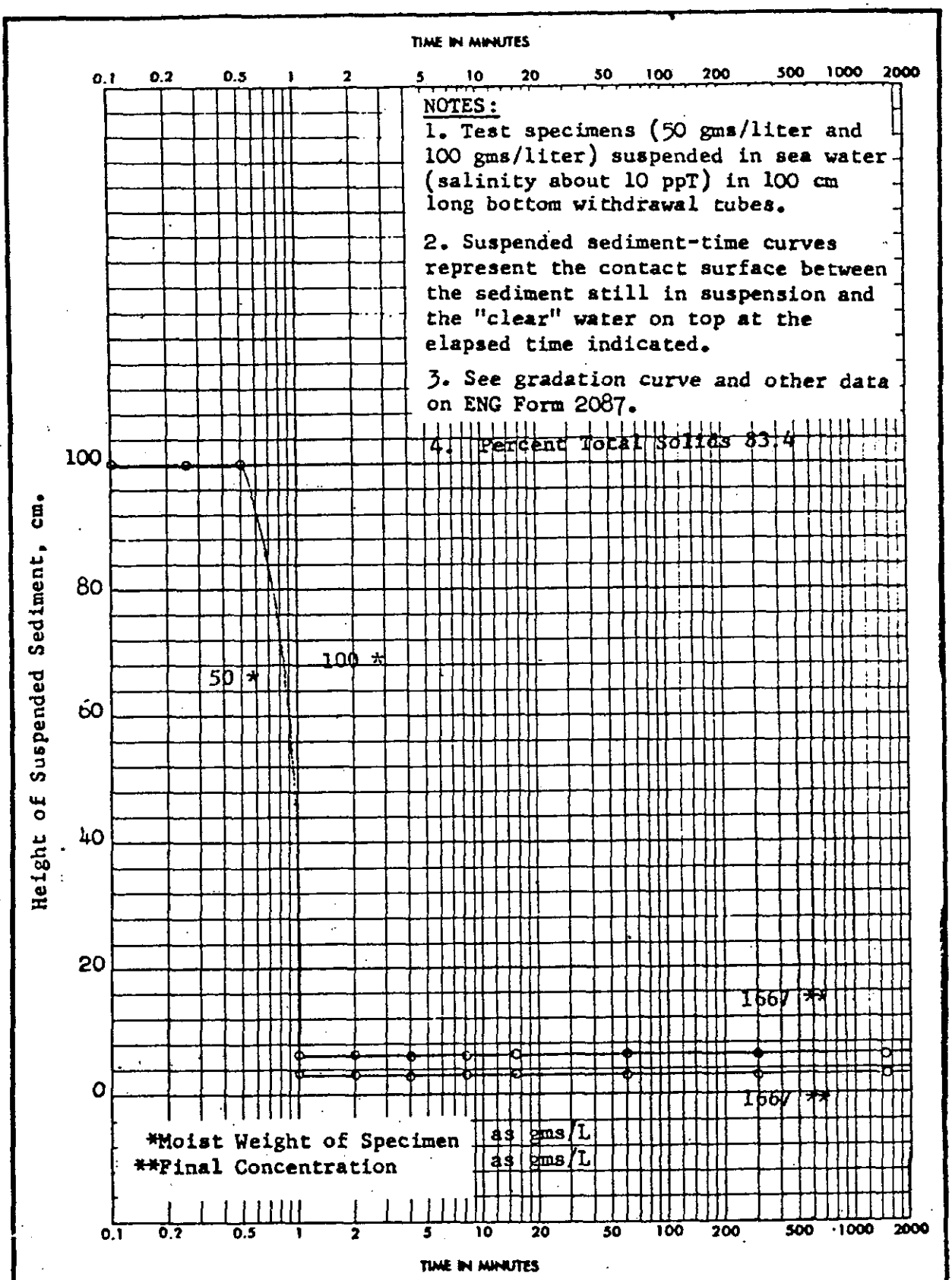
PROJECT Jacksonville District Jupiter Inlet
Lab No. 73/8930 (Sed. Rate)
AREA
BORING NO. CB-JI-M-4, Sample No. 1
DATE 3 November 1978

ENG FORM 2087
1 MAY 60

REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30061

Reqn. No. 08-123-ENG-0007-79
Work Order No. 1494
Ref. Reqn. GM-79-4



PROJECT Jacksonville District Jupiter Inlet, Lab No. 73/8930

AREA

BORING NO. CB-JI-M-4 | SAMPLE NO. 1 | EL -9.5/-16.0 | DATE 3 Nov. 1978

SUSPENDED SEDIMENT-TIME CURVES (TRANSLUCENT)

SAD Form 3023
26 Oct 72

U. S. ARMY ENGINEER DIVISION LABORATORY, SOUTH ATLANTIC
CORPS OF ENGINEERS
MARIETTA, GEORGIA

DISTRICT: Jacksonville
PROJECT: IWW J to M
CONTRACT NO.:

GENERAL TEST REPORT

(SEDIMENT)

DATE REPORTED: 10 March 1972
WORK ORDER NO.: 7383
REQN. NO.: ED 72-126
08-123 Eng 109-72
BASE UNIT COST:
DATE SAMPLE RECEIVED: 24 February 1972
LAB NO.: See below

DESCRIPTION: Sediment Samples
SOURCE:
FOR USE AS:
TESTED FOR: Chemical Anslysis (see below)

☐ MEETS SPECIFICATIONS ☐ FAILS SPECIFICATIONS (See below)

	PER CENT BY WEIGHT (DRY BASIS)			
Lab. No.	3D-281	3D-282	3D-283	3D-284
Field Sample No.	M 5-1	M 5-2	P 1-1	P 1-2
Volatile Solids (Max 6.0)	2.14	2.74	2.12	2.18
T. V. S., Formula EC	1.63	1.56	1.58	1.53
Total Organic Carbon	0.60	0.46	0.27	0.49
B. O. D., (Max 5.0)	0.32	0.24	0.27	0.21
Nitrogen, Kjeldahl (Max 0.10)	0.017	0.008	0.014	0.009
Oil and Grease (Max 0.15)	0.04	0.04	0.07	0.04
Lead (Max 0.005)	0.0006	0.0011	0.0030	<0.0005
Zinc (Max 0.005)	0.0011	0.0010	< 0.0001	0.0007
Mercury (Max 0.0001)	0.00005	0.00004	0.00003	0.00005
Total Phosphorous as PO_4	0.08	0.21	0.16	0.14
Iron	0.224	0.118	0.110	0.104
Cadmium	0.0001	0.0003	0.0001	0.0003
Arsenic	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Chromium	0.0030	0.0019	0.0015	0.0021
Nickel	0.0054	0.0044	< 0.0005	0.0016
Copper	0.0027	0.0015	0.0012	0.0016

REMARKS: All results are below the maximum limits (shown in parenthesis) established by Appendix A to EC 1165-2-97, 12 May 1971 for the determination of the acceptability of dredged spoil disposal to the Nations waters.

Trace metals and nitrogen analyses were performed by Law and Company.

REPORTED BY: ☐ PHONE ☐ WIRE
DATE:

TESTED BY: CJC, DW
CHECKED BY: DW
SAMPLED BY:

SAD FORM 158
2% OCT 60

Previous editions of this form are obsolete.

U. S. ARMY ENGINEER DIVISION LABORATORY, SOUTH ATLANTIC
CORPS OF ENGINEERS
MARIETTA, GEORGIA

DISTRICT: Jacksonville
PROJECT: IWW J to M
CONTRACT NO.:

GENERAL TEST REPORT

(SEDIMENT)

DATE REPORTED: 10 March 1972
WORK ORDER NO.: 7383
REQN. NO.: ED 72-126
08-123 Eng 109-72
BASE UNIT COST:

DESCRIPTION: Sediment Samples
SOURCE:
FOR USE AS:
TESTED FOR: Chemical Analysis (see below)

DATE SAMPLE RECEIVED: 24 February 1972
LAB NO.: See below

☐ MEETS SPECIFICATIONS ☐ FAILS SPECIFICATIONS (See below)

	PER CENT BY WEIGHT (DRY BASIS)			
Lab. No.	3D-285	3D-286	3D-287	3D-288
Field Sample No.	P 1-3	P 2-1	P 2-2	P 3-1
Volatile Solids (Max 6.0)	2.13	1.54	0.89	1.50
T. V. S., Formula EC	1.49	1.46	1.46	1.52
Total Organic Carbon	0.46	0.25	0.27	0.24
O. D., (Max 5.0)	0.17	0.14	0.14	0.20
Nitrogen, Kjeldahl (Max 0.10)	0.008	0.009	0.009	0.009
Oil and Grease (Max 0.15)	0.04	0.02	0.06	0.05
Lead (Max 0.005)	< 0.0005	< 0.0005	0.0012	< 0.0005
Zinc (Max 0.005)	0.0002	0.0012	0.0021	0.0012
Mercury (Max 0.0001)	0.00003	0.00005	0.00005	0.00005
Total Phosphorous as PO_4	0.07	0.09	0.07	0.14
Iron	0.064	0.076	0.069	0.116
Cadmium	0.0001	<0.0001	< 0.0001	< 0.0001
Arsenic	< 0.0001	0.0001	< 0.0001	< 0.0001
Chromium	0.0012	0.0023	0.0020	0.0011
Nickel	< 0.0005	< 0.0005	0.0017	< 0.0005
Copper	0.0008	0.0022	0.0021	0.0006

REMARKS: All results are below the maximum limits (shown in parentheses) established by Appendix A to EC 1165-2-97, 12 May 1971 for the determination of the acceptability of dredged spoil disposal to the Nations waters.

Trace metals and nitrogen analyses were performed by Law and Company.

PORTED BY: ☐ PHONE ☐ WIRE
DATE:

TESTED BY: CJC, DW
CHECKED BY: DW
SAMPLED BY:

SAD FORM 158
24 OCT 60

Previous editions of this form are obsolete.

6

U. S. ARMY ENGINEER DIVISION LABORATORY, SOUTH ATLANTIC
CORPS OF ENGINEERS
MARIETTA, GEORGIA

DISTRICT: Jacksonville
PROJECT: IWW J to M
CONTRACT NO.:

GENERAL TEST REPORT

(SEDIMENT)

DATE REPORTED: 10 March 1972
WORK ORDER NO.: 7383
DESCRIPTION: Sediment Samples
REQN. NO.: ED 72-126
08-123 Eng 109-72
SOURCE:
BASE UNIT COST:
FOR USE AS:
DATE SAMPLE RECEIVED: 24 February 1972
TESTED FOR: Chemical Analysis (see below)
LAB NO.: See below

☐ MEETS SPECIFICATIONS ☐ FAILS SPECIFICATIONS (See below)

	PER CENT BY WEIGHT (DRY BASIS)			
Lab. No.	3D-289	3D-290	3D-291	3D-292
Field Sample No.	P 4-1	P 4-2	P 5-1	P 5-2
Volatile Solids (Max 6.0)	1.61	1.73	2.44	1.93
T. V. S., Formula EC	1.49	1.54	1.67	1.53
Total Organic Carbon	0.44	0.22	0.46	0.18
C. O. D., (Max 5.0)	0.17	0.22	0.36	0.22
Nitrogen, Kjeldahl (Max 0.10)	0.008	0.008	0.016	0.012
Oil and Grease (Max 0.15)	0.07	0.05	0.06	0.03
Lead (Max 0.005)	< 0.0005	0.0023	0.0014	<0.0005
Zinc (Max 0.005)	0.0010	0.0018	0.0020	0.0016
Mercury (Max 0.0001)	0.00005	0.00006	0.00011	0.00004
Total Phosphorous as PO_4	0.13	0.11	0.18	0.15
Iron	0.113	0.091	0.166	0.112
Cadmium	< 0.0001	0.0001	0.0001	< 0.0001
Arsenic	0.0002	< 0.0001	< 0.0001	<0.0001
Chromium	0.0018	0.0013	0.0019	0.0018
Nickel	0.0042	0.0025	0.0014	0.0027
Copper	0.0018	0.0027	0.0024	0.0023

REMARKS: All results are within the maximum limits (shown in parentheses) established by Appendix A to EC 1165-2-97, 12 May 1971 for the determination of the acceptability of dredged spoil disposal to the Nations waters.

Trace metals and nitrogen analyses were performed by Law and Company.

REPORTED BY: ☐ PHONE ☐ WIRE
DATE:

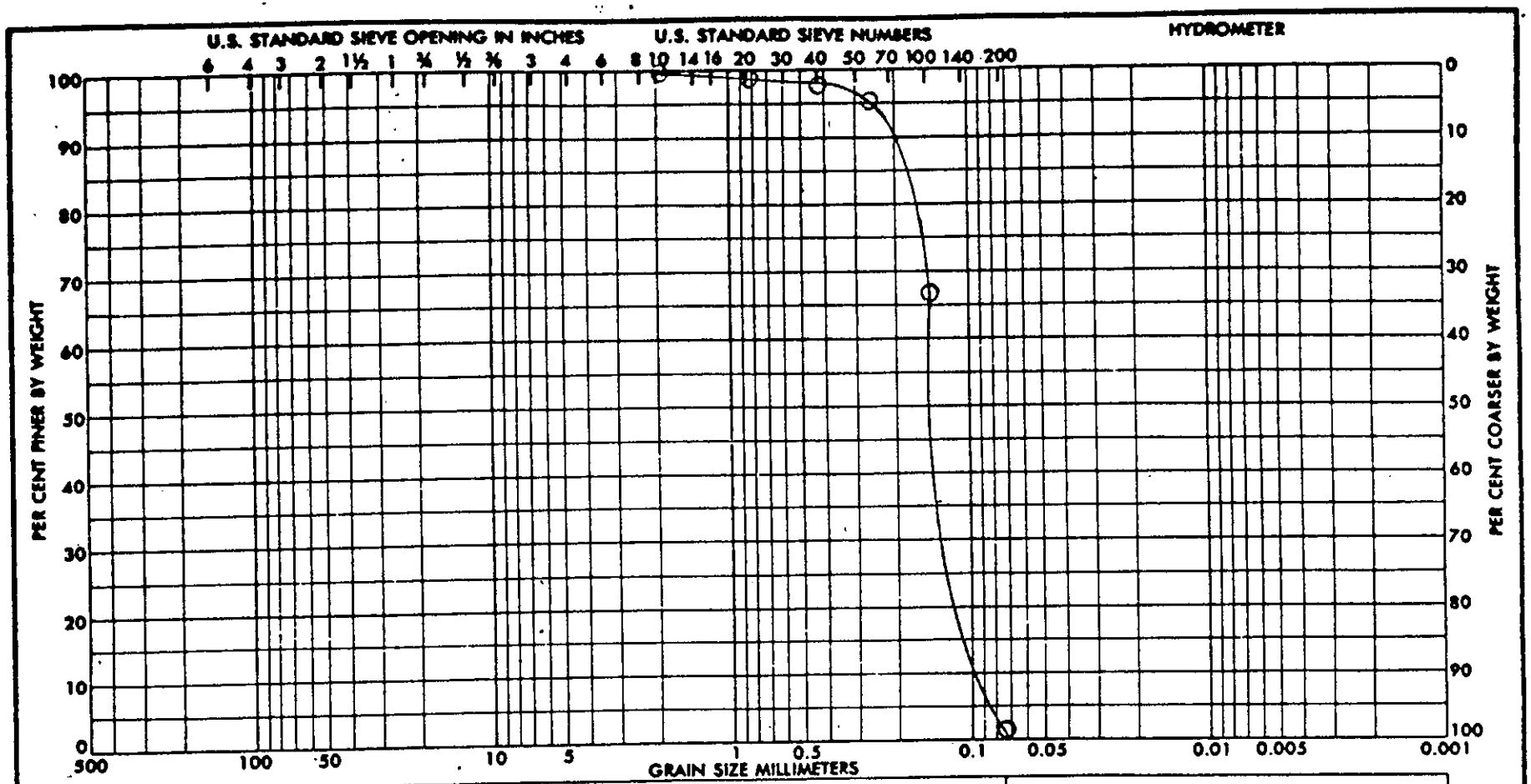
TESTED BY: CJC DW
CHECKED BY: DW
SAMPLED BY:

SAD FORM 158
25 OCT 60

Previous editions of this form are obsolete.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



SAMPLE NO:	ELEV OR DEPTH	CLASSIFICATION	NATURAL W%	LL	PL	PI
P 1-1	--	Gray poorly graded sand and occasional shell (SP)	25.3	NP	NP	NP
		(Specific Gravity = 2.68)				

GRADATION CURVES

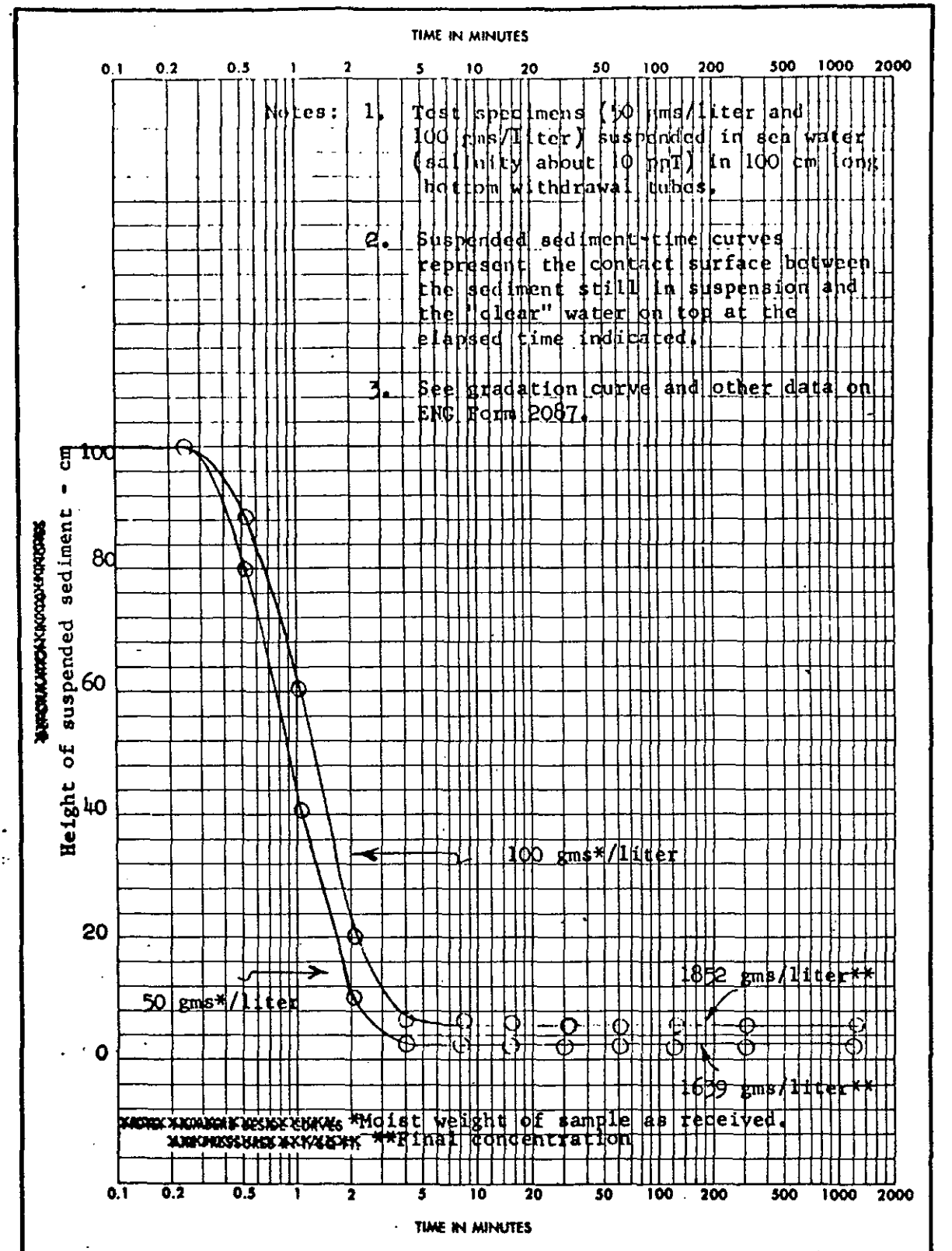
PROJECT IWW, J to M Jacksonville District
Lab. No. 73/3947* (3D-283)
AREA --
Sample No. P 1-1
DATE 31 March 1972

*Sedimentation Rate Tests

ENG FORM 2087 REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



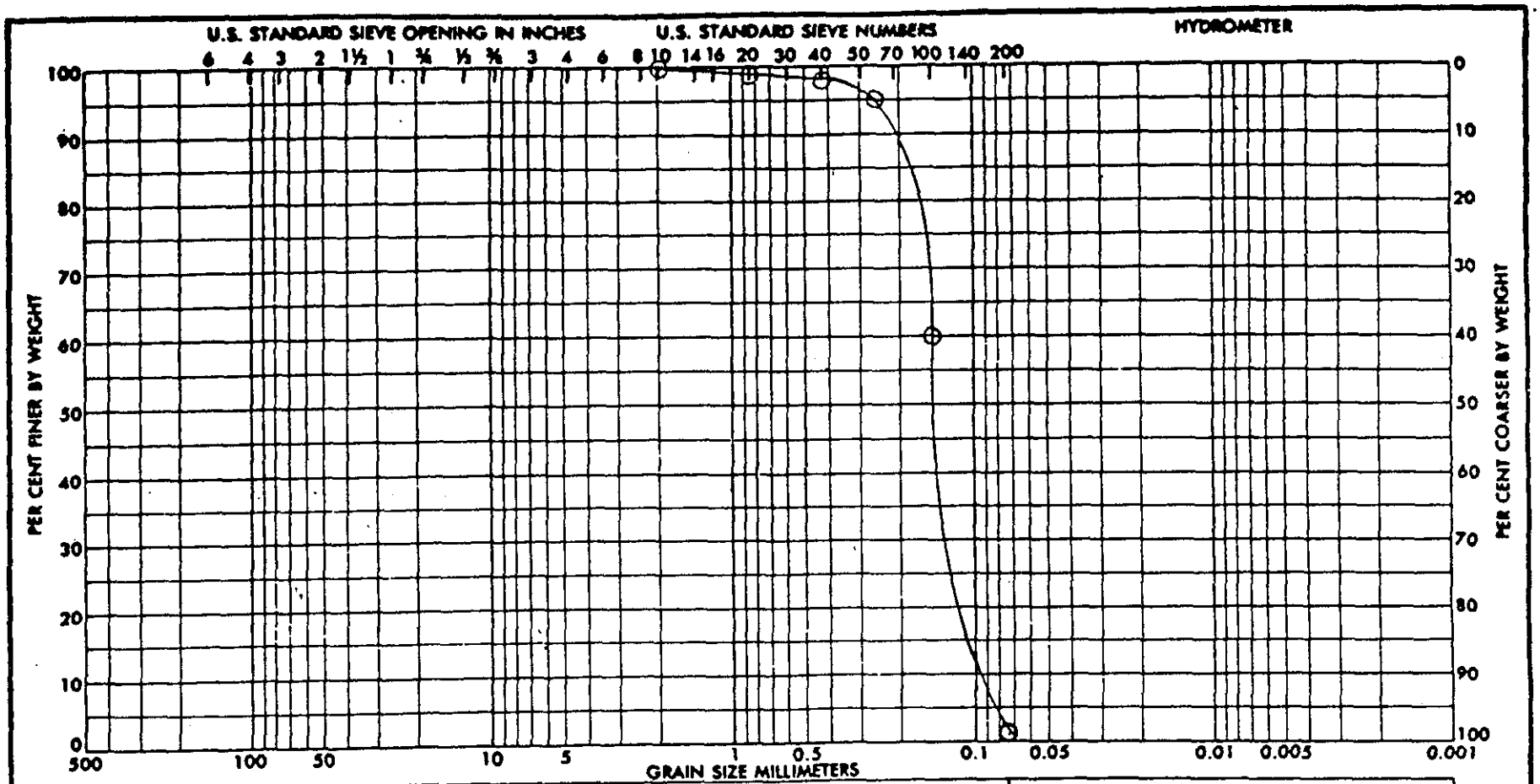
PROJECT	IWW, J to M, Jacksonville District			
AREA	Lab. No. 73/3947 (3D 283)			
BORING NO. --	SAMPLE NO. P 1-1	DEPTH EL --	DATE 31 March 1972	

ENG FORM 2088 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. CONSOLIDATION TEST TIME CURVES (TRANSLUCENT)

SUSPENDED SEDIMENT - TIME CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT. W%	LL	PL	PI
P 1-2	--	Gray poorly graded sand and occasional shell (SP)	24.2	NP	NP	NP
		(Specific Gravity = 2.67)				

GRADATION CURVES

PROJECT IWW, J to M, Jacksonville District.
Lab. No. 73/3948* (3D-284)
AREA --
Sample No. P 1-2
DATE 31 March 1972

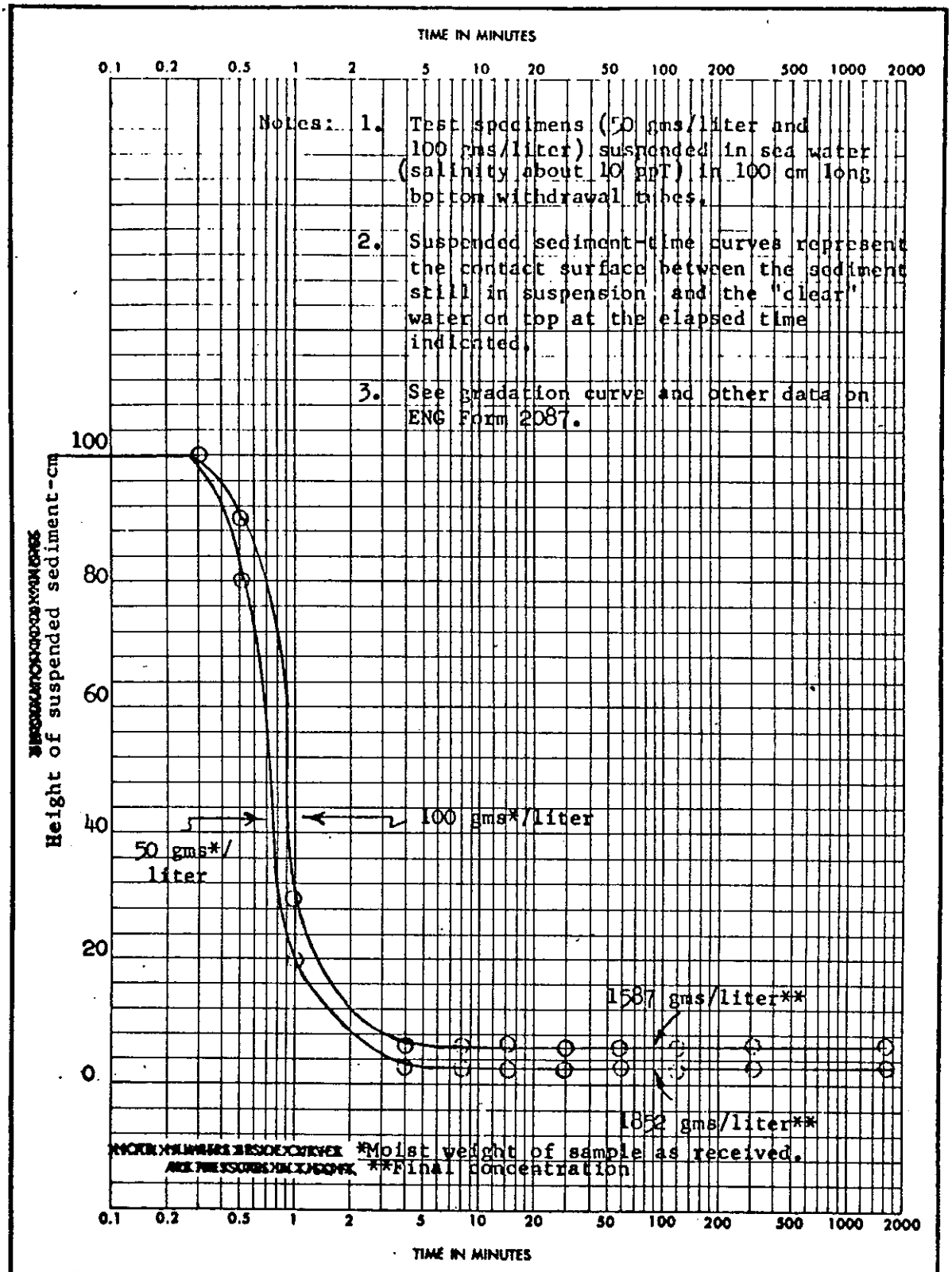
ENG FORM 2087
1 MAY 63

REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

*(Sedimentation Rate Tests)

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORG 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



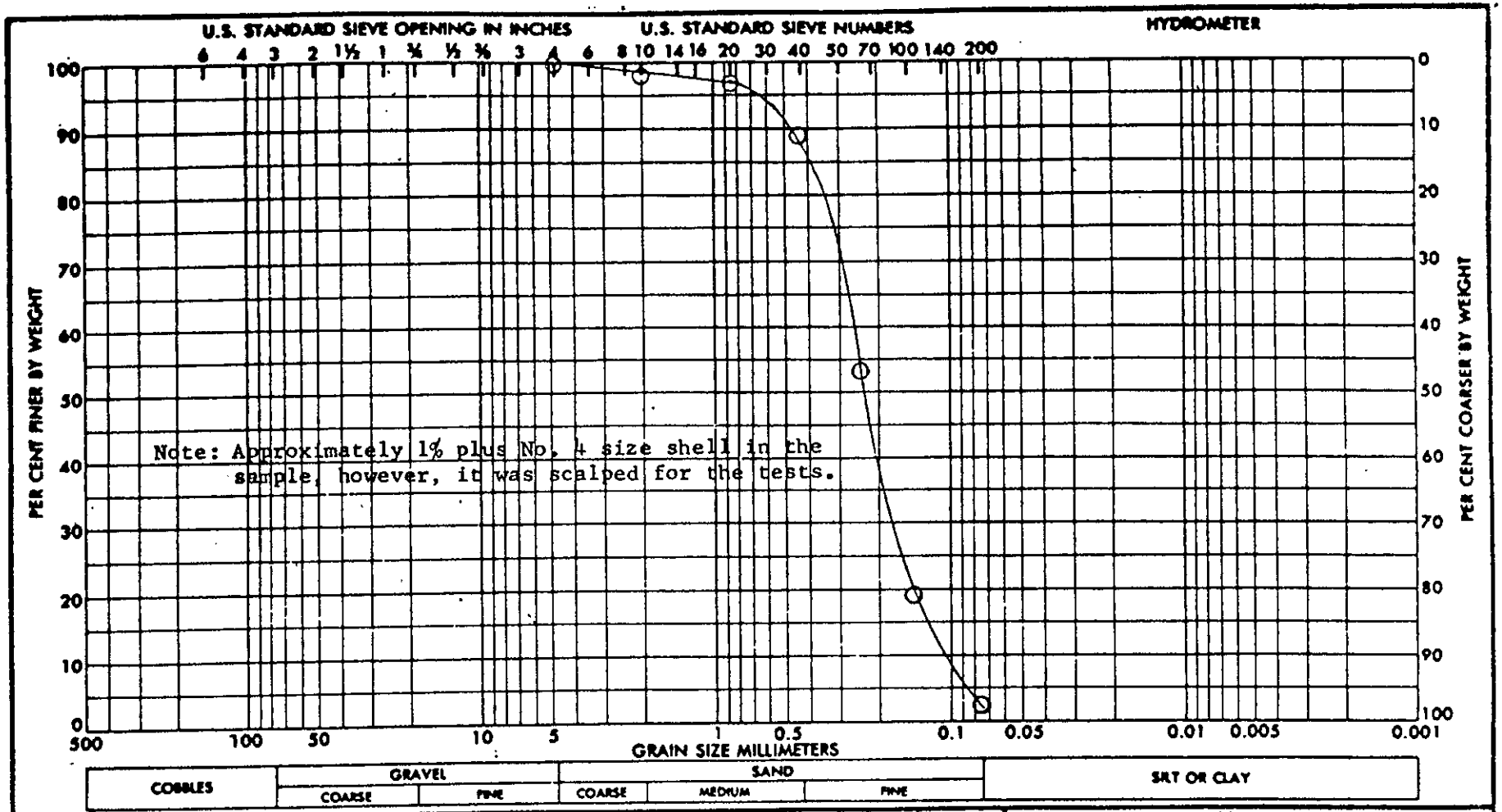
PROJECT	IWW, J to M, Jacksonville District			
AREA	Lab. No. 73/3948 (3D 284)			
BORING NO. --	SAMPLE NO. P 1-2	DEPTH EL --	DATE 31 March 1972	

ENG FORM 2088 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. CONSOLIDATION TEST TIME CURVES (TRANSLUCENT)

SUSPENDED SEDIMENT - TIME CURVE

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NATURAL W%	LL	PL	PI
P 1-3	--	Gray poorly graded sand, and occasional shell (SP)	20.2	NP	NP	NP
		(Specific Gravity = 2.67)				

GRADATION CURVES

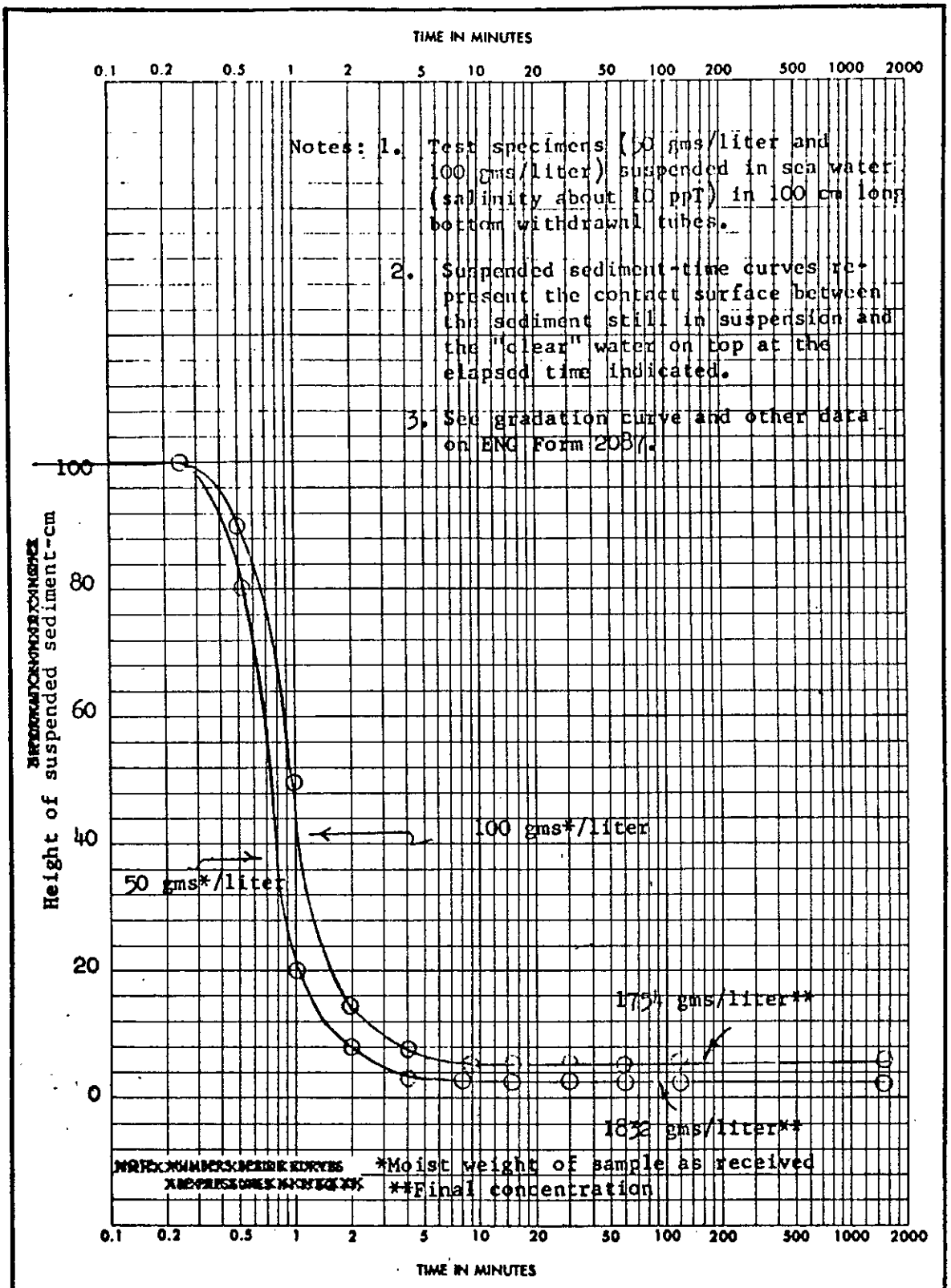
PROJECT IWW, J to M, Jacksonville District
Lab. No. 73/3949* (3D-285)
AREA --
Sample No. P 1-3
DATE 31 March 1972

ENG FORM 2087 1 MAY 63 REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

*(Sedimentation Rate Tests)

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



PROJECT IWW, J to M, Jacksonville District

AREA Lab. No. 73/3949 (3D 285)

BORING NO. --	SAMPLE NO. P 1-3	DEPTH EL --	DATE 31 March 1972

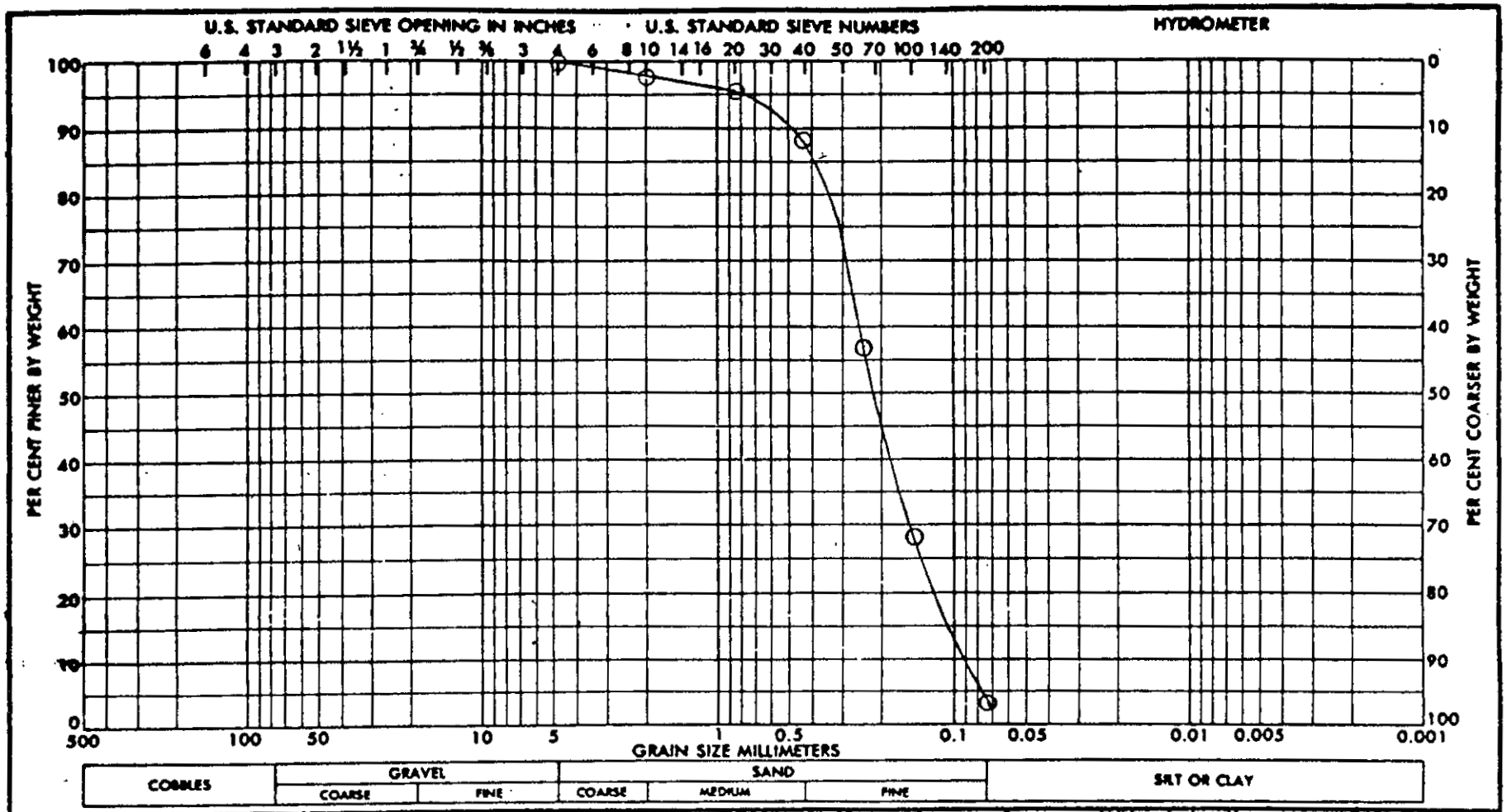
ENG FORM 2088 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. CONSOLIDATION TEST - TIME CURVES (TRANSLUCENT)

SUSPENDED SEDIMENT - TIME CURVES

* GPO : 1964 O-715-903

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	[illegible]%	LL	PL	PI
P 2-1	--	Gray poorly graded sand and occasional shell (SP)	19.2	NP	NP	NP
		(Specific Gravity = 2.68)				

GRADATION CURVES

PROJECT IWW, J to N, Jacksonville District
Lab. No. 73/3950* (3D-286)
AREA --
[illegible] Sample No. P 2-1
DATE 31 March 1972

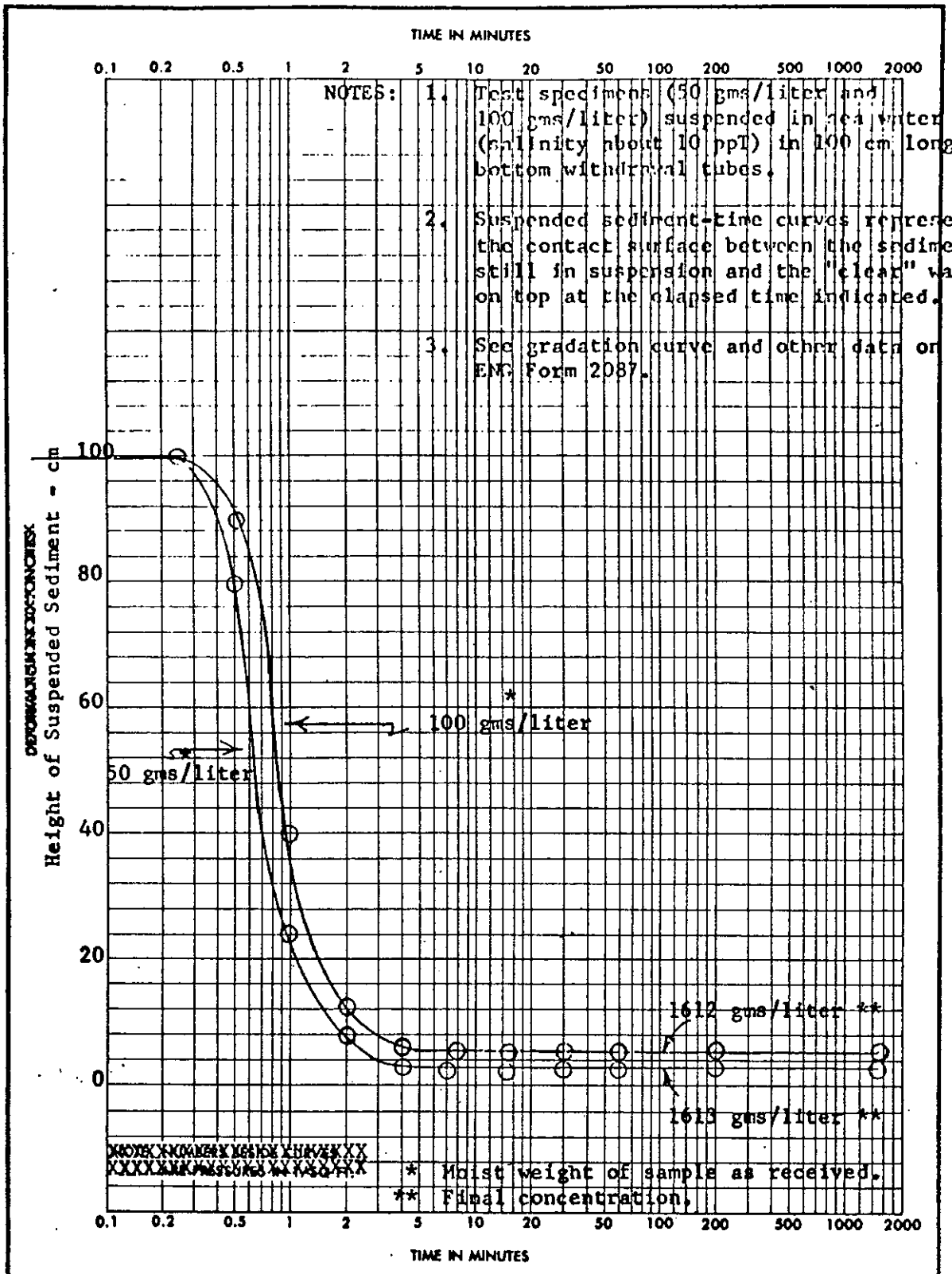
*(Sedimentation Rate Tests)

ENG FORM 2087
1 MAY 63
REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

U.S. GOVERNMENT PRINTING OFFICE 1963 OF—700-120

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY, CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

REQ. NO. 08-123-ENG-109-72
WORK ORDER NO. 7383



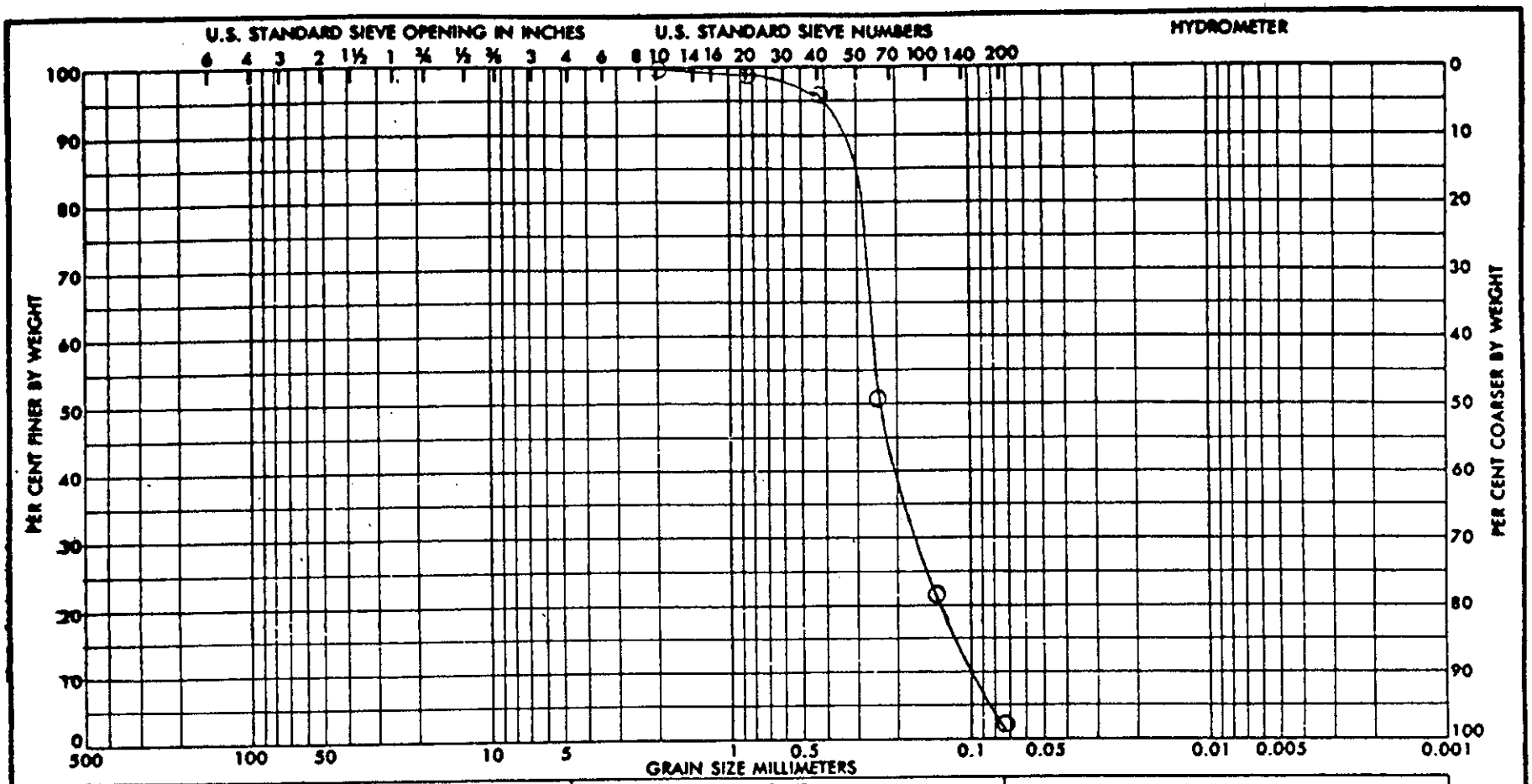
PROJECT	IWW, J to M, Jacksonville District				
AREA	Lab. No. 73/3950 (3D 286)				
BORING NO.	-	SAMPLE NO.	P2-1	DEPTH EL	-
DATE	31 March 1972				

ENG FORM 2088 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. CONSOLIDATION TEST-TIME CURVES (TRANSLUCENT)

SUSPENDED SEDIMENT-TIME CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No. 08-123-ENG-10[illegible]2
Work Order No. 7383



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
P2-2	-	Gray poorly graded sand & shell (SP)	19.9	NP	NP	NP
		(Specific Gravity = 2.68)				

GRADATION CURVES

PROJECT IWW, J to M
Jacksonville District
Lab No. 73/3951* (3D-287)
AREA -
BORING NO. Sample No. P2-2
DATE 3 April 1972

U.S. GOVERNMENT PRINTING OFFICE 1963 O-700-120

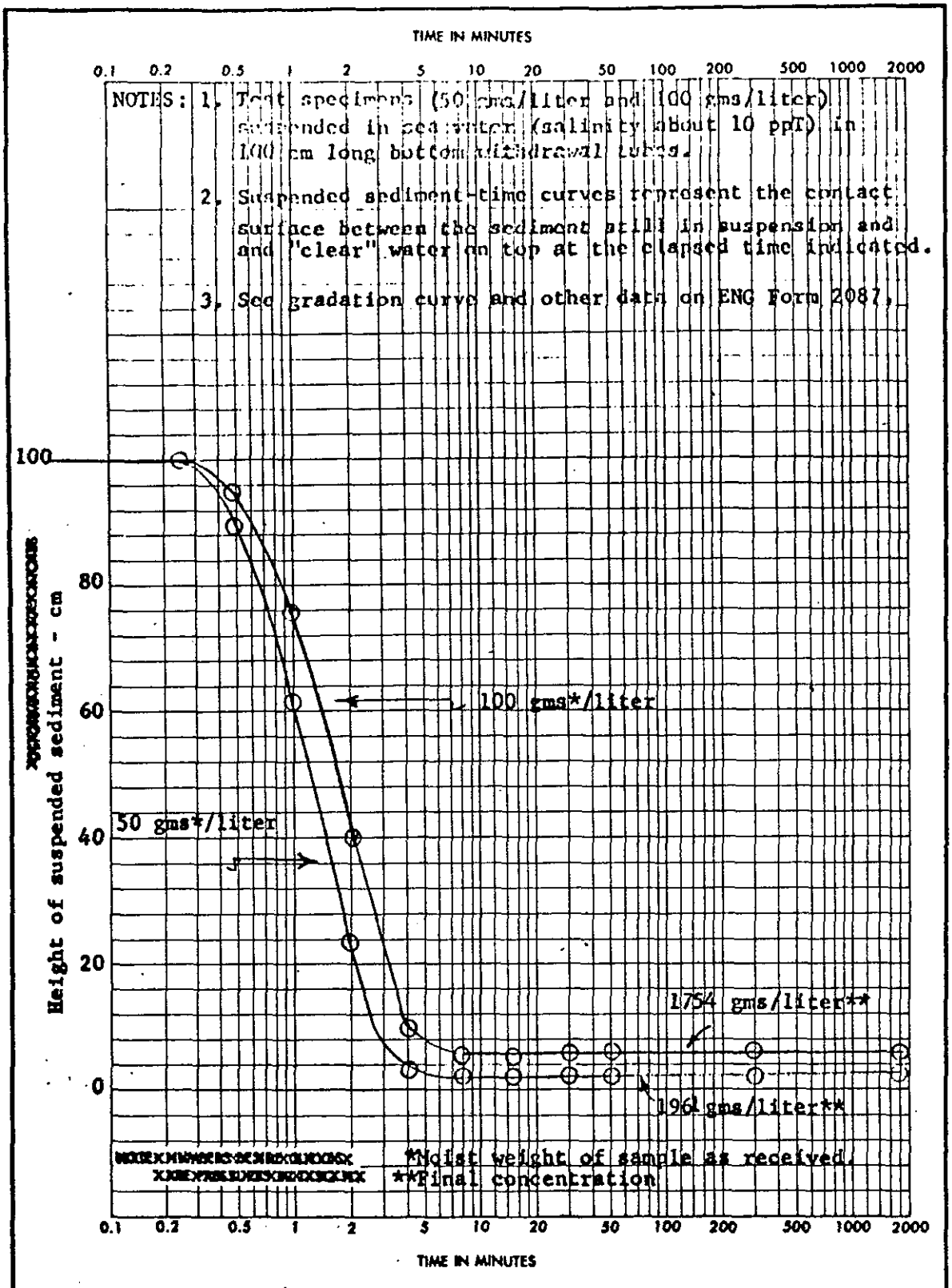
ENG FORM 2087
1 MAY 63

REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

*(Sedimentation Rate Tests)

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383

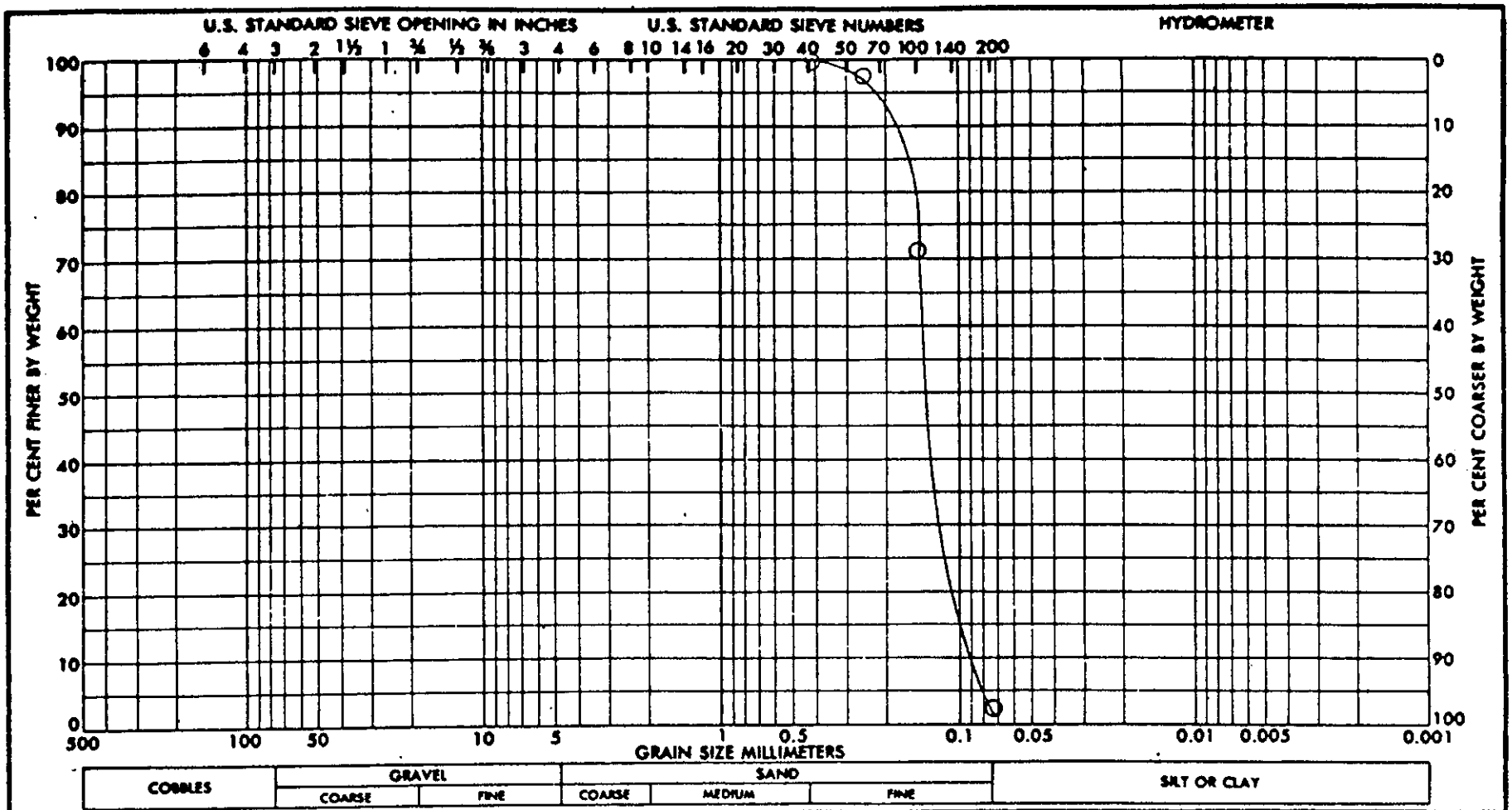


PROJECT	IWW, J to M - Jacksonville District			
AREA	Lab No. 73/3951 (3D 287)			
BORING NO. -	SAMPLE NO. P2-2	DEPTH EL -	DATE 3 April 1972	
ENG FORM 2088 1 MAY 63	PREVIOUS EDITIONS ARE OBSOLETE.	CONSOLIDATION TEST TIME CURVES	(TRANSLUCENT)	

SUSPENDED SEDIMENT-TIME CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NSR W%	LL	PL	PI
P3-1	-	Gray poorly graded sand (SP)	27.9	NP	NP	NP
		(Specific Gravity = 2.71)				

GRADATION CURVES

PROJECT IWW, J to M; Jacksonville Dist
Lab No. 73/3952 * (3D-288)
AREA
BORING NO. Sample No. P3-1
DATE 3 April 1972

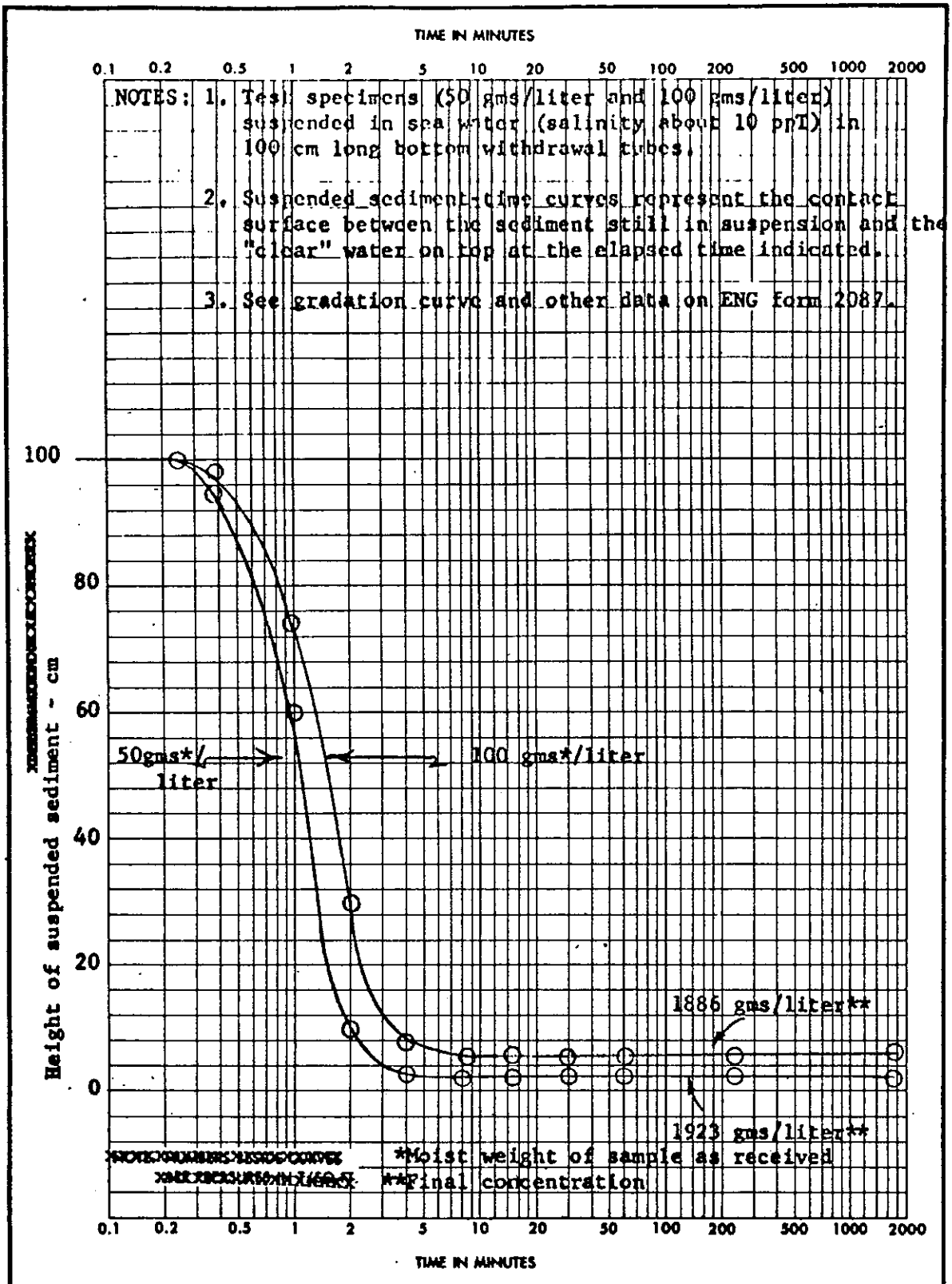
ENG FORM 2087
1 MAY 63

REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

*(Sedimentation Rate Tests)

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



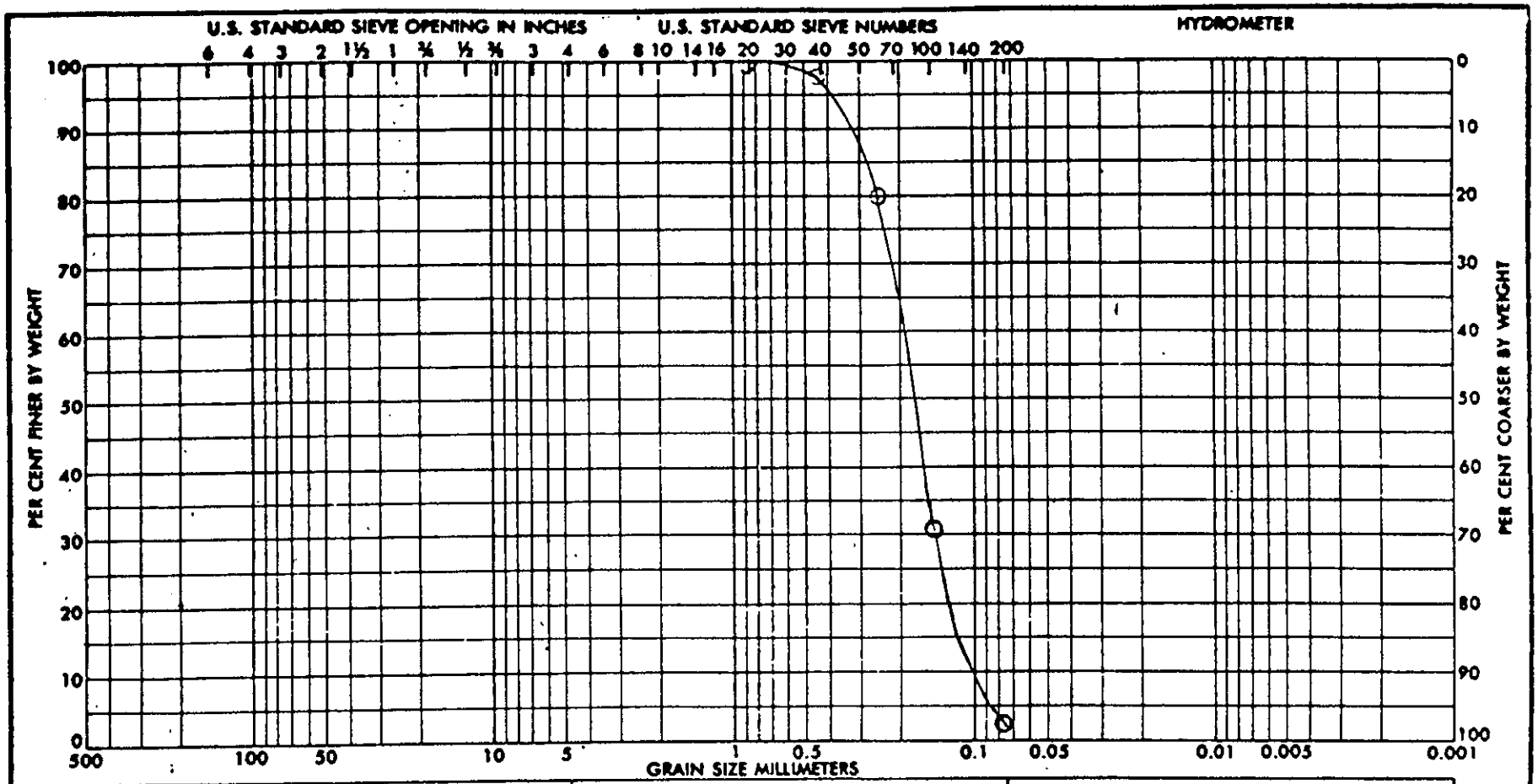
PROJECT IWW, J to M - Jacksonville District			
AREA Lab No. 73/3952 (3D 288)			
BORING NO. -	SAMPLE NO. P3-1	DEPTH EL -	DATE 3 April 1972

ENG FORM 2088 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. ~~CONSOLIDATION TEST - TIME CURVES~~ (TRANSLUCENT)

SUSPENDED SEDIMENT - TIME CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No. 08-123-ENG-109-71
Work Order No. 7383



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NMC%	LL	PL	PI
P4-1	-	Gray poorly graded sand (SP)	26.7	NP	NP	NP
		(Specific Gravity = 2.68)				

GRADATION CURVES

PROJECT IWW, J to M-Jacksonville Dist.
Lab No. 73/3953*(3D-289)
AREA
BORING NO. Sample No. P4-1
DATE 3 April 1972

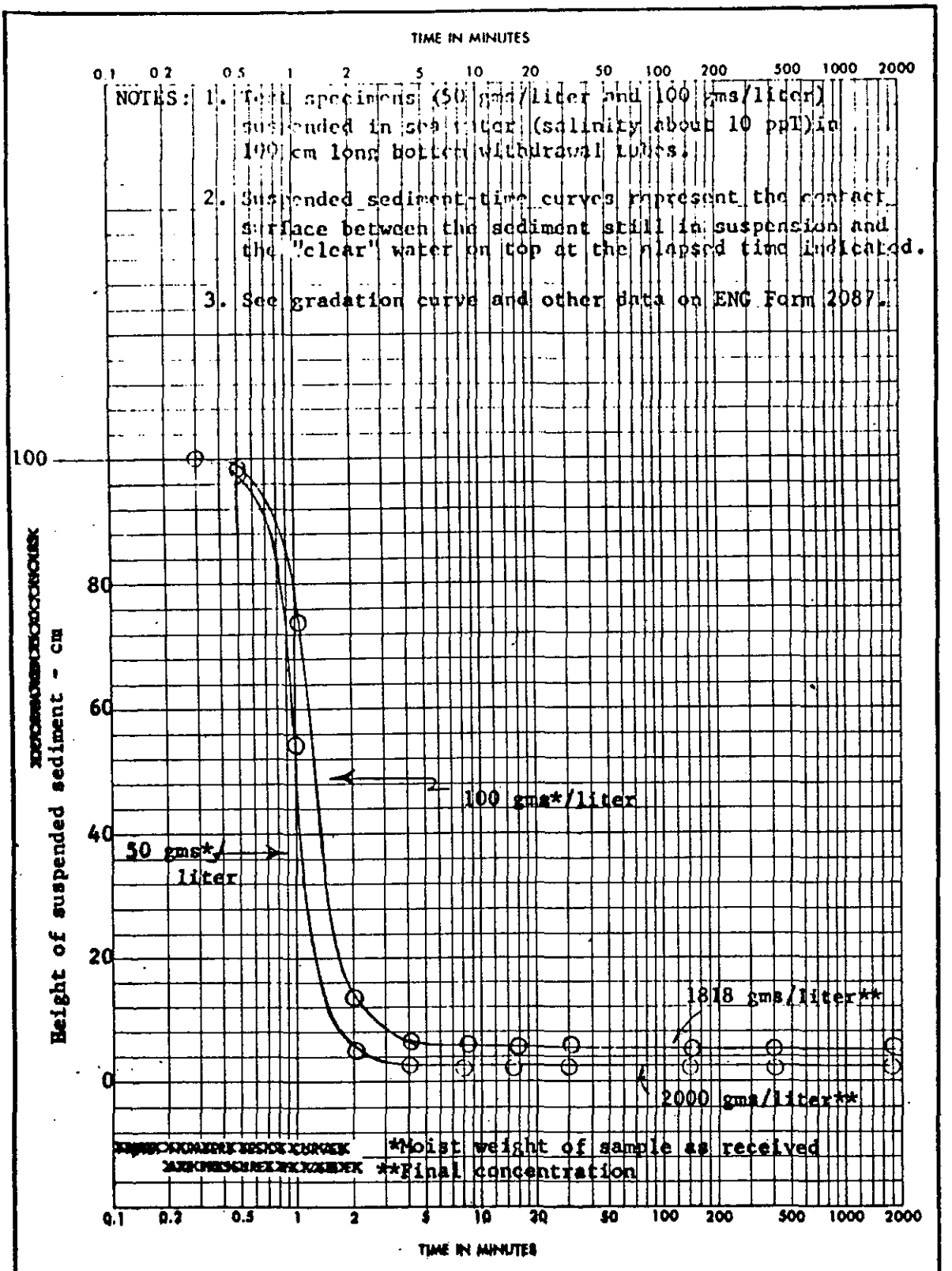
ENG FORM 2087
1 MAY 63

REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

*(Sedimentation Rate Tests)

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



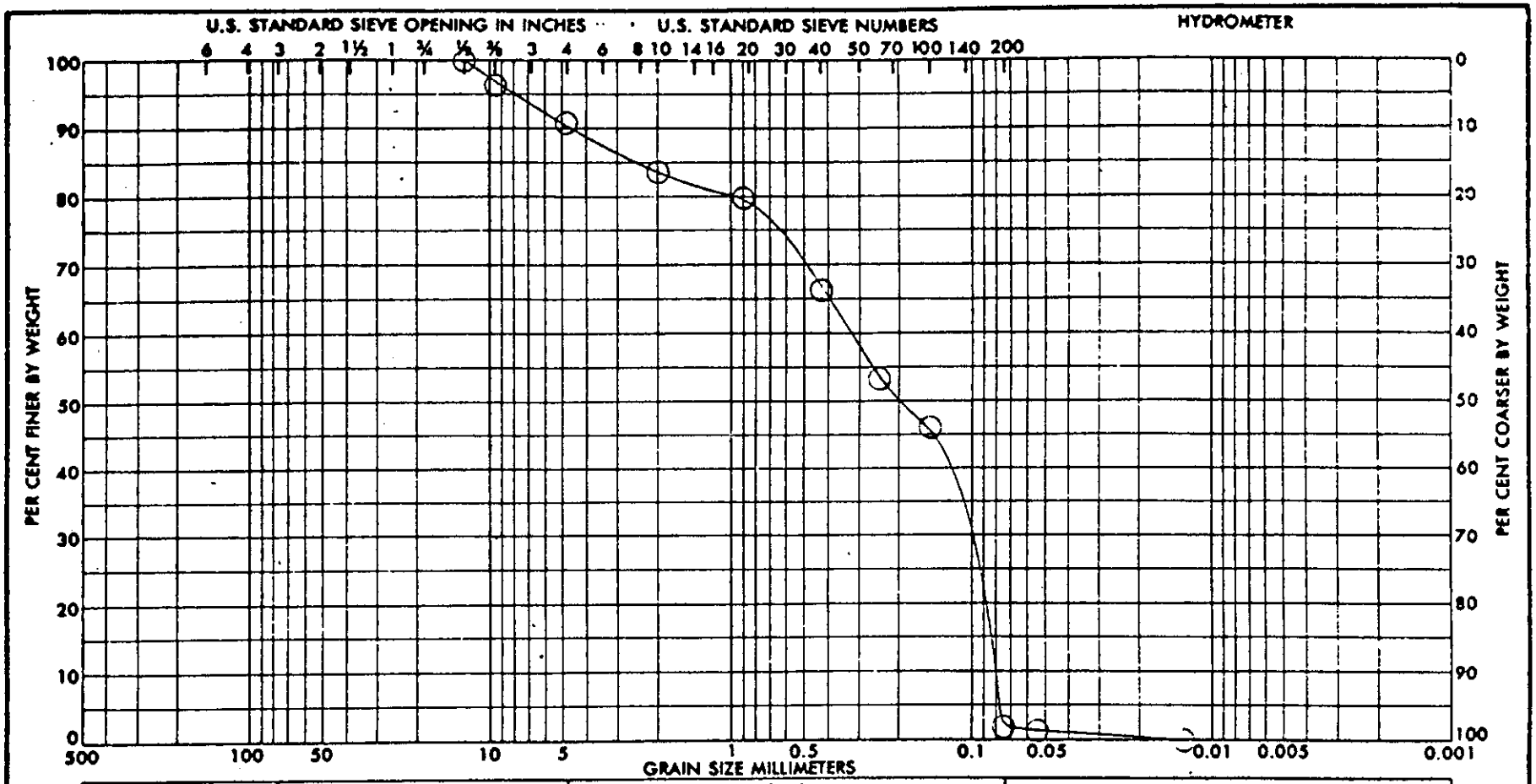
PROJECT	IWW, J to M - Jacksonville District			
AREA	Lab No. 73/3953 (3D289)			
BORING NO. -	SAMPLE NO. P4-1	DEPTH Ft -	DATE	3 April 1972

ENG FORM 2088 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. CONSOLIDATION TEST - TIME CURVES (TRANSLUCENT)

SUSPENDED SEDIMENT - TIME CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
P-4-2	-	Gray poorly graded sand (SP) w/gravel size shell fragments (Specific gravity = 2.70)	21.5	NP	NP	NP

GRADATION CURVES

PROJECT IWW, J to M - Jacksonville Dist.
Lab No. 73/3954* (3D-290)
AREA
BORING NO. Sample No. P4-2
DATE 3 April 1972

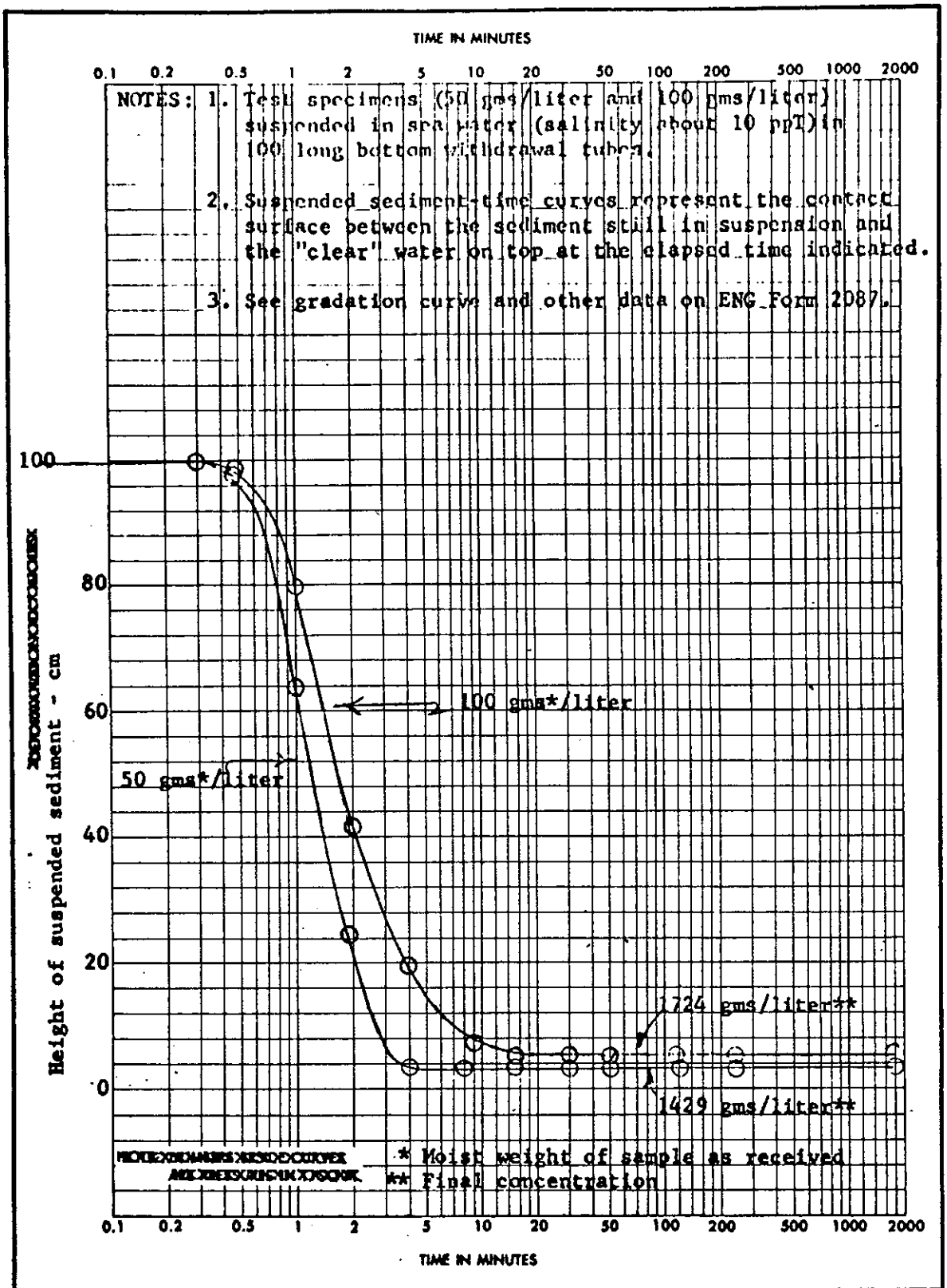
ENG FORM 2087 1 MAY 63 REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

*(Sedimentation Rate Tests)

54

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



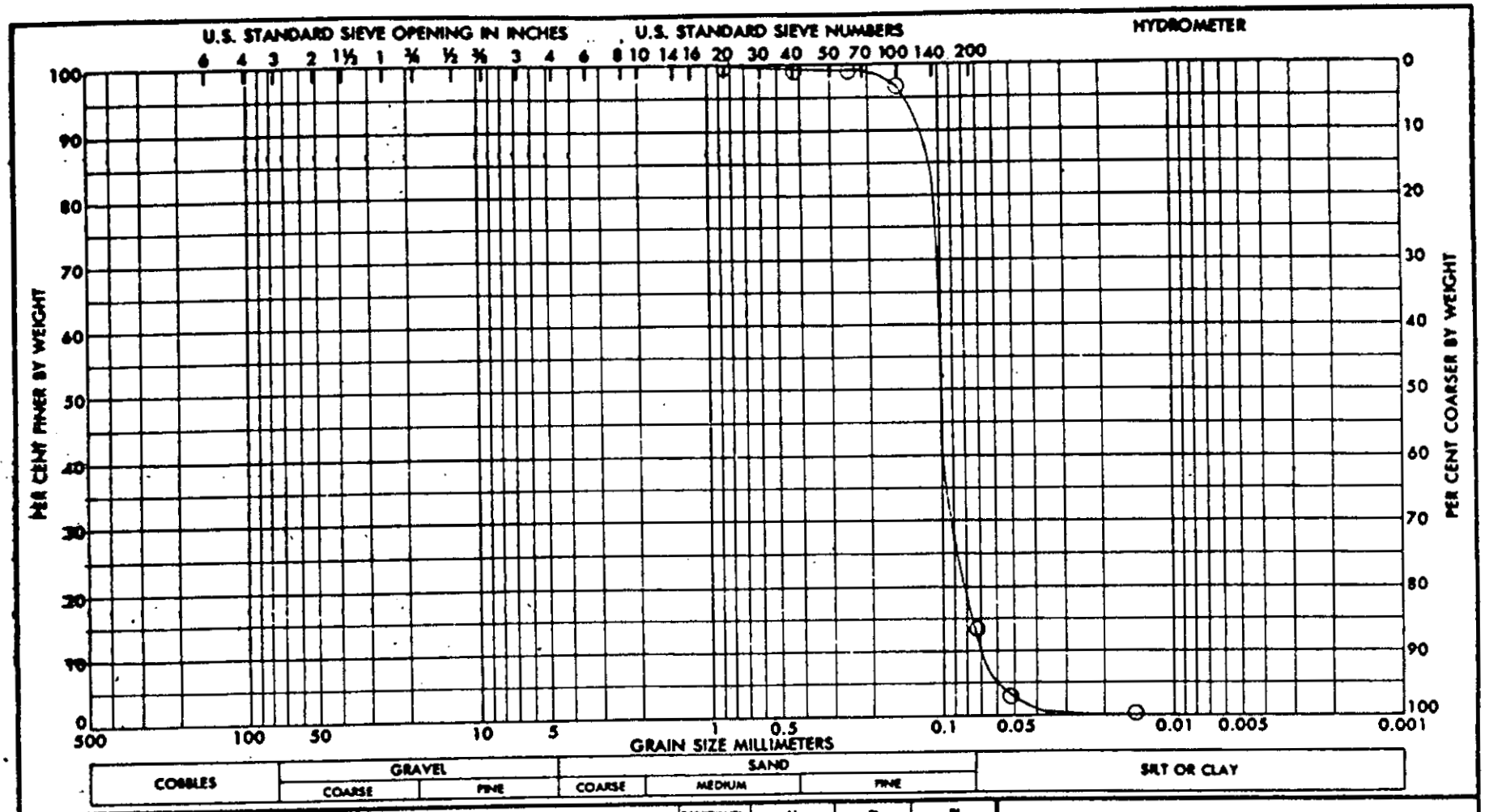
PROJECT	IWW, J to M - Jacksonville District			
AREA	Lab No. 73/3954 (3D 290)			
BORING NO. -		SAMPLE NO. P4-2	DEPTH EL -	DATE 3 April 1972

ENG FORM 2088 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. CONSOLIDATION TEST - TIME CURVES (TRANSLUCENT)

SUSPENDED SEDIMENT - TIME CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No 08-123-ENG-109-72
Work Order No. 7383



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NATURAL W%	LL	PL	PI
P5-1	-	Gray silty sand (SM)	26.9	NP	NP	NP
		(Specific Gravity = 2.68)				

GRADATION CURVES

PROJECT IWW, J to M - Jacksonville Dist
Lab No. 73/3955* (3D-291)
AREA
BORING NO. Sample No. P5-1
DATE 3 April 1972

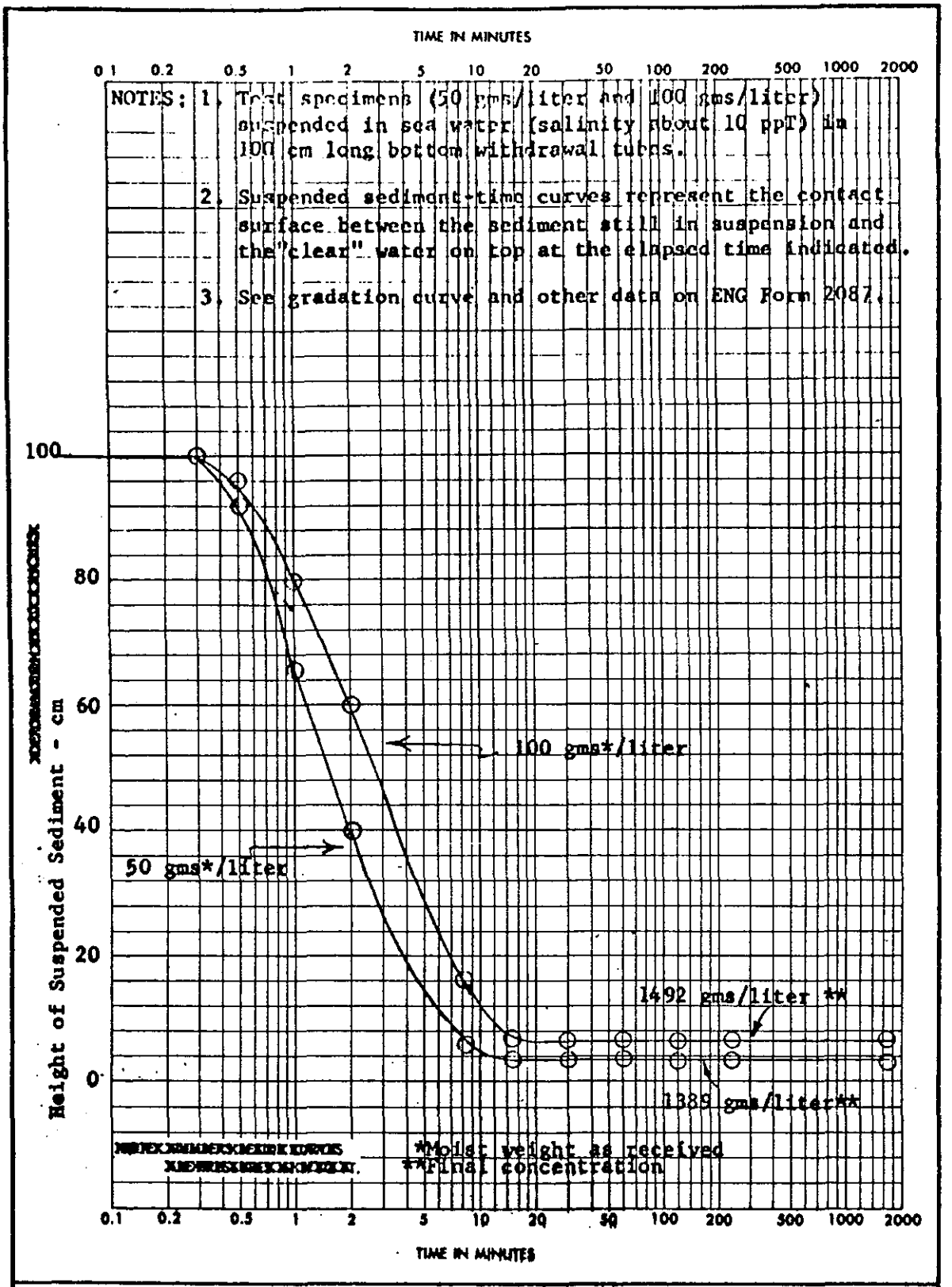
ENG FORM 2087
1 MAY 63

REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

*(Sedimentation Rate Tests)

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



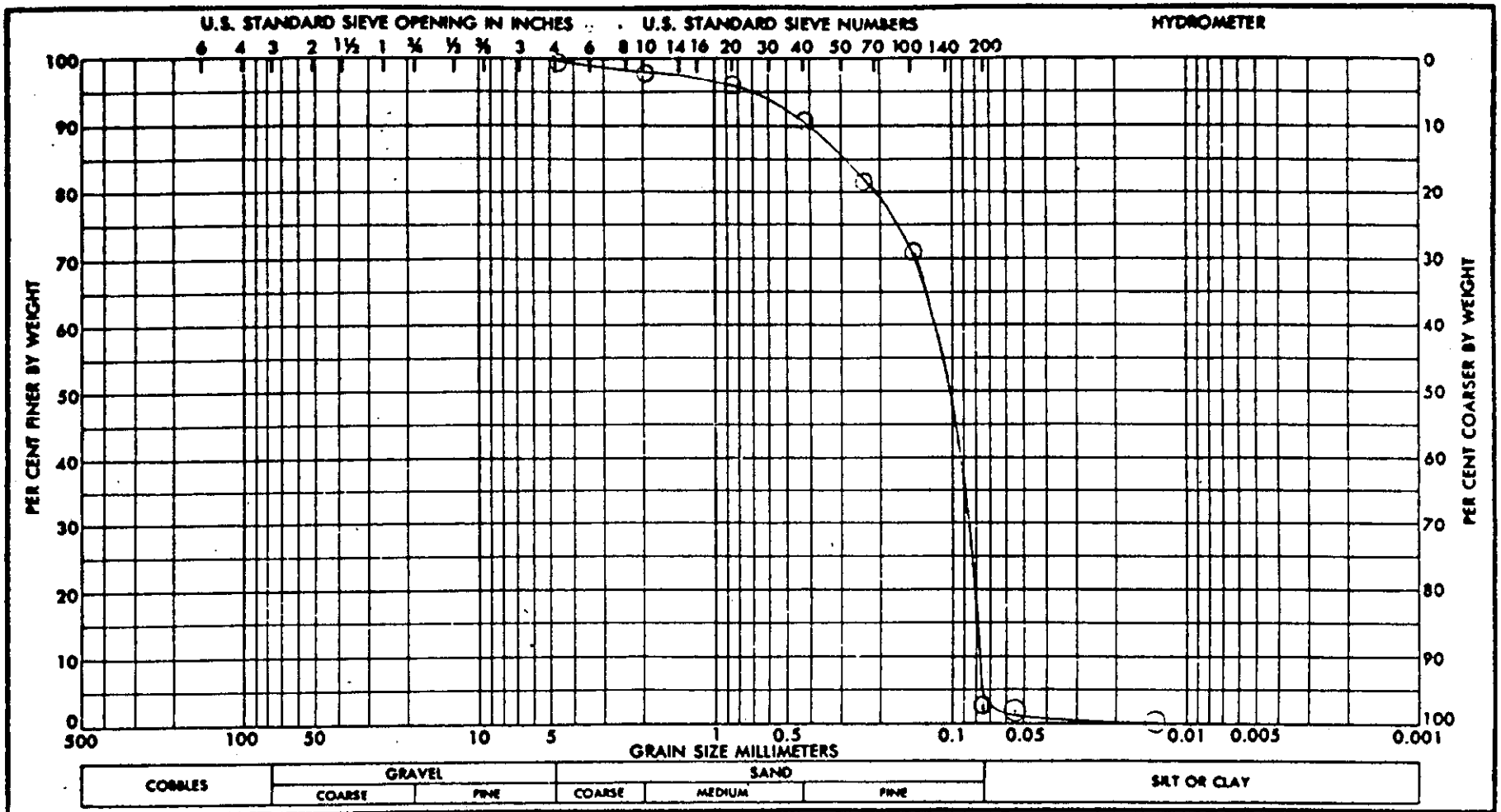
PROJECT	IWW, J to M - Jacksonville District		
AREA	Lab No. 73/3955 -(3D 291)		
BORING NO. -	SAMPLE NO. P5-1	DEPTH Ft -	DATE 4 April 1972

ENG FORM 2088 1 MAY 63 PREVIOUS EDITIONS ARE OBSOLETE. CONSOLIDATION TEST - TIME CURVES (TRANSLUCENT)

SUSPENDED SEDIMENT - TIME CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NATURAL W%	LL	PL	PI
P5-2	-	Gray poorly graded sand (SP)	28.0	NP	NP	NP
		(Specific Gravity = 2.71)				

GRADATION CURVES

PROJECT IWW, J to M - Jacksonville Dist
Lab No. 73/3956 * (3D 292)
AREA
BORING NO. Sample No. P5-2
DATE 3 April 1972

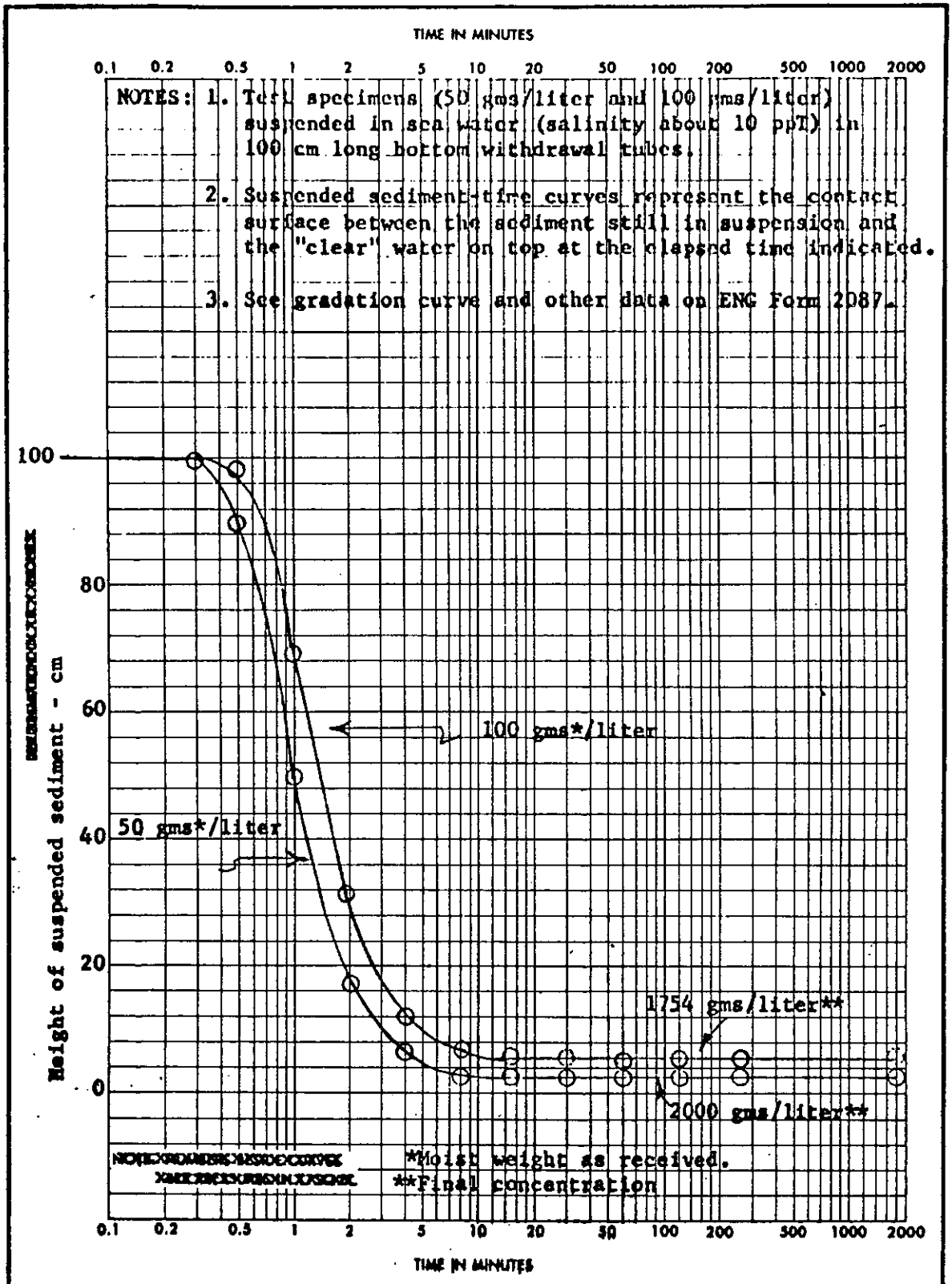
ENG FORM 2087 1 MAY 63 REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

*(Sedimentation Rate Tests)

58

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SO. COBB DR., MARIETTA, GA. 30060

Reqn. No. 08-123-ENG-109-72
Work Order No. 7383



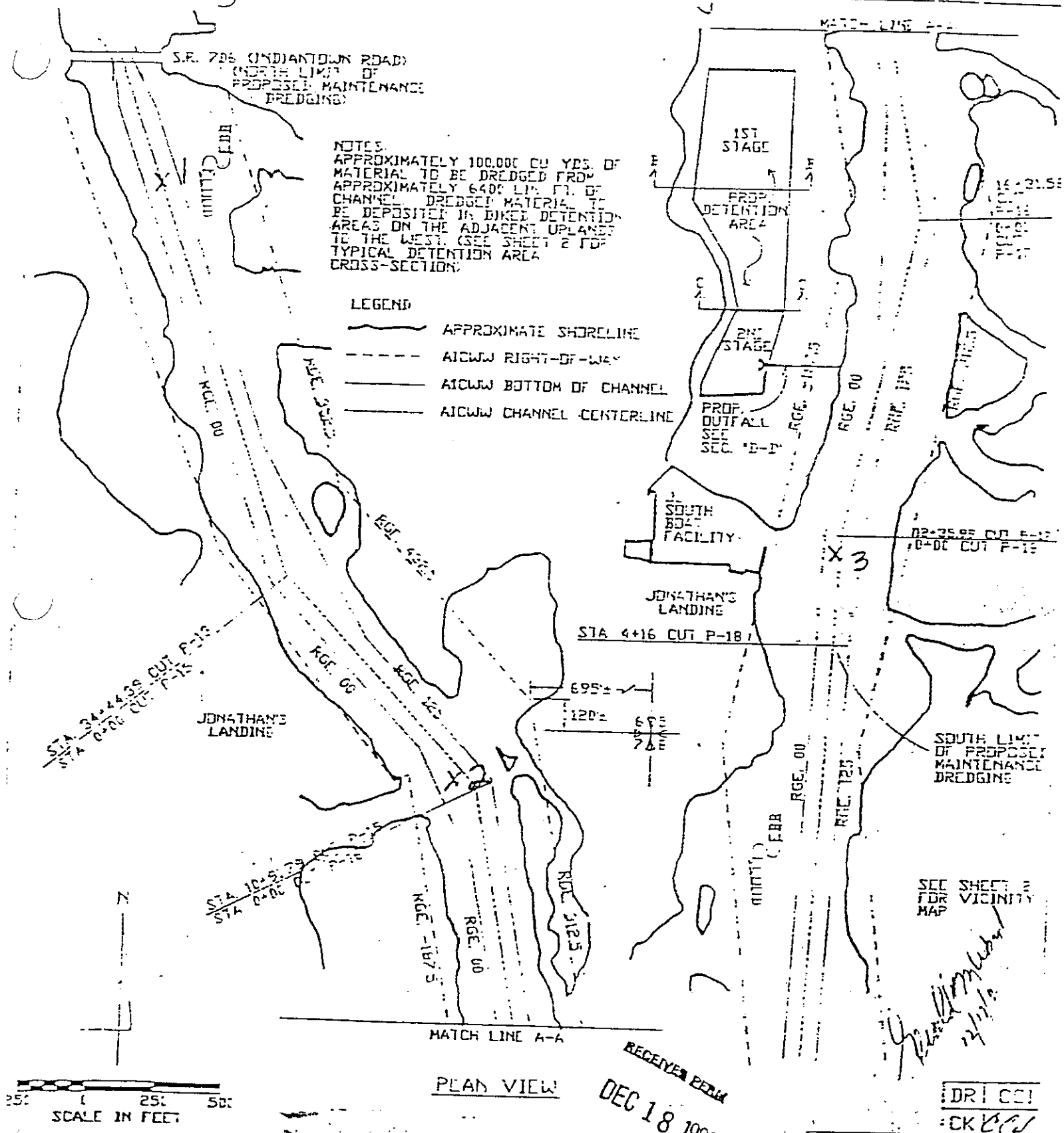
PROJECT	IWW, J to M - Jacksonville District			
AREA	Lab No. 73/3956 (3D 292)			
BORING NO. -	SAMPLE NO. P5-2	DEPTH Ft -	DATE 3 April 1972	
ENG FORM 2088 1 MAY 63	PREVIOUS EDITIONS ARE OBSOLETE.	CONSOLIDATION TEST-TIME CURVES	(TRANSLUCENT)	

Suspended Sediment - Time curves

TYPICAL SEDIMENT AND WATER QUALITY DATA

REACH II : JUPITER INLET TO LAKE WORTH
ICWW CUTS P-15 THROUGH P-31

Sampling Stations - Core Borings



PLAN VIEW

RECEIVED DEC 18 1986

DR: CC:
CK: CJS
DATE: 12/86 APP:

GERALD M. WARD, P.E. CONSULTING ENGINEER COASTAL - ENVIRONMENTAL 8447A	P.O. BOX 1044 RIVIERA BEACH, FL 33404 305/863-1215 SHEET 1 OF 3	PROPOSED ADVANCED MAINTENANCE DREDGING ATLANTIC INTRACOASTAL WATERWAY PALM BEACH COUNTY, FLORIDA APPL: JONATHAN'S LANDING, INC.

Lab No. 2009

Gerald M. Ward P.E.

SIEVE ANALYSIS

MATERIAL TESTED
CONCRETE C.A. ____
SOILS X
CONCRETE F.A. ____

FEB 27 19

PROJECT Johnathan Landing (Gerald Ward, P.E.)

SAMPLED BY Client DATE 02-26-87 TESTED BY SS DATE 02-27-87 FILE NO. 87-2561 Rec'd - Job#

TEST HOLE NUMBER		ONE	TWO	THREE		
DEPTH	FROM	UNKNOWN	UNKNOWN	UNKNOWN		
	TO					
SAMPLE DESCRIPTION		Sample #1 Light gray medium fine SAND with organics & small roots	Sample #2 Gray medium fine SAND	Sample #3 Light to dark gray medium fine SAND with trace of small roots & shell fragments		
UNIFIED CLASSIFICATION						
DRY SAMPLES AFTER WASHING THROUGH #200 MESH SIEVE						
TOTAL DRY SAMPLE (gr.)		437.2	587.5	570.0		

U.S. SIEVE SIZE			ONE			TWO			THREE							
			GRAMS	%		GRAMS	%		GRAMS	%		GRAMS	%		GRAMS	%	
CONC. C.A	SOILS	CONC. F.A		RET.	PASS		RET.	PASS		RET	PASS		RET.	PASS		RET	PASS
3	3/4																
2½	3/8																
2	4		0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0						
1½	10		0.9	0.2	99.8	1.1	0.2	99.8	1.5	0.3	99.7						
1	20	3/8	18.3	4.2	95.8	20.2	3.4	96.6	43.7	7.7	92.3						
3/4	40	4	166.6	38.1	61.9	212.3	36.1	63.9	177.2	31.2	68.8						
1/2	60	8	320.7	73.4	26.6	483.3	82.3	17.7	307.7	54.0	46.0						
3/8	100	16	419.4	95.9	4.1	564.1	96.1	3.9	535.4	93.9	6.1						
4	140	30	433.1	99.1	0.9	575.3	97.9	2.1	566.3	99.4	0.6						
8	200	50	433.3	99.1	0.9	577.0	98.2	1.8	568.3	99.7	0.3						
16	270	100															
PAN	PAN	PAN	437.2	100.0	0.0	587.5	100.0	0.0	570.0	100.0	0.0						

Ardaman & Associates, Inc.

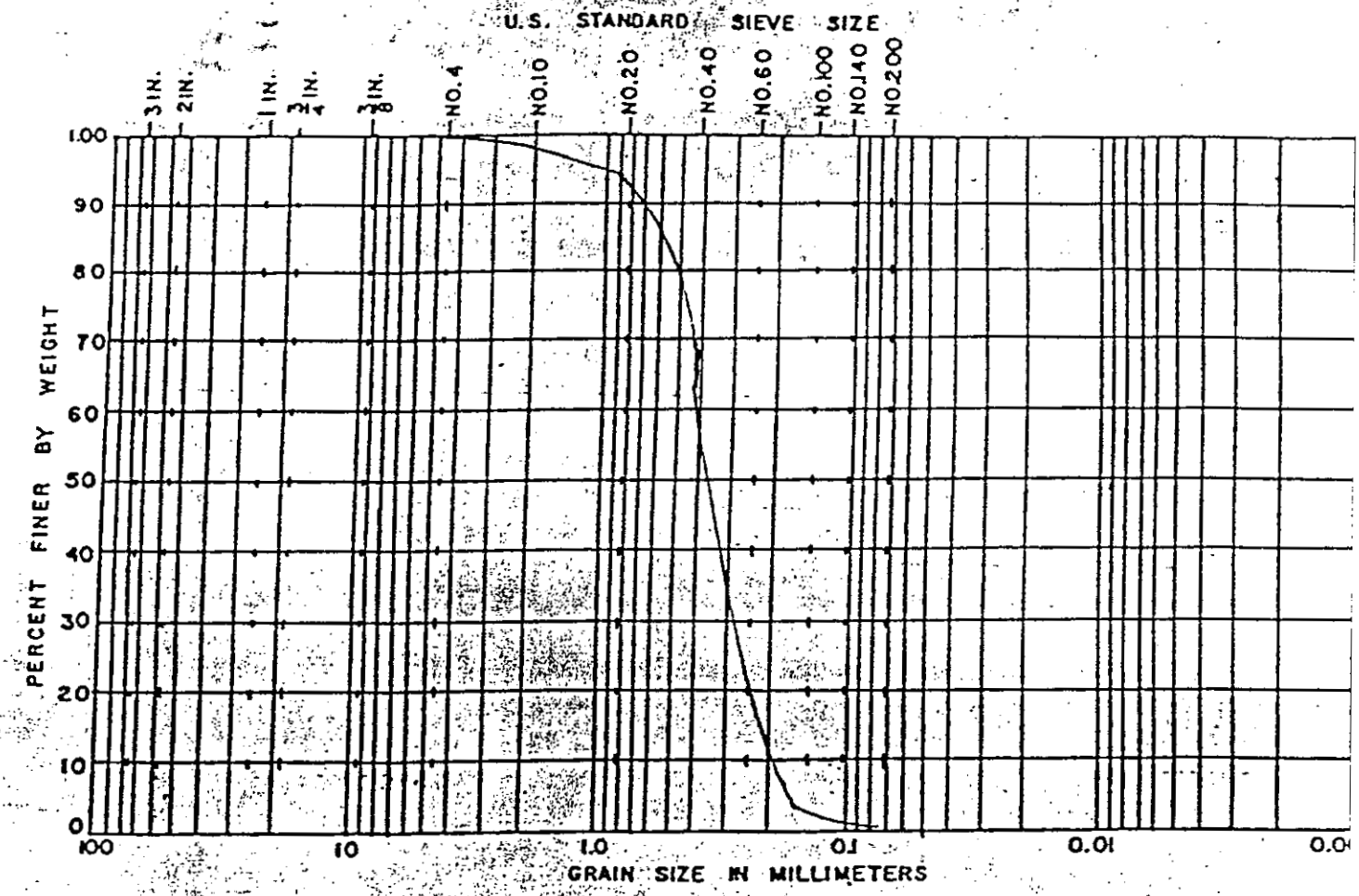
Robert E. Bi

FEB 27 19

GRAIN SIZE DISTRIBUTION CURVE

Rec'd. - Job#

Lab No. 2009



GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

TEST HOLE	DEPTH	SYMBOL	CLASSIFICATION	UNIFIED CLASS
Sample #1			SP	

Robert E. Ba

Ardaman & Associates
Consulting Engineers in Soil Me
Foundations, and Material Te

Jonathans Landing
(Ward, P.E.)

DRAWN BY: KL | CHECKED BY: | DATE:

FILE NO. 87256 | APPROVED BY:

PAUL R. MCGINNES AND ASSOCIATES
CONSULTING LABORATORIES, INC.

4168 WESTROADS DRIVE · WEST PALM BEACH, FLORIDA 33407 · (305) 842-2849

Client: Gerald M. Ward, P.E.
Consulting Engineer
P.O. Box 10441
Riviera Beach, FL 33404

February 19, 1987

Project: Jonathan's Landing - Elutriate Study

Job No. 87-2-5-GW-47

Samples: Water and sediment samples collected by client 2-5-87 in glass jars with aluminum foil lined lids. Received in laboratory 2-5-87.

Analysis: Parameter	Station 3 Sediment mg/Kg	Station 3 Elutriate mg/L	Elutriate Blank - site water mg/L	Analysis Date/Tech
Oil & Grease	220	---	---	2-16 BK
PCB-1016	<0.0001	---	---	2-9/11/15 BK/PM
PCB-1221	<0.0001	---	---	"
PCB-1232	<0.0001	---	---	"
PCB-1242	<0.0001	---	---	"
PCB-1248	<0.0001	---	---	"
PCB-1254	<0.0001	---	---	"
PCB-1260	<0.0001	---	---	"
Ammonia Nitrogen, as N	11.3	<0.1	<0.1	2-5/6 JM
Total Copper, as Cu	<1	0.06	0.06	2-9 HW
Total Lead, as Pb	<5	0.25	0.23	2-9 HW
Total Mercury, as Hg	<0.04	<0.002	<0.002	2-13 BK
Total Zinc, as Zn	26	0.307	0.029	2-9 HW
Total Aluminum, as Al	469	<0.5	<0.5	2-10 HW
Total Chromium, as Cr	1	0.01	0.01	2-9 HW
Organics, %	0.17%	---	---	2-18 HW

Methods: All analyses as outlined in Procedures for Handling and Chemical Analysis of Sediment and Water Samples, and Standard Methods for the Examination of Water and Wastewater.

SAMPLES WERE NOT COLLECTED BY McGINNES LABORATORIES PERSONNEL AND THE RESULTS ARE WARRANTED TO REPRESENT SAMPLES ONLY AS RECEIVED BY McGINNES LABORATORIES.

Paul R. McGinnes

DHRS Laboratory I.D. Nos. 86140; T86070

PAUL R. MCGINNES AND ASSOCIATES
CONSULTING LABORATORIES, INC.

4168 WESTROADS DRIVE · WEST PALM BEACH, FLORIDA 33407 · (305) 842-2849

Client: Gerald M. Ward, P.E.
Consulting Engineer
P.O. Box 10441
Riviera Beach, FL 33404

February 19, 1987

Project: Jonathan's Landing - Elutriate Study — Job No. 87-2-5-GW-47

Samples: Water and sediment samples collected by client 2-5-87 in glass jars with aluminum foil lined lids. Received in laboratory 2-5-87.

Analysis: Parameter	Station 2 Sediment mg/Kg	Station 2 Elutriate mg/L	Elutriate Blank - site water mg/L	Analysis Date/Tech
Oil & Grease	<100	---	---	2-16 BK
PCB-1016	<0.0001	---	---	2-9/11/15 BK/PM
PCB-1221	<0.0001	---	---	"
PCB-1232	<0.0001	---	---	"
PCB-1242	<0.0001	---	---	"
PCB-1248	<0.0001	---	---	"
PCB-1254	<0.0001	---	---	"
PCB-1260	<0.0001	---	---	"
Ammonia Nitrogen, as N	<0.1	<0.1	<0.1	2-5/6 JM
Total Copper, as Cu	1	0.06	0.06	2-9 HW
Total Lead, as Pb	<5	0.25	0.23	2-9 HW
Total Mercury, as Hg	<0.04	<0.002	<0.002	2-13 BK
Total Zinc, as Zn	77	0.071	0.029	2-9 HW
Total Aluminum, as Al	639	<0.5	<0.5	2-10 HW
Total Chromium, as Cr	1	0.01	0.01	2-9 HW
Organics, %	1.52%	---	---	2-18 HW

Methods: All analyses as outlined in Procedures for Handling and Chemical Analysis of Sediment and Water Samples, and Standard Methods for the Examination of Water and Wastewater.

SAMPLES WERE NOT COLLECTED BY McGINNES LABORATORIES PERSONNEL AND THE RESULTS ARE WARRANTED TO REPRESENT SAMPLES ONLY AS RECEIVED BY McGINNES LABORATORIES.

Paul R. McGinnes

DHRS Laboratory I.D. Nos. 86140; T86070

TYPICAL SEDIMENT AND WATER QUALITY DATA

REACH III : LAKE WORTH REGION
ICWW CUTS P-32 THROUGH P-50

Table 3. Lake Worth biological stations sediment grain size and organic percent composition for samples collected in February, 1985 and again near Currie Park collected in August, 1985

Station	>2mm	0.5-2mm	0.25-0.5mm	0.125-0.25mm	0.062-0.125mm	<0.062mm	% volatile
February Sample							
773 Little Lake Worth	0.0	0.1	1.1	2.0	4.3	92.5	18.9
775 Munyon Island	0.2	3.5	13.9	39.7	35.0	7.7	1.7
728 Peanut Island	1.8	10.2	20.4	41.8	23.4	2.4	0.8
778 Currie Park	1.2	5.1	30.2	28.7	12.9	21.9	8.0
734 WPB Canal	0.1	7.7	75.6	14.2	0.7	1.7	0.2
784 Boynton Inlet	1.5	26.1	56.9	13.8	0.4	1.3	1.1
790 Delray Canal	7.3	22.2	22.2	16.9	9.7	21.7	17.4
710 Lake Boca Raton	8.0	11.6	28.4	44.6	4.4	3.0	0.8
August Sample							
778 Curry Park	2.0	17.5	53.5	22.6	1.9	2.5	0.9

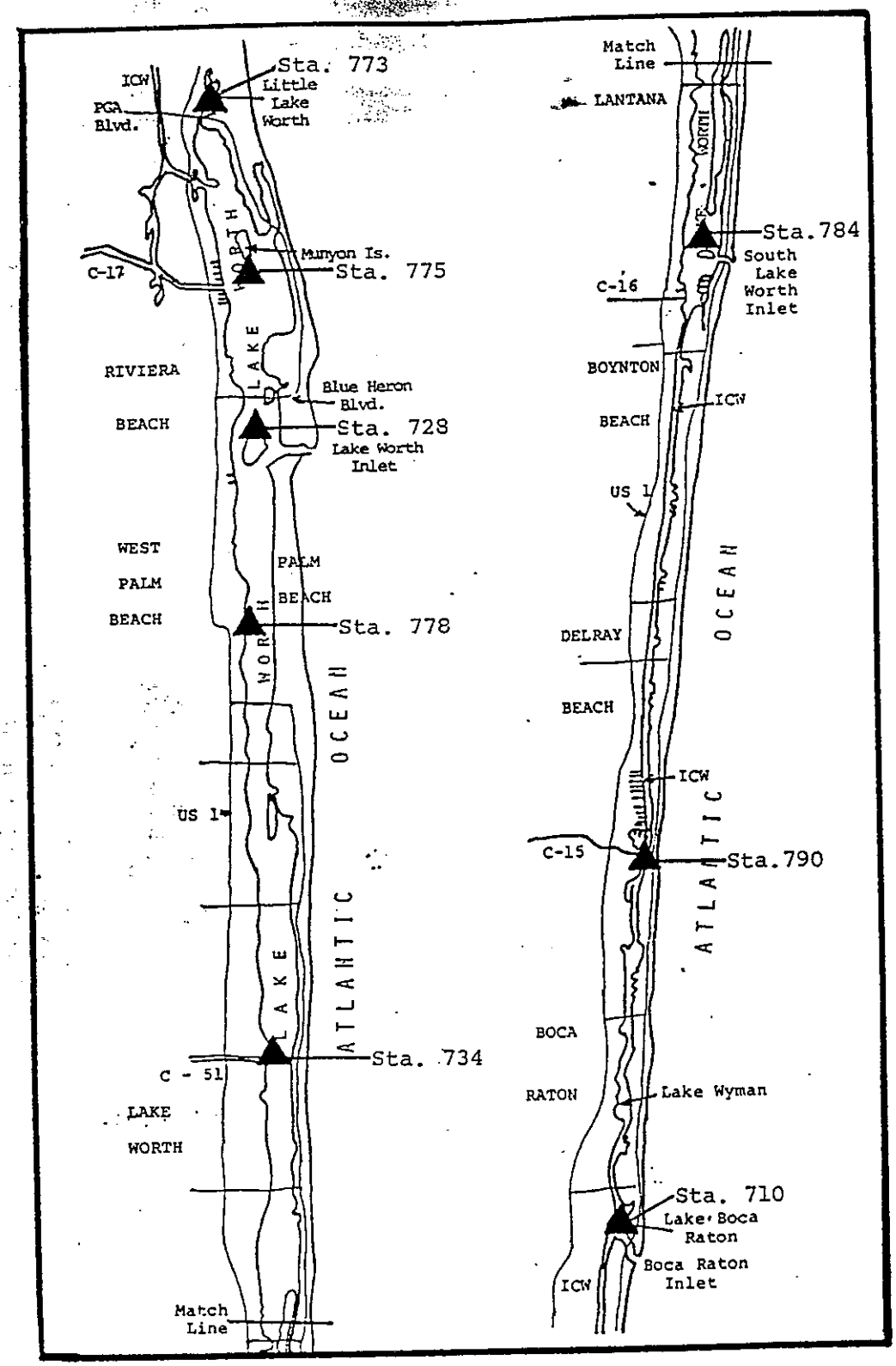


Figure 2

Lake Worth Basin Biological Sampling Stations

Department of Environmental Regulation

Monitoring Proposal, SE Fla. District
Basin: Lake Worth Comprehensive Basin Asessment Monitoring FY89-90

Brief description of Basin, its major bodies of water, and potential or actual problems:

Lake Worth is a tidal lagoon extending from north to south from west Palm Beach to Boca Raton. There are three (3) inlets, four (4) freshwater discharge sources. Problems include pollution from dredging, storm-water runoff, nutrient enrichment from agricultural and urban runoff. The West Palm Beach Canal remains the major source of pollution effecting Lake Worth.

Station Locations	STORET No.*	Parameters	Sampling Frequency
Little Lake Worth	28010773	Biological Quantitative natural substrates	2/year
Munyon Island - south end	28010775	Sediment grain size and organic	in Feb. and Jul.
Peanut Island - north end	28010728	content (1/year).	1990
near Currie Park	28010778	W/Q - physical parameters	
mouth of West Palm Beach Canal	28010734		
near Boynton Inlet	28010784		
near Delray Canal	28010790		
Lake Boca Raton	28010710		

*none yet assigned, write New

Department of Environmental Regulation

Monitoring Proposal, Southeast District
Basin: Lake Worth - 28.1 F Comprehensive Basin Asessment Monitoring FY 89-90

Brief description of Basin, its major bodies of water, and potential or actual problems:

Lake Worth is a coastal lagoon in Central Palm Beach County but the Lake Worth BAS includes lakes Boca Raton and Wyman, Little Lake Worth and the natural and man-made artificial water bodies created to connect them during the construction of the Intracoastal Waterway in Palm Beach County. Problems include urban runoff, discharge of nutrient laden inland freshwater from WCD canals, etc.

Station Locations	STORET No.*	Parameters	Sampling Frequency
See attached list	28.01.0 plus station number	Temp, pH, cond, D.O., Turbidity, color, fecal coli, Secchi, NO_3+NO_2, TKN, TP, RP.	4/yr
Same as above	As above	Metals in sediments - Pb, Cu, Cd, Cr, Zn, Hg, etc	1/yr

*ned, write New

Table 1
LAKE WORTH BASIN WATER QUALITY ASSESSMENT
STATION LIST

STATION #	LOCATION	APPROX. DEPTH
723	Intracoastal Waterway (ICW) @ PGA Blvd.	11
773	Little Lake Worth - center	19
727	Earman River (C-17) @ U.S. 1 bridge	6
774	Munyon Island Transect - 50 yds off west shore	8
775	Munyon Island Transect - between islands	4
776	Munyon Island Transect - 200 yds off east shore	4
728	Lake Worth @ Blue Heron Blvd. bridge	22
777	Lake Worth 100 yds E of ICW Navigation Marker #3	8
778	Carrie Park Transect - 150' off west shore	5
779	Carrie Park Transect - middle	14
780	Carrie Park Transect - 150' off east shore	19
781	Lake Worth @ Royal Palm bridge	9
734	West Palm Beach Canal (C-51) @ S. Olive (U.S. 1)	22
782	Lake Worth east of Navigation Marker #28	4
783	Lake Worth @ SR 812 bridge - Lantana	7
784	Lake Worth east of Navigation Marker #44	8
785	Lake Worth east of Navigation Marker #48	6
786	Boynton Canal (C-16) - east of structure	17
787	ICW @ SR 804 (Ocean Avenue) bridge - Boynton	12
788	ICW @ SR 806A bridge (NE 8th Street)	16
789	ICW @ Linton Blvd. bridge	11
790	Delray Canal (C-15) - mouth by bridge	12
791	ICW @ SR 800 bridge (Spanish R. Blvd.)	12
770	ICW @ SR 798 bridge (Palmetto Park Road)	15
792	ICW @ Camino Real bridge	14

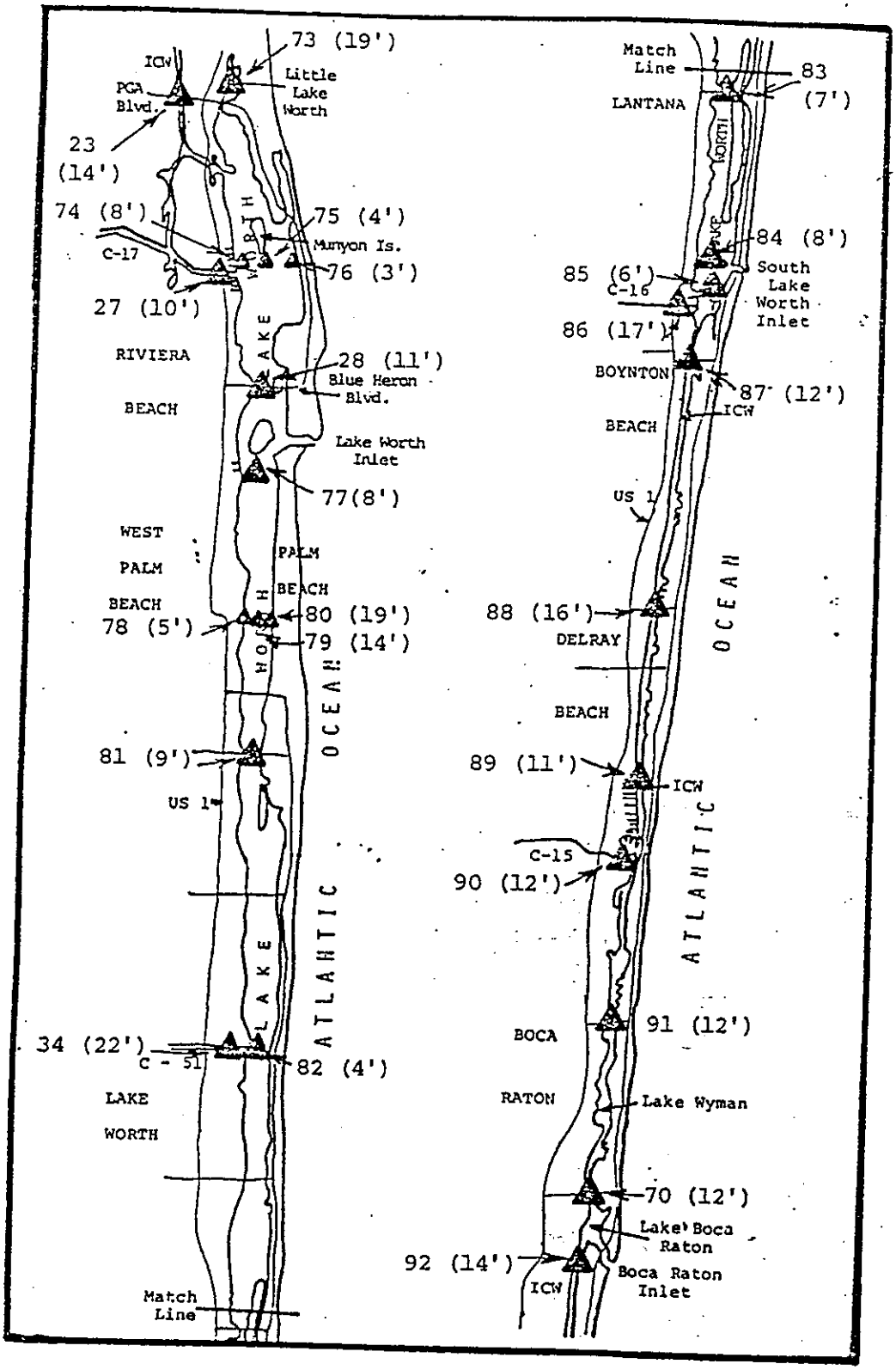


Figure 2
LAKE WORTH BASIN WATER QUALITY ASSESSMENT
SAMPLING STATIONS & DEPTHS

Sediment Results for Station ~~HPB-2~~ PPB-2

	Replicate I	Replicate II	Replicate III	Mean	σ
ppm (dry basis)					
Aluminum	1200	1300	1200	1200	58
Cadmium	0.89	1.4	0.46	0.92	0.47
Chromium	4.8	6.6	5.7	5.7	0.9
Copper	1.3	2.5	2.0	1.9	0.6
Iron	1100	1300	1400	1300	150
Lead	15	25	9.2	16	8.0
Manganese	13	15	14	14	1.0
Nickel	2.9	1.9	1.0	1.9	1.0
Silver	<0.02	<0.02	<0.02	<0.02	-
Zinc	5.2	5.9	7.3	6.1	1.1
Mercury	0.11	0.14	0.05	0.1	0.04
Total Solids (%)	76	76	75	76	1.0
Total Organic Carbon	5000	6100	4700	5300	740
Oil & Grease	200	190	230	210	21
Sulfate	540	630	700	720	80
Ammonia-N	9.2	21	17	16	6.0
Total Kjeldahl Nitrogen	180	150	170	170	15
Nitrate-N	0.64	0.72	0.53	0.63	0.01
Total Phosphorus	420	470	400	430	36

Sediment Results for Station ~~WDS~~ PPB - 2

ppm (dry basis)	Replicate I	II	III	Mean	σ
Mirex	<0.01	<0.01	<0.01	<0.01	0
Toxaphene	<0.05	<0.05	<0.05	<0.05	0
DDT	<0.003	<0.003	<0.003	<0.003	0
Aldrin	<0.001	<0.001	<0.001	<0.001	0
Chlordane	<0.006	<0.006	<0.006	<0.006	0
2 - Chlorophenol	<0.05	<0.05	<0.05	<0.05	0
Phenol	<0.2	<0.2	<0.2	<0.2	0
2,4 - Dichlorophenol	<0.1	<0.1	<0.1	<0.1	0
2,4,6 - Trichlorophenol	<0.05	<0.05	<0.05	<0.05	0
4 - Chloro-m-cresol	<0.2	<0.2	<0.2	<0.2	0
2,4 - Dinitrophenol	<0.4	<0.4	<0.4	<0.4	0
Pentachlorophenol	<0.05	<0.05	<0.05	<0.05	0
PCB's	<0.05	<0.05	<0.05	<0.05	0
Grain Size:					
% passing thru sieve no. 4	100	100	100	100	0
10	100	100	100	100	0
20	98	100	99	99	1
40	94	90	93	92	2
60	80	84	85	83	3
100	42	49	43	45	4
200	32	30	28	30	2
Hydrometer: % <0.01 mm	29	29	28	29	1
% <0.005 mm	25	26	22	24	2
% <0.001 mm	20	19	13	17	4
Specific Gravity	2.63	2.68	2.60	2.64	

TYPICAL SEDIMENT AND WATER QUALITY DATA

REACH IV : SOUTH LAKE WORTH TO BOCA RATON INLET
ICWW CUTS P-51 THROUGH P-91

NO CHEMICAL ANALYSIS OR MECHANICAL SEDIMENT
TESTING RESULTS AVAILABLE FOR REACH IV

FIND - Palm Beach County
BCI File 8119

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