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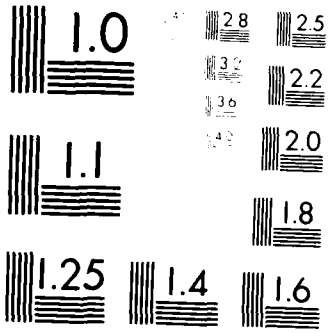

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CHARLESTON DISTRICT
U.S. ARMY CORPS OF ENGINEERS

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Final Report

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CHARLESTON DISTRICT
U.S. ARMY CORPS OF ENGINEERS

CONTRACT NUMBER DACW60-78-C-0026

Final Report

BENTHIC AND SEDIMENTOLOGIC STUDIES ON THE CHARLESTON HARBOR OCEAN DISPOSAL AREA, CHARLESTON HARBOR DEEPENING PROJECT

Marine Resources Division
South Carolina Wildlife and Marine Resources Department
Charleston, South Carolina 29412

August 1979

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INTRODUCTION

Charleston Harbor, South Carolina, is the site of an important commercial port and a U.S. Navy Base. Water depths throughout the entire area are typically shallow, and maintenance dredging is necessary to keep access channels at their prescribed depth because of shoaling. Ships enter the harbor via an entrance channel protected along its inner reaches by a pair of rubble jetties. The Charleston Harbor Project, authorized by the River and Harbor Act, provides that the entrance channel be maintained at a depth of 35 feet and a width of 1000 feet from the sea to the inner end of the jetties (U.S. Army Engineer District, Charleston, 1975). The depth of the entrance channel is maintained using a hopper dredge, and dredged material is disposed in an open ocean disposal area just south of the jetties. According to the Corps report, volumes ranging from 367,460 to 1,410,000 cubic yards of dredged materials have been disposed over this site annually since FY 1965.

Relatively little is known about the marine life and sedimentologic processes of the Charleston Harbor Ocean Disposal Area and vicinity. The South Carolina Wildlife and Marine Resources Department (1972) conducted trawl surveys of the area and found relatively few species and low numbers of individuals compared with inshore estuarine areas. However, no thorough benthic sampling has ever been conducted in the area and no data base exists which might be used to assess the impact of disposing dredged material there. A reconnaissance survey of bottom sediments at the mouth of Charleston Harbor was conducted by the U.S. Coast and Geodetic Survey for the U.S. Navy in 1951. This was largely a gear test experiment and yielded very few quantitative grain size analyses.

During September 1978 the Charleston District, U.S. Army Corps of Engineers

entered into a contract with the South Carolina Wildlife and Marine Resources Department for benthic and sedimentologic studies of the Charleston Harbor Ocean Disposal Area and vicinity. The goals of this study were to:

(1) Characterize the species composition and density of benthic communities in areas subjected either to deposition of dredged material or to resulting sedimentation;

(2) Assess the effects of dredged material disposal on bottom communities in the disposal area;

(3) Describe the mineralogic and textural characteristics of the bottom sediments in and about the Charleston Harbor Ocean Disposal area and the bottom sediments of the Charleston Harbor Entrance Channel.

(4) Describe the sediment bedforms present in and about the Charleston Harbor Ocean Disposal area as to size, orientation, and composition (mineralogy and texture).

(5) Ascertain whether the sediment characteristics of the study area have been altered by current disposal practices.

(6) Provide a data base for appraising the effects of deposition of dredged material from Charleston Harbor in the Ocean Dispoal Area.

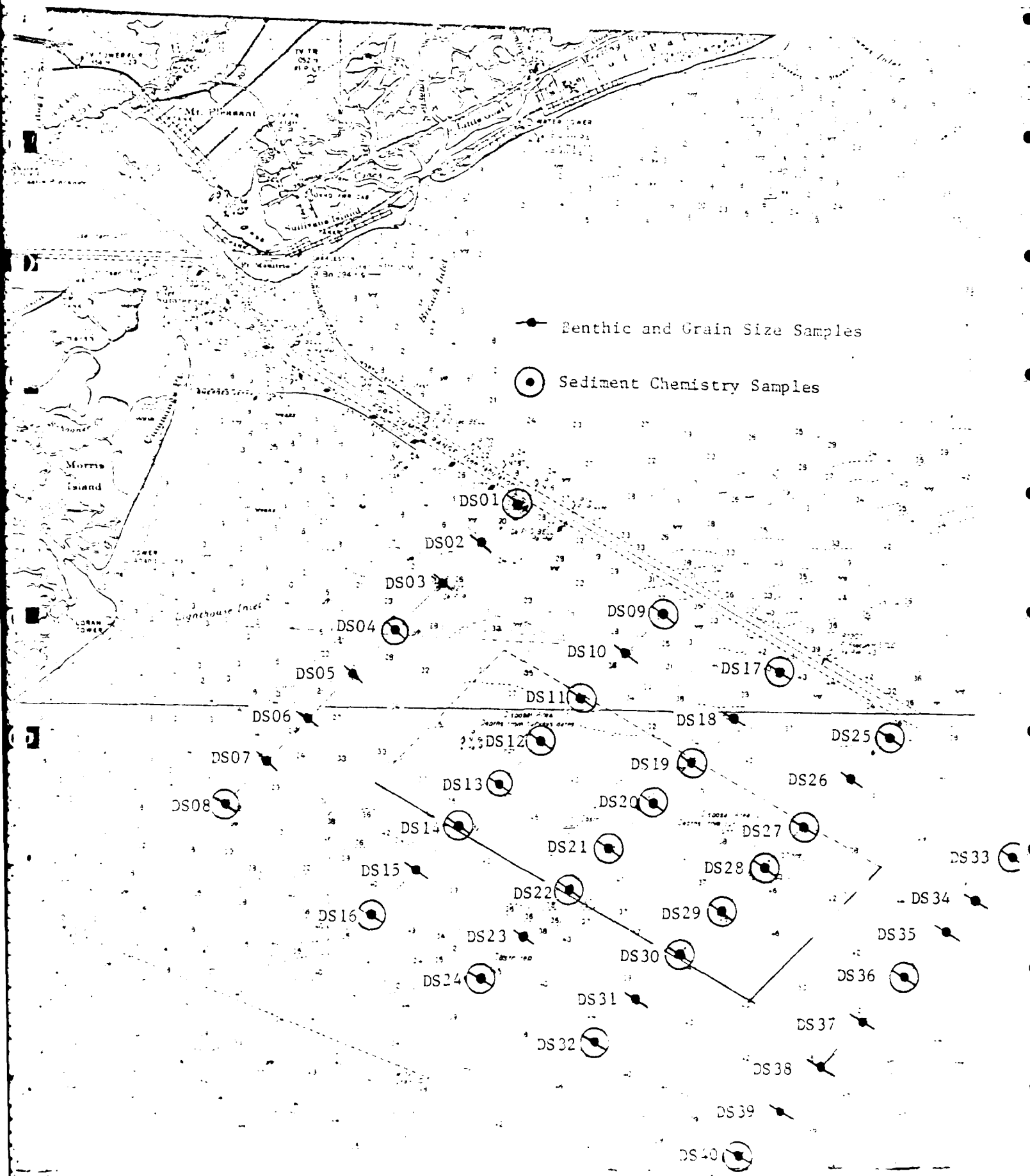
MATERIALS AND METHODS

Benthic Ecology

Sampling of the benthos was undertaken at 40 stations in and adjacent to the Charleston Harbor Ocean Disposal Area during August 1978. Stations were arranged in five transects, with each transect having eight stations (Fig.1). Three of the transects crossed the Ocean Disposal Area, while the other two extended outside the disposal site to the north-west and south-east, respectively. This array of stations provided a total of 12 sampling sites within the Ocean Disposal Area and 28 sites outside. Stations were located using Loran-C aboard the R/V ATLANTIC SUN, and the research vessel was anchored at each site for all sampling except dredge tows.

Quantitative benthic samples were collected using a 0.10 m^2 Smith-McIntyre grab. Five replicate samples were taken at each of the 40 stations. After measuring the volume of the grab samples, collected materials were washed through a 1 mm sieve. Organisms and sediment remaining on the sieve after washing were removed to appropriately labelled gallon jugs or bottles, stained with rose bengal, and preserved in 10% seawater formaldehyde. Collections were returned to the laboratory for sorting, identification, and enumeration of the fauna.

Quantitative samples were supplemented with qualitative samples of the epifauna taken using a 30 kg modified oyster dredge. The dredge consisted of a rectangular steel frame measuring 80 cm across the mouth, with a 1.5 m long bag of 2.5 cm stretch mesh polypropylene. A skirt of interlacing metal rings protected the bag from chafing. A single tow of five minutes was made at each station. After preliminary sorting of the catch in the field, unidentified epifaunal invertebrates and representative sample of firm substrates were



[illegible] of the Charleston Harbor Ocean Disposal Area and the sampling stations.

preserved in 10% seawater formalin and returned to the laboratory for examination and identification.

After identification and enumeration of the fauna from quantitative samples, benthic community structure was analyzed using the following equations (Pielou, 1977):

(1) Species diversity (Shannon's formula)--

$$H' = -\sum pi \log_2 pi$$

where H' is the diversity in bits of information per individual, and $pi = \frac{ni}{N}$ or the proportion of the sample belonging to the ith species.

(2) Species richness--

$$SR = \frac{S-1}{\ln N}$$

where S is the number of species and lnN is the natural logarithm of the total number of individuals of all species in the sample.

(3) Evenness or equitability--

$$J' = \frac{H'}{\log_2 S}$$

where H' is the species diversity in bits of information per individual and S is the number of species.

Water Chemistry

Surface and bottom water chemistry samples were collected at each station using a Van Dorn bottle. Parameters measured included temperature, salinity, dissolved oxygen, nitrates, silicates, phosphates, turbidity, and suspended and settleable solids. Water temperatures were measured in the field from stem thermometers mounted inside the Van Dorn bottles. All other samples were returned to the laboratory for analysis. Salinity samples were analyzed using a

Beckman Model 657B Induction Salinometer. Dissolved oxygen was determined by the modified Winkler titration method (Strickland and Parsons, 1972). Nutrients were analyzed using a Technicon Auto Analyzer II. Turbidities were measured using a Hach Model 2100A turbidimeter. Solids were determined using standard Methods 224C and 224F (American Public Health Association, 1971).

Sediment Chemistry

Separate samples were taken with the Smith-McIntyre grab at 24 stations to obtain sediments for geochemical analysis (Fig. 1). Collected sediments were placed in one-gallon plastic bags, immediately frozen in dry ice, and delivered to the contracting officer at the Charleston District, U. S. Army Corps of Engineers for shipment to the Corps' South Atlantic Division Laboratory, Marietta, Georgia. At this laboratory, analyses were made to determine volatile solids, total organic carbon, BOD, Kjeldahl nitrogen, ammonia nitrogen as NH_3, nitrite nitrogen as NO_2, nitrate nitrogen as NO_3, oil and grease, lead, zinc, mercury, soluble phosphorus as PO_4, total phosphorus as PO_4, iron, cadmium, arsenic, chromium, nickel, copper, beryllium, selenium, and vanadium.

Sedimentologic Investigations

Bottom sediments were sampled using a Smith-McIntyre grab in the Charleston Entrance Channel and the Charleston Harbor Ocean Disposal Area. Bottom bedforms were directly observed, measured, and sampled by divers in the Ocean Disposal Area (Fig. 2).

Sediment samples were analyzed for quartz sand, calcium carbonate shell, silt, and clay content (weight percent). Silts and clays were separated from sand-size material by wet sieving or washing through a 62 μ screen. Silt was separated from clay by pipette analysis. Calcium carbonate shell was separated from the quartz sand-size material by HCl digestion. Quartz sand-size fractions were sieved for 30 minutes in a nest of ½ φ Tyler screens; resultant grain

size distributions were described by statistical moment measures calculated by the SAMPLO computer program. These grain size distributions were decomposed into their bi-normal components using the BNKE computer program (Clark, 1976).

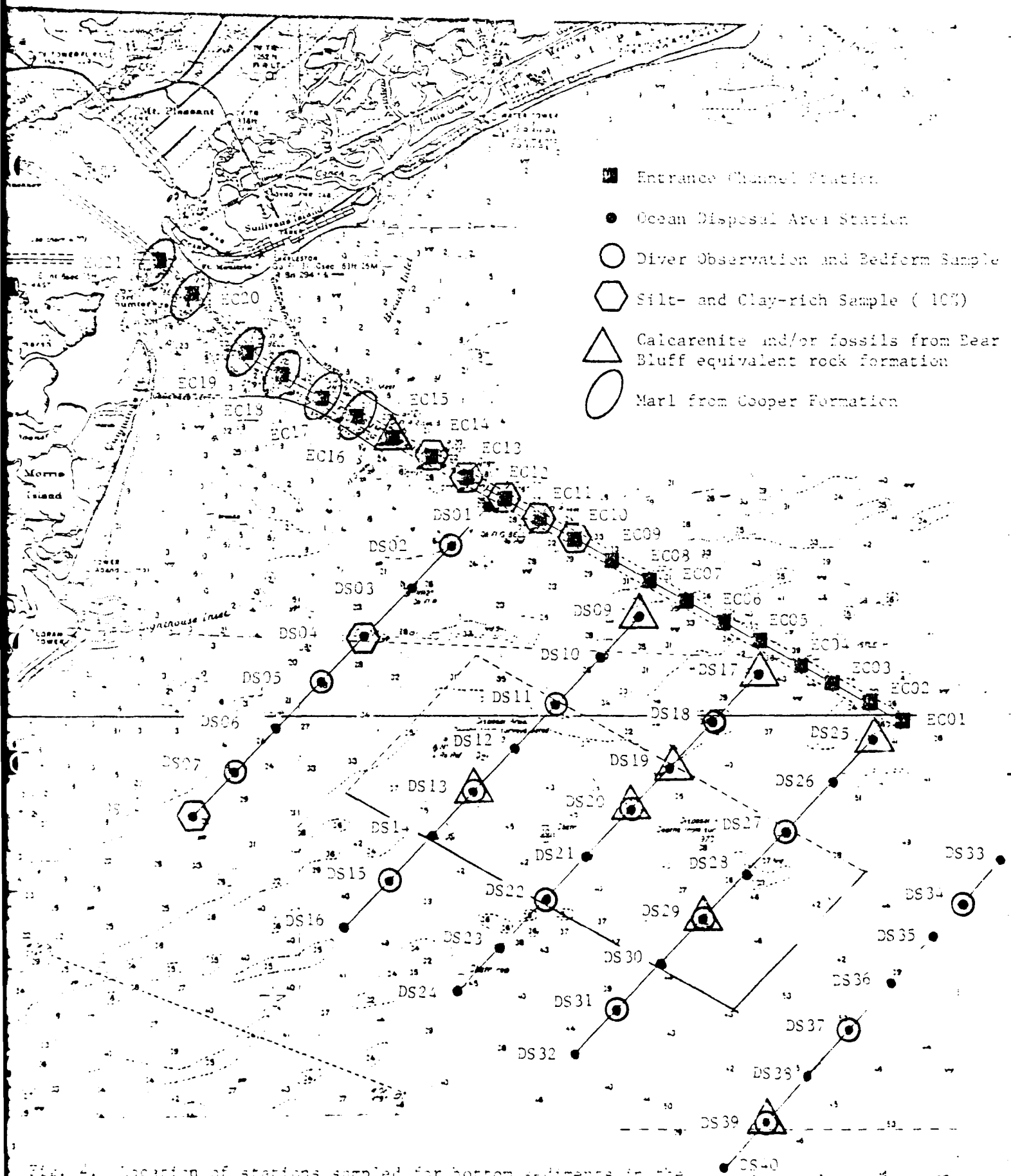


Fig. 4. Location of stations sampled for bottom sediments in the Charleston Entrance Channel and Charleston Harbor Disposal Area.

RESULTS AND DISCUSSION

Hydrography

The Charleston Harbor Ocean Disposal Area occurs in coastal marine waters beyond the harbor mouth, and salinities were all in the euhaline range (30-40°/oo) during field studies in August of 1978 (Table 1). Salinities were lowest along the innermost transect (averaging 33.38°/oo) and highest along the outermost transect (averaging 35.18°/oo). As expected, salinities at a given station were higher on bottom than at the surface, but differences seldom exceeded 3.0°/oo. Water temperatures were high and reflected the summer season when sampling was conducted. Temperature ranged from a low of 26.5°C in a bottom sample from station DS34 to a high of 30.1 C in a surface sample from station DS23. Most temperature readings were between 28 and 30 C, and differences from surface to bottom in most cases were rather small (Table 1). Oxygen concentrations were relatively high, given the warm temperatures and high salinity of the water. The lowest oxygen value observed was 4.0 mgl^{-1} in a surface sample from station DS02. Most values of oxygen ranged between 5.0-6.8 mgl^{-1} (Table 1). Values for other hydrographic parameters measured during the study, including turbidity, nutrients, and solids, are given in Table 1.

Epifaunal Assemblages

A total of 171 epifaunal (or partly epifaunal) macroinvertebrate species was distinguished in oyster dredge collections from the 40 stations in the study area during August, 1978 (Tables 2-42). In terms of species, the fauna was dominated by bryozoans (39 species), cnidarians (33 species), mollusks (28 species), and arthropods (27 species). These four groups accounted for 74.7% of the total number of species identified from the samples. Of the 171 species found, only

eight (the hydroid Clytia cylindrica, the bryozoans Membranipora tenuis, Microporella ciliata, and Parasmittina nitida, the sedentary polychaetes Sabellaria vulgaris and Hydroides dianthus, the bivalve Chama macerophylla, and the barnacle Balanus venustus) were found at 20 or more of the 40 stations. The most ubiquitous species was the barnacle Balanus venustus, which was present in samples from 29 stations. This species was common to abundant on suitable shelly substrates.

With a few exceptions, the study area was sparcely populated by epifaunal invertebrates. The bottom, consisting largely of sandy sediments with varying amounts of ground shell, provided an unsuitable substrate for most epibenthic species. The volume of most oyster dredge catches was very small, typically consisting of a few shells along with occasional decapods and echinoderms. Patches with large octocorals (Titanideum frauenfeldii), sponges, and other hard-bottom organisms were infrequent and quite localized, and none of the stations represented significant "live bottom" areas. Sand dollars (Mellita quinquiesperforata) were abundant in fine sand stations (DS01, DS02, DS03, and DS04) along the innermost transect, but elsewhere they were infrequent or absent.

Considerable variability was observed in the number of species from station to station in the study area (Fig. 3). The number of species collected at a given site largely reflected the presence or absence of large shells, which provided substrate for the sessile epifauna. Species numbers were quite high where such substrates were present, and typically low where the bottom was sand or sand and ground shell only. A total of 40 or more species was identified in collections from nine of the stations (DS07, DS13, DS17, DS21, DS25, DS26, DS30, DS33, DS38). The maximum number of species (60) occurred in a sample from station DS25. The

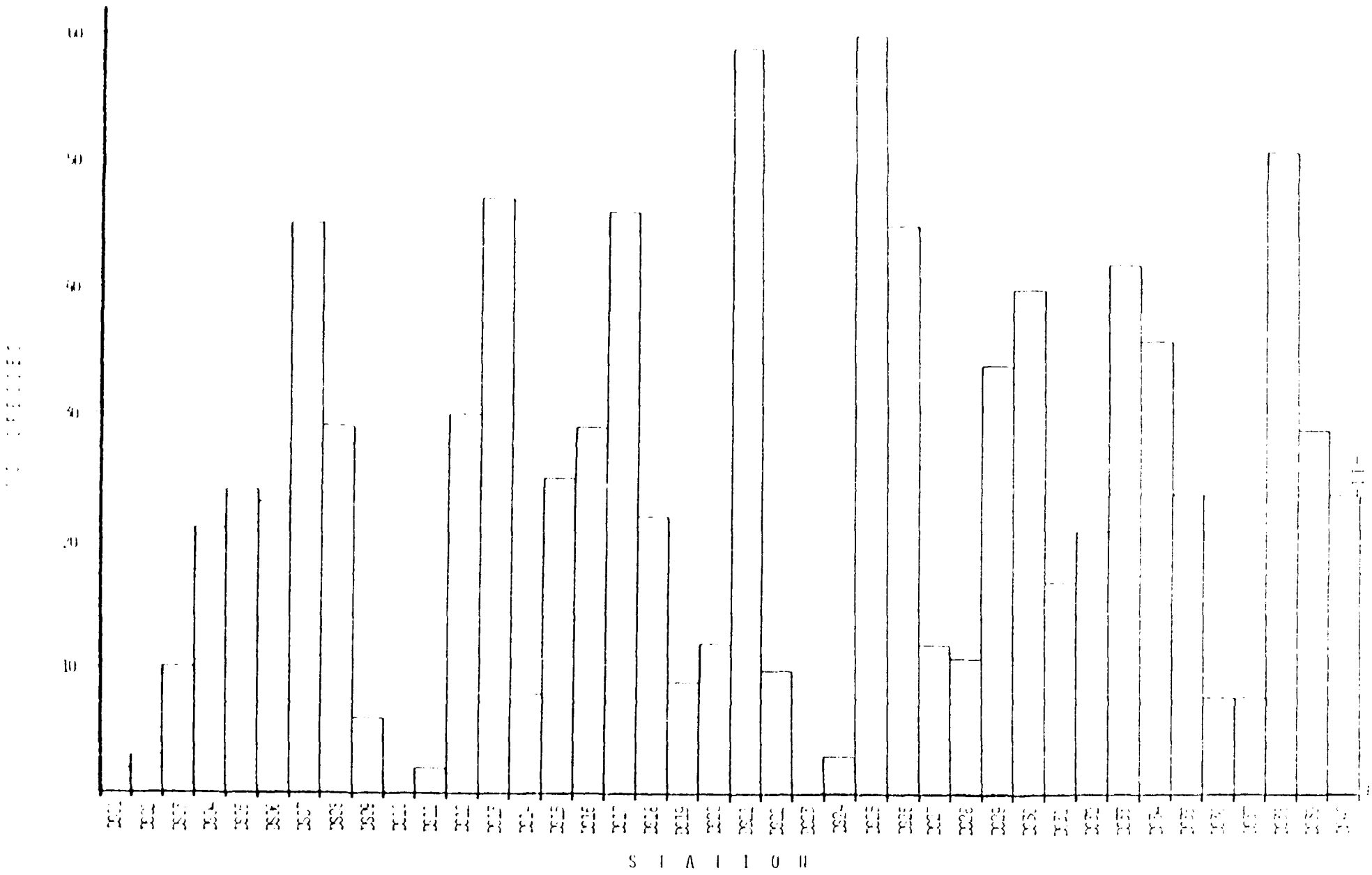


Fig. 3. Number of species in oyster dredge samples from 40 stations in the study area off Charleston, South Carolina.

average number of species per station was 23.1.

No noteworthy difference was detected between the fauna of the Ocean Disposal Area and adjacent sites outside that could unequivocally be attributed to deposition of dredged material. Species numbers averaged 22.8 inside the Ocean Disposal Area and 23.3 outside. Faunal composition of the two areas was very similar, with 105 species identified inside the disposal area, 152 outside the site, and 60 species common to the two areas. The lower number of species from sites in the Ocean Disposal Area proper is believed to be due primarily to the smaller number of stations sampled there (only 12 of the 40 stations). In addition, the innermost and outermost transects, which did not cross the Ocean Disposal Area, were somewhat different in environmental characteristics and faunal composition from the three middle transects which did.

Infaunal Assemblages

A total of 33,952 benthic macroinvertebrates, representing 493 species, was obtained in quantitative Smith-McIntyre grab collections from the study area (Tables 43-82). Of the total number of organisms collected, 37.5% were polychaetes, 19.6% were the cephalochordate Branchiostoma caribaeum, 13.0% were amphipods, and 7.0% were pelecypods. Representatives of 24 other major taxa comprised the remaining 26% of individuals collected (Table 83). Polychaetes also dominated the fauna taxonomically, with 211 species accounting for 42.8% of the total. Pelecypods comprised 19.9% of the number of species, while decapods and gastropods contributed 9.9% each.

The most abundant single species in the samples was the lancelet, Branchiostoma caribaeum, which comprised nearly one-fifth of the total number of individuals. This species was collected at 31 of the 40 stations included in the study. B. caribaeum was either absent or present in low densities at

several of the shallower stations inshore, particularly those characterized by finer sediments (see Table 8b). Maximum numbers were encountered at stations with bottoms of coarser sand; densities of 2750 and 2748 individuals m^{-2} were found at stations DS33 and DS40, respectively. These concentrations exceed the maximum densities of 1343 lancelets m^{-2} recorded by Frankenberg and Leiper (1977) in summer samples from shelf waters off Georgia. In a study of the ecology and distribution of B. caribaeum on the shelf of the southeastern United States, Dory and Pierce (1967) found maximum densities of 204 individuals m^{-2} off Sapelo Island, Georgia. They noted that optimal conditions for aggregations of B. caribaeum included the presence of coarse, shelly, siliceous sand in areas of subsurface wave action and tidal current.

Ranking second in abundance was the sipunculid Aspidosiphon spinalis, which accounted for 3.4% of the total fauna. It was present in collections from 39 of the 40 stations sampled. Other species contributing more than 2% of the total fauna included the polychaetes Spiophanes bombyx, Goniadides carolinae, Spio pettiboneae, Nephtys picta, and Prionospio cristata, the lunulitiform bryozoan Cupuladria doma, the amphipod Trichophoxus floridanus, and nematodes of undetermined identity. The polychaete Spiophanes bombyx was the most ubiquitous species, occurring at all of the 40 stations sampled. Also widely distributed were the polychaete Nephtys picta (35 stations), Nemertina (undet.) A (37 stations), the amphipods Pseudoplatyischnopus floridanus and Tiron tropakis (33 stations each), nematodes (33 stations), the decapod Pagurus longicarpus (32 stations), and the pelecypods Tellina probrina and Erycina concentrica (30 stations each).

Species diversity ('H') ranged from 3.[illegible] to 6.11 in samples from the study area (Table 4, Fig. [illegible]). Diver[illegible] measurements ('H') did not reveal any significant

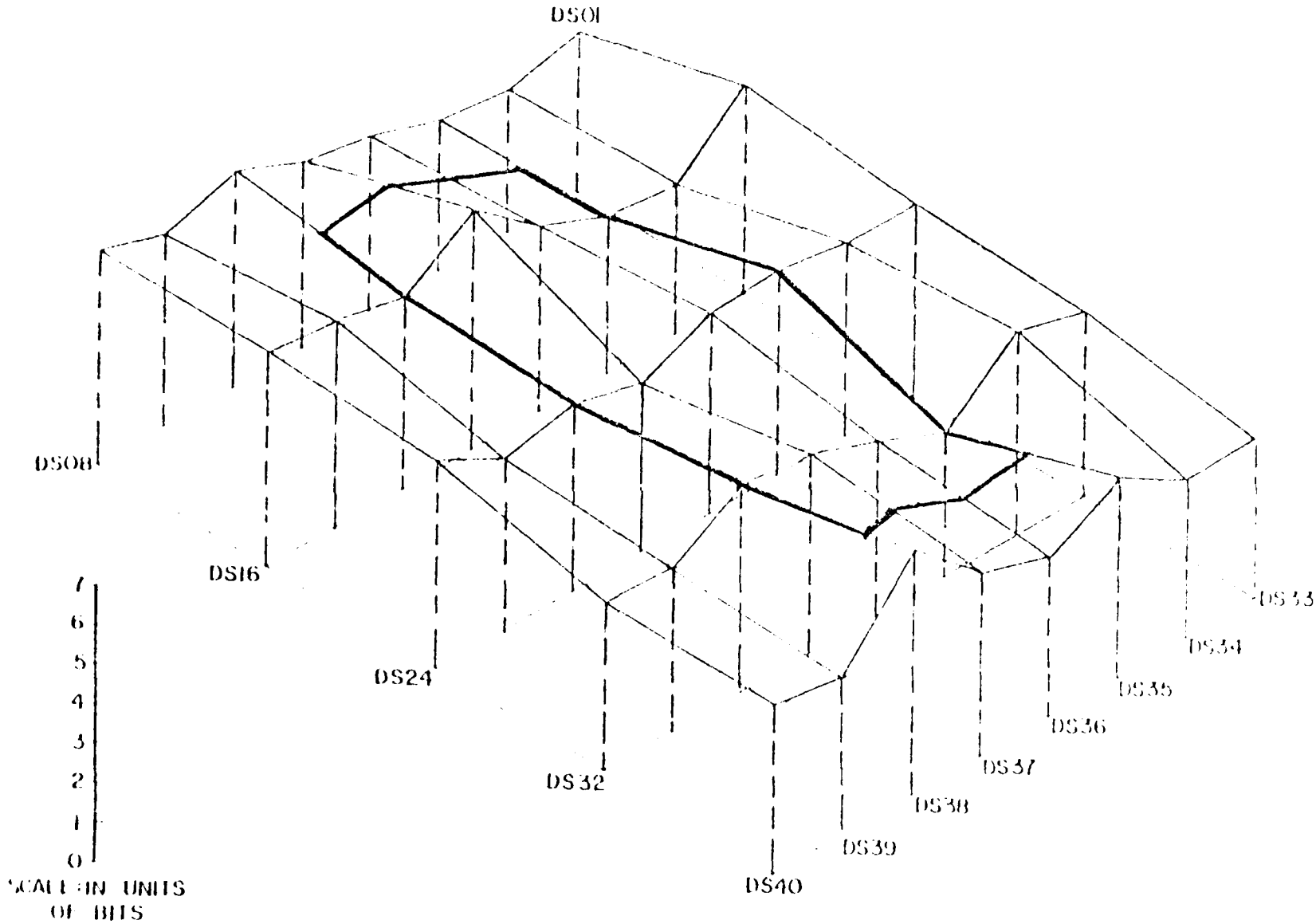


Figure 4. Species diversity values (H') for stations in and adjacent to the Charleston Harbor Ocean Disposal Area. Heavy solid lines indicate boundaries of disposal area.

Differences between stations inside and outside the disposal area [illegible]. The lowest value for H' was found for stations in the [illegible] and [illegible] for the [illegible] stations. Diversity values over the entire [illegible] were generally higher than those observed in shallow shelf waters of Virginia (Boesch, 1972) and Rhode Island (Saila, et al., 1972). The high observed H' is attributable in part to the species richness component of diversity, which ranged from 5.52 at DS10 to 22.00 at DS38 (Table 84). The number of species collected at these stations was 31 and 173, respectively. Neither the number of species per station nor species richness (SR) was significantly different between stations inside and outside the disposal area (ANOVA, $p > 0.5$). High diversities were also partly attributable to the evenness component (J'), which measures the distribution of individuals among species present. In spite of the numerical dominance of Branchiostoma caribaeum, 19 other species each contributed more than 1% of the total number of individuals collected. Yet these 20 species combined to account for only 56.4% of the total number of animals present. This is a substantially more even distribution of individuals within the species list than Dorjes (1972) found on transects off Georgia, where the 10 most abundant species contributed 86% of the total. Likewise, the 10 most abundant species of shallow nearshore infaunal communities at Murrells Inlet, South Carolina, contributed 80.2% of the total number of animals collected (Knott, Calder, and Van Dolah, unpublished data).

Many more species were identified from the study area off Charleston than were reported from similar areas off the Georgia coast in the recent publications. Collections from supratidal, intertidal, and subtidal shallow shelf areas out to depths of about 15 m off Sapelo Island yielded 298 species (Dorjes, 1972). Three stations sampled by Frankenberg and Leiper (1977) off Sapelo Island, with

[illegible] sediment characteristics [illegible] the [illegible] the present study area, [illegible] an average of [illegible] species [illegible] for [illegible] [illegible] stations. By comparison, an average of [illegible] species [illegible] were obtained from a study area of similar size (Table [illegible]). In the only previous study of this nature in South Carolina, 123 species were identified in samples from nine intertidal and nine subtidal stations (maximum depths of 3 m) in the Murrells Inlet area (Hackett, Calder, and Van Dolah, unpublished data). The infauna of sandy shelf areas on the southeastern continental shelf is therefore far from impoverished taxonomically. Likewise, faunal densities appear to be relatively high.

Sediment Geochemistry

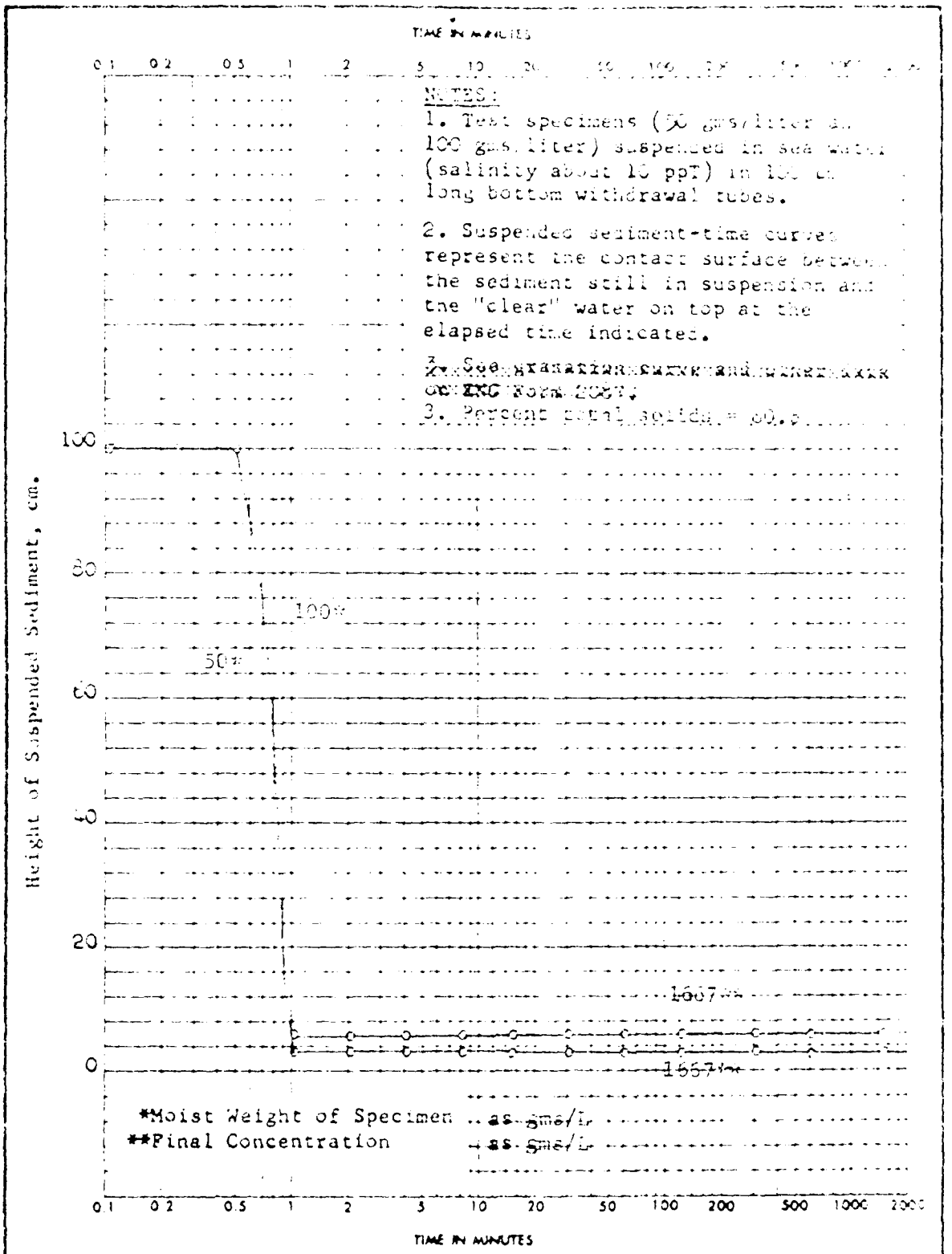
Data resulting from the chemical analysis of sediment samples collected in and adjacent to the Charleston Harbor Ocean Disposal Area are presented in Table 55. These analyses did not reveal any substance exceeding maximum requirements for the determination of the acceptability of dredged material disposal to the nation's waters. Suspended sediment-time curves for the samples are given in Figs. 5-28.

Sedimentologic Investigations

A) Charleston Harbor Entrance Channel:

Analyses of bottom grab samples taken every 0.5 nautical mile from a point opposite Ft. Moultrie to the seaward beginning of the maintained channel have defined 3 distinct composition zones:

1) secured bedrock (calcarenite and marl) covered with a thin veneer of calcium carbonate shell-rich quartz sand stretches between Ft. Moultrie and the seaward end of the jetties (stations EC21 to EC15, Fig. 2 and Table 56).



PROJECT	CHARLESTON DISTRICT	Charleston Harbor	
AREA	Ocean Disposal Area	Lab No. 3S-758	
BORING NO --	SAMPLE NO 78141	DEPTH EL -	DATE 4 April 1978

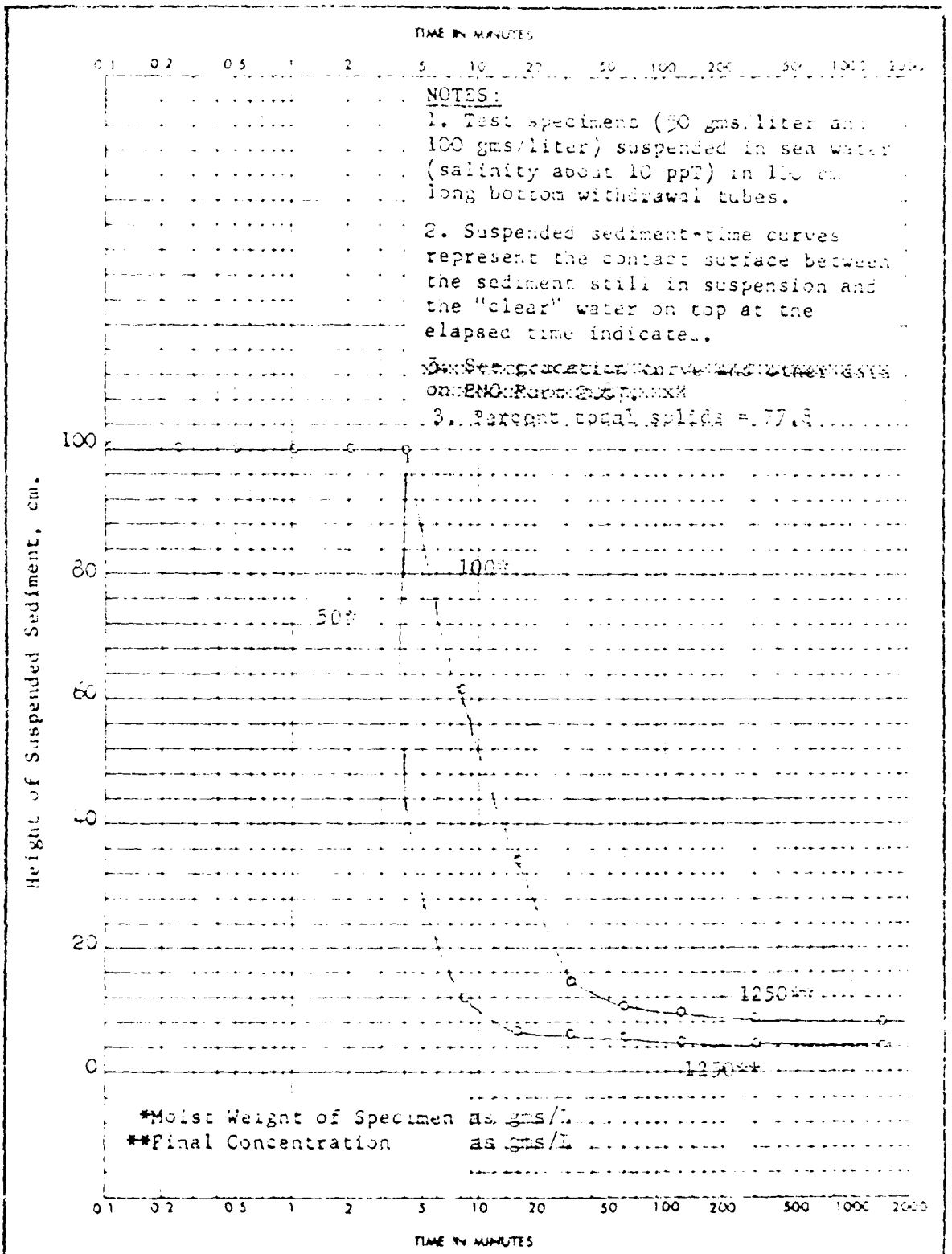
SUSPENDED SEDIMENT-TIME CURVES (TRANSLUCENT)

SAD Form 3023
26 Oct 72

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 511 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30061

Rcpt. No.
Work Order No.

Figure 4. Suspended sediment time curves for samples from station 10-11.



PROJECT CHARLESTON DISTRICT Charleston Harbor

AREA Ocean Disposal Area Lab No. 33-760

BORING NO -- SAMPLE NO 78144 DEPTH ft -- DATE 4 April 1979

SUSPENDED SEDIMENT-TIME CURVES (TRANSLUCENT)

SAD Form 3023
26 Oct 72

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Requ. No. [illegible]
Work Order No. [illegible]

Figure [illegible] Suspended sediment time curves for samples from station [illegible]

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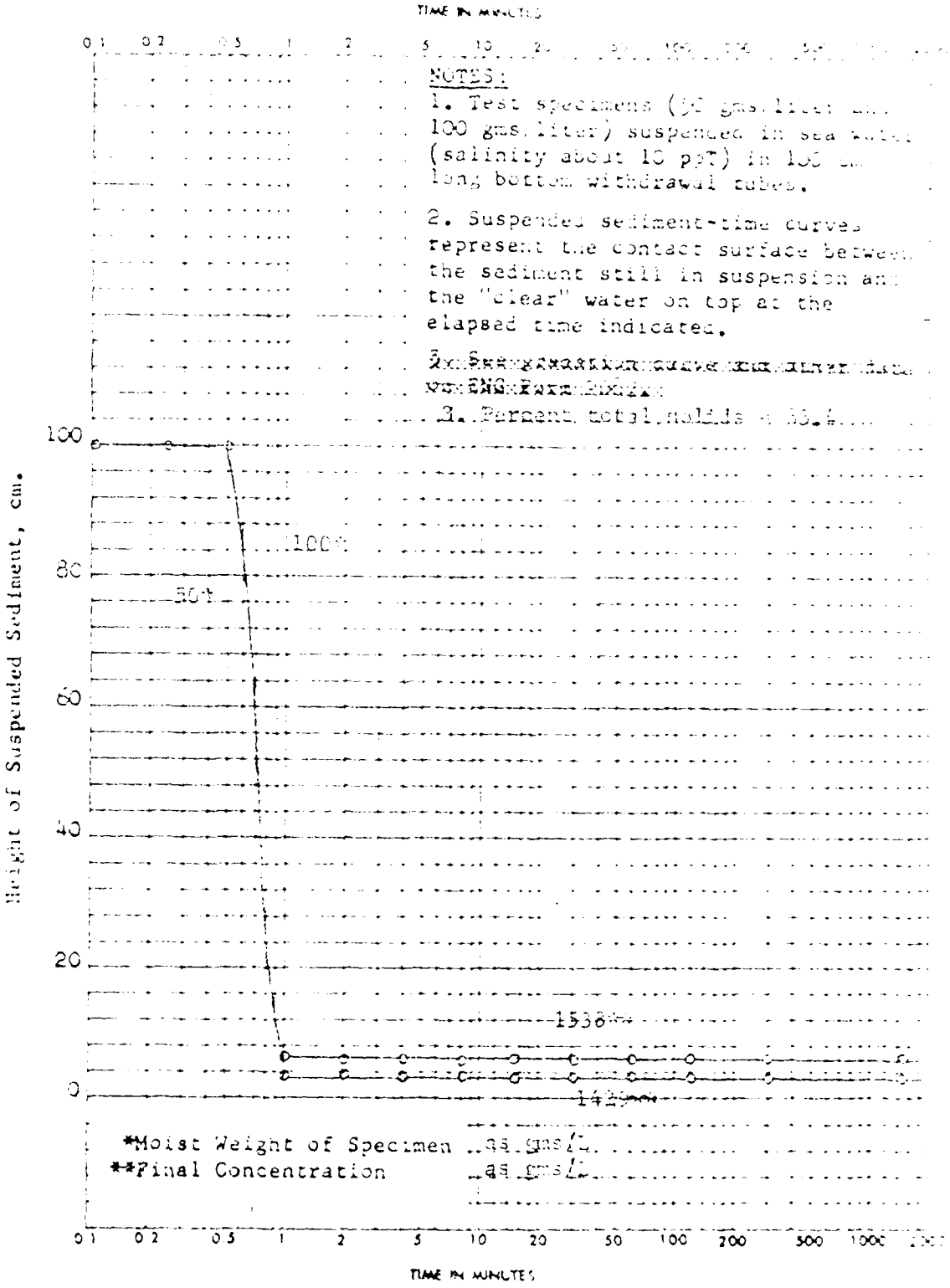
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. [illegible]
Work Order No. [illegible]

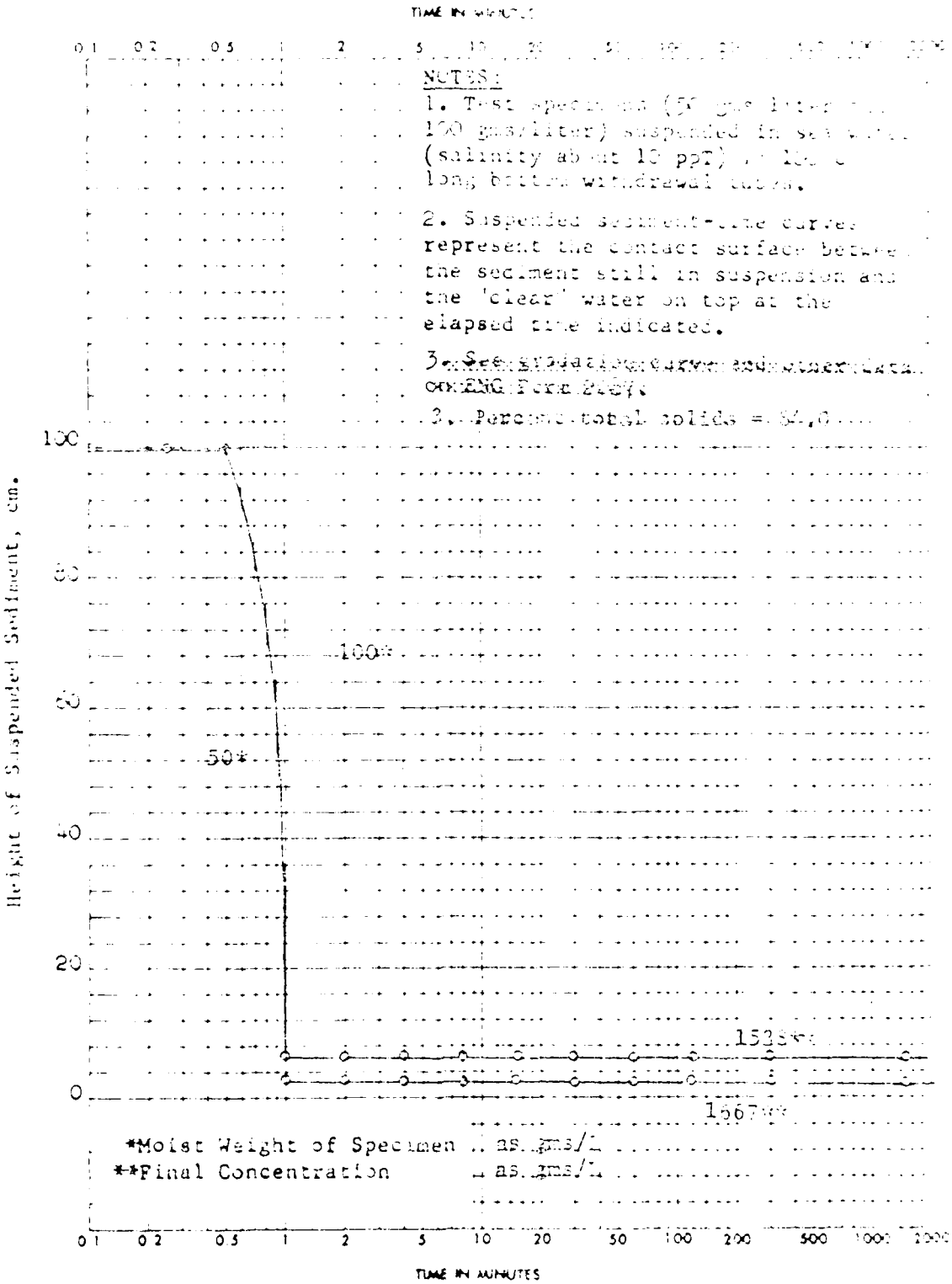


PROJECT	CHARLESTON DISTRICT	Charleston Harbor			
AREA	Ocean Disposal Area	Lab No. 35-759			
BORING NO.	--	SAMPLE NO. 78148	DEPTH EL. -	DATE 4 April 1979	

SUSPENDED SEDIMENT-TIME CURVES TRANSLUCENT

SAD Form 3023
26 Oct 72

Figure 7. Suspended sediment-time curves for samples from station [illegible]



PROJECT	CHARLESTON DISTRICT	Charleston Harbor	
AREA	Ocean Disposal Area	Lab No. 38-810	
BORING NO --	SAMPLE NO 78149	DEPTH ft --	DATE 4 April 1979

SUSPENDED SEDIMENT-TIME CURVES (TRANSLUCENT)

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26 Oct 72

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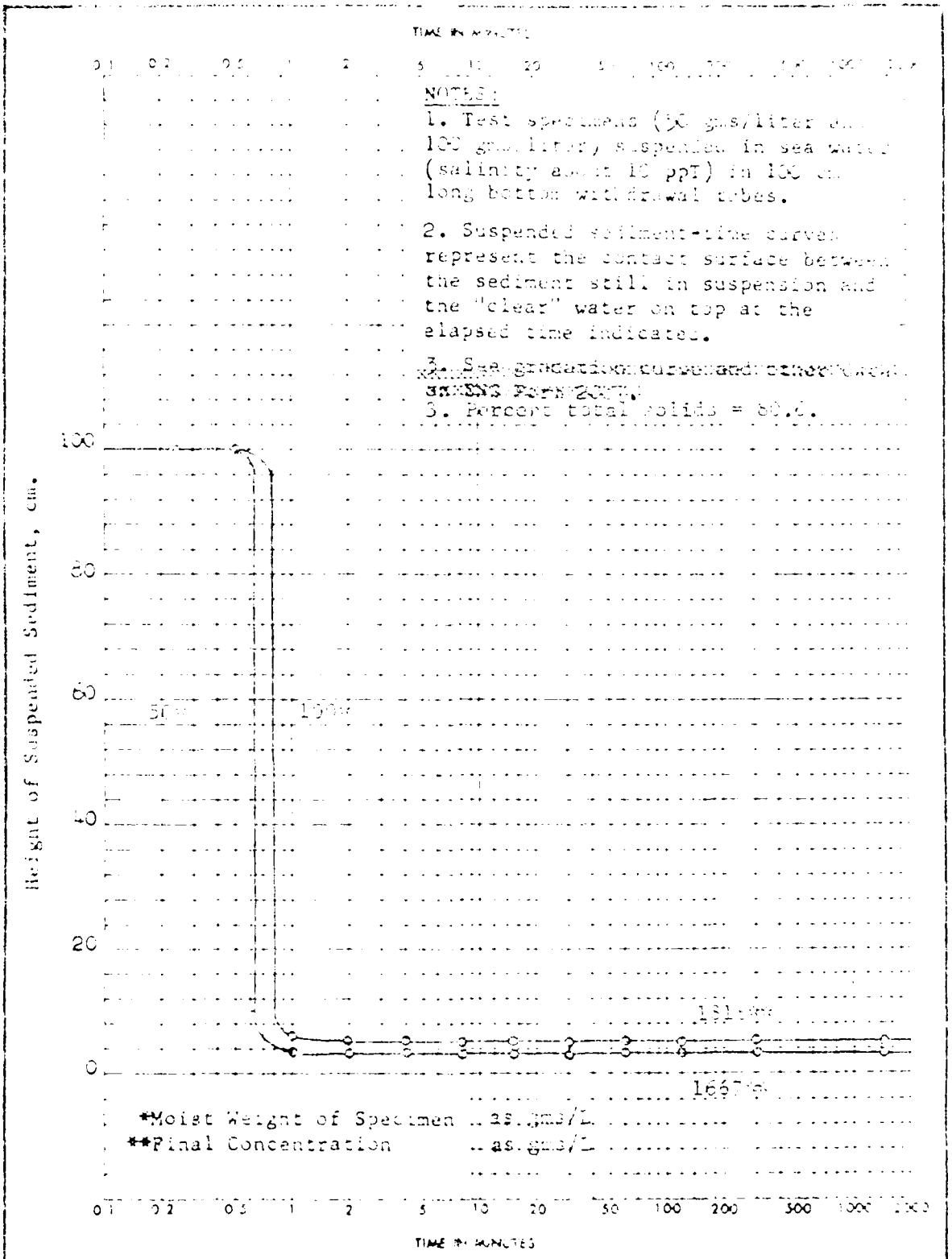
Reqn. No.
Work Order No.



PROJECT Charleston District, Charleston Harbor

AREA Ocean Disposal Area Lab No. 35-740

BORING NO -- SAMPLE NO 78111 DEPTH EL -- DATE April 1979

SUSPENDED SEDIMENT-TIME CURVES TRANSLUCENT

SAD Form 3023
26 Oct 72

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CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Regn. No. [illegible]
Work Order No. [illegible]

Figure 9. Suspended sediment time curves for samples from station 18311.

Reqn. No. SACEC-78-53
Work Order No. 1393

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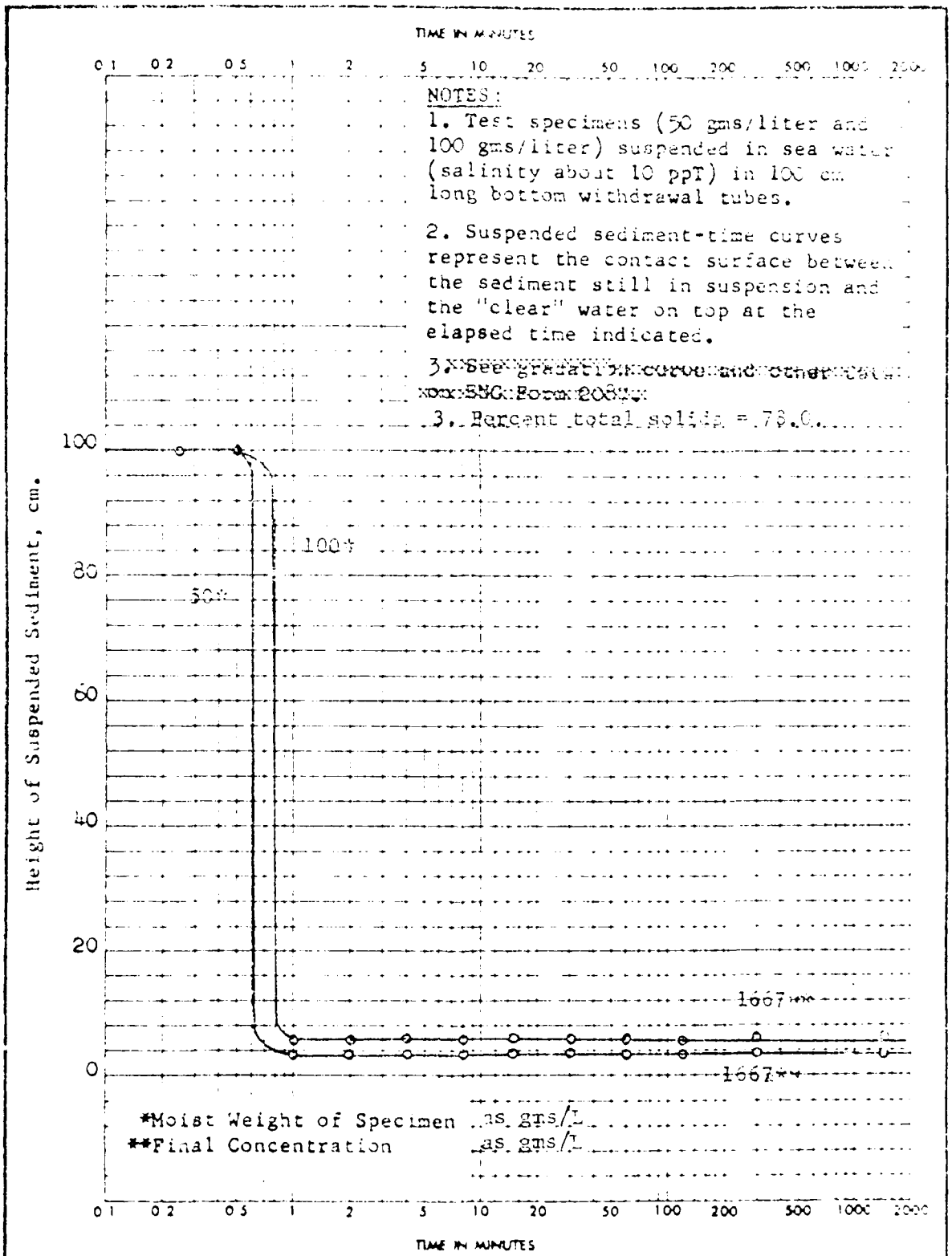
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060



PROJECT	CHARLESTON DISTRICT	Charleston Harbor	
AREA	Ocean Disposal Area	Lab No. 3S-747	
BORING NO. --	SAMPLE NO. 78112	DEPTH EL --	DATE 4 April 1979

SUSPENDED SEDIMENT-TIME CURVES (TRANSLUCENT)

SAD Form 3023
26 Oct 72

Figure 10. Suspended sediment-time curves for samples from station DS12.

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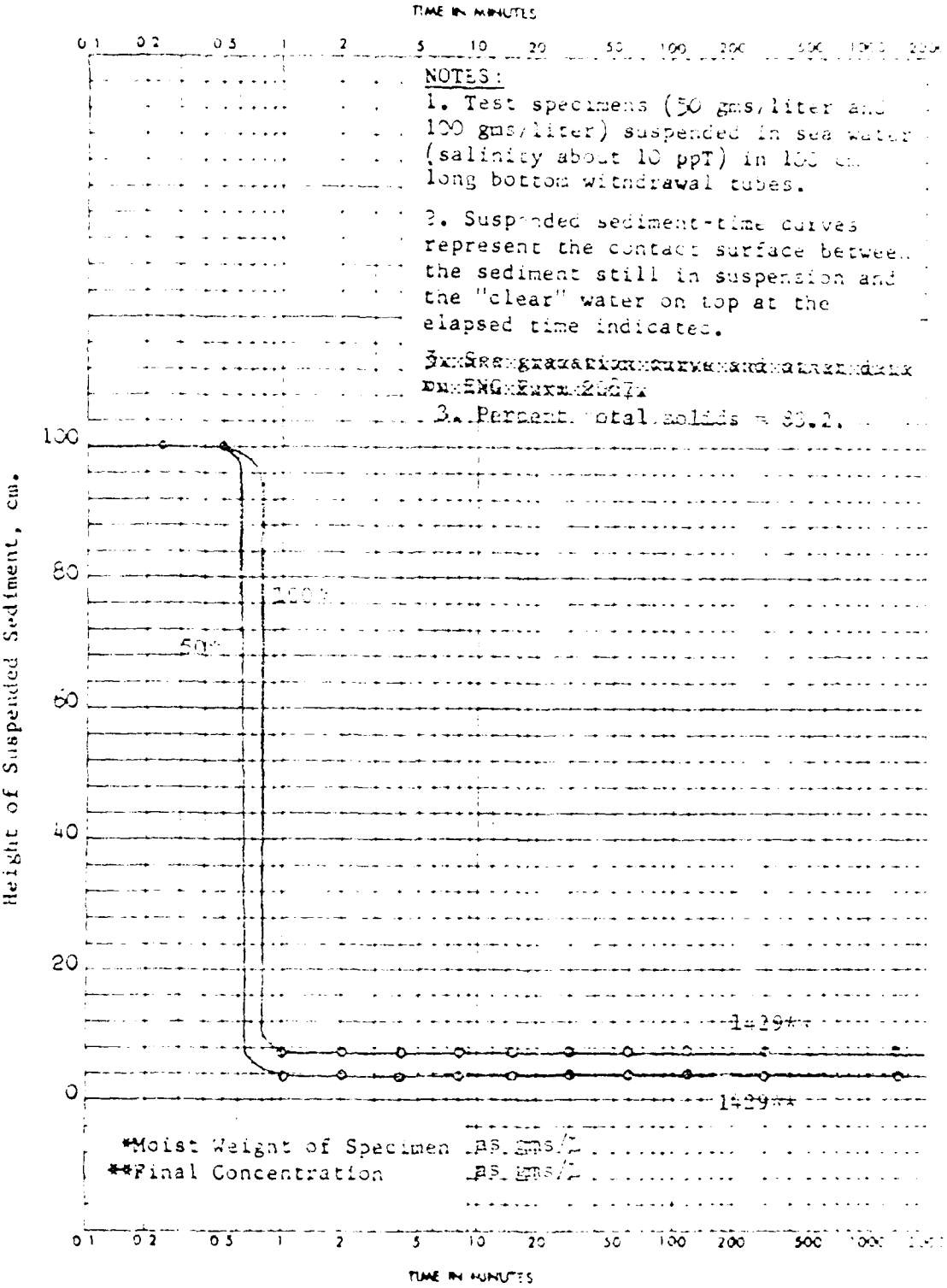
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACOE-78-53
Work Order No. 1383



NOTES:

1. Test specimens (50 gms/liter and 100 gms/liter) suspended in sea water (salinity about 10 ppT) in 100 cm long bottom withdrawal tubes.

2. Suspended sediment-time curves represent the contact surface between the sediment still in suspension and the "clear" water on top at the elapsed time indicated.

3. Percent total solids = 33.2.

PROJECT: CHARLESTON DISTRICT Charleston Harbor

AREA: Ocean Disposal Area Lab No. 3S-7-

BORING NO. -- SAMPLE NO. 78113 DEPTH EL -- DATE April 1978

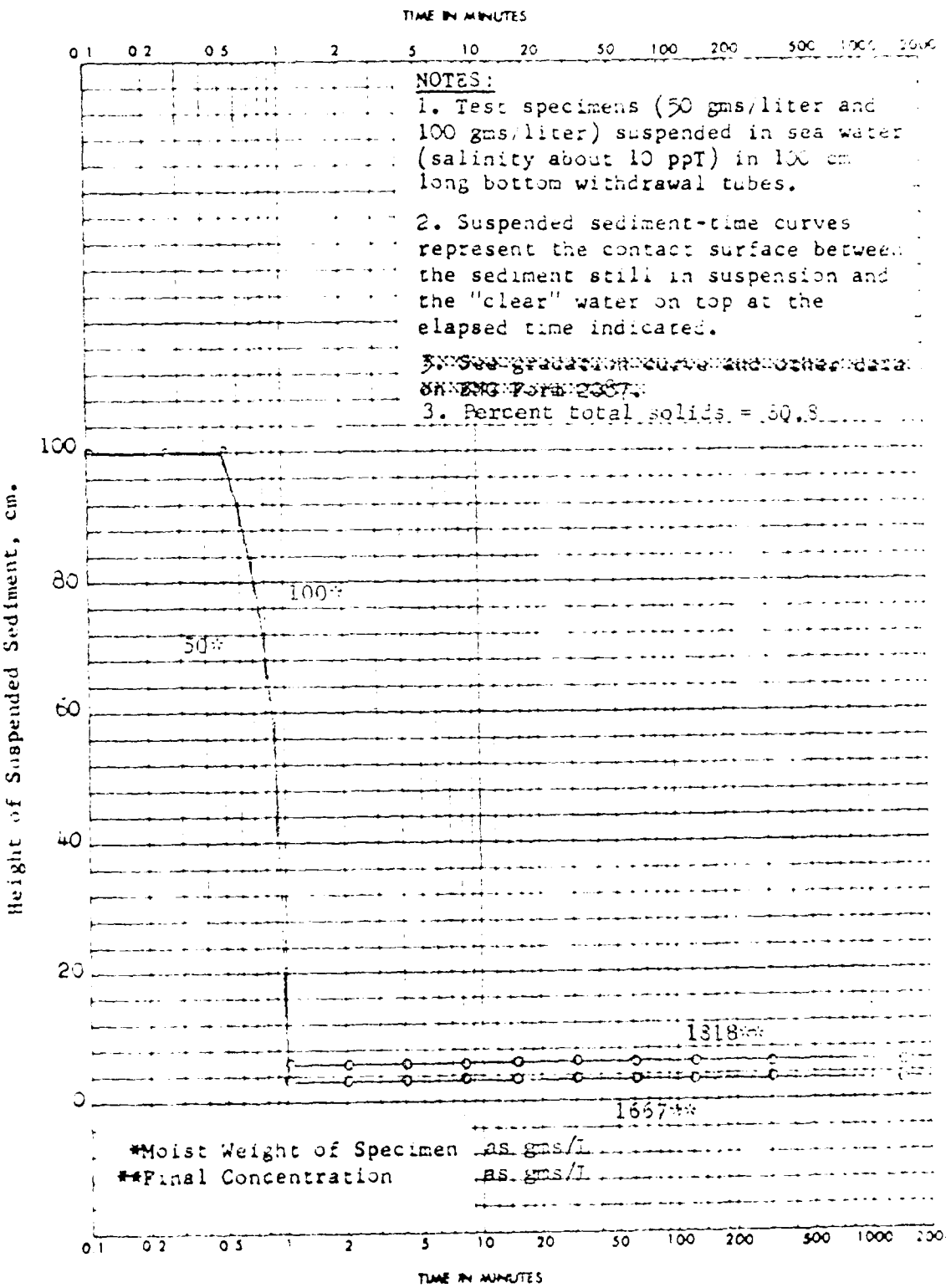
SUSPENDED SEDIMENT-TIME CURVES TRANSLUCENT

SAD Form 3023
26 Oct 72

Figure 11. Suspended sediment-time curves for samples from station DS13.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACEC-78-53
Work Order No. 1353



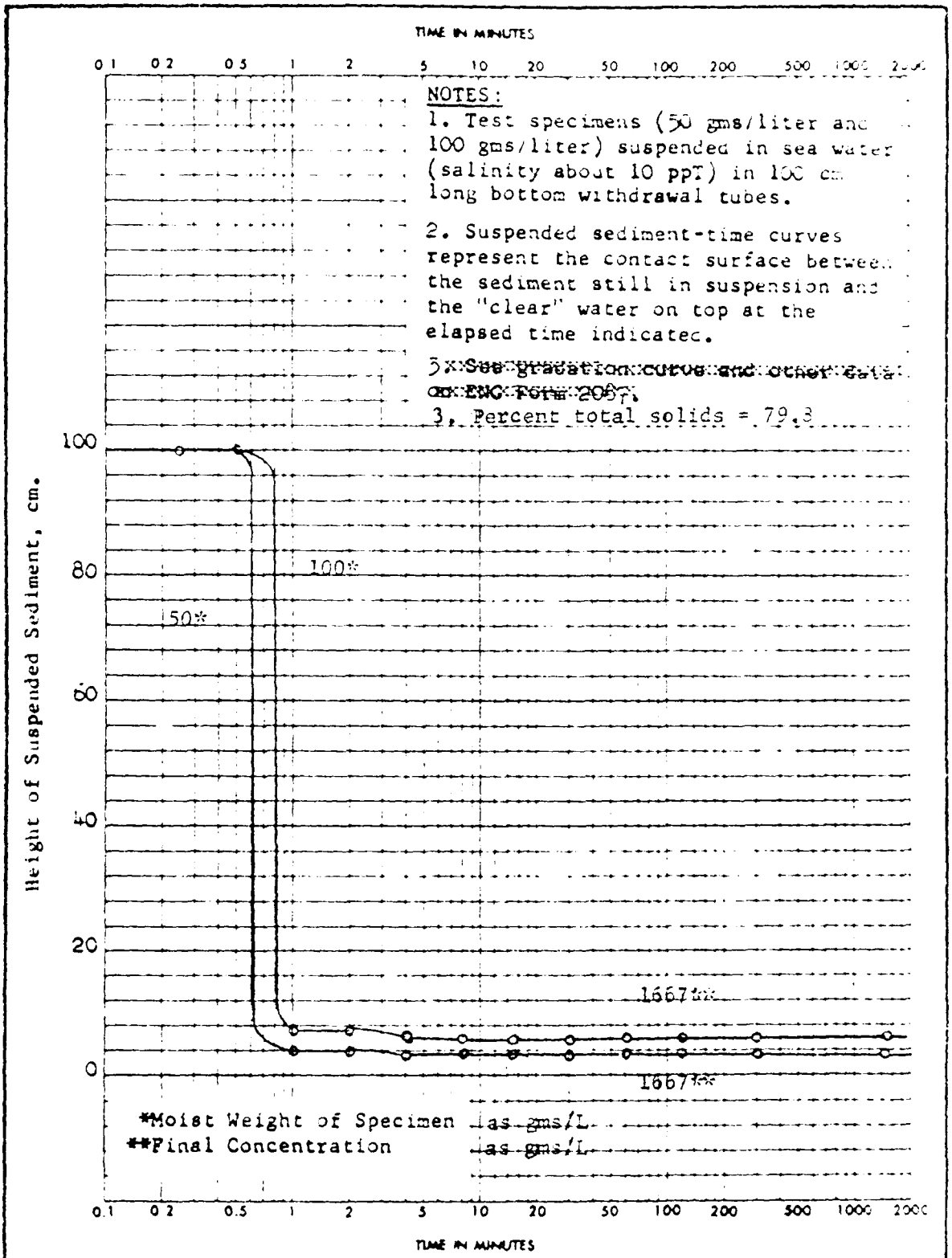
PROJECT	CHARLESTON DISTRICT	Charleston Harbor	
AREA	Ocean Disposal Area	Lab No. 3S-802	
BORING NO. --	SAMPLE NO. 78114	DEPTH EL --	DATE April 1978
SUSPENDED SEDIMENT-TIME CURVES			TRANSLUCENT

SAD Form 3023
26 Oct 72

Figure 12. Suspended sediment-time curves for samples from station 78114.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACOO-78-53
Work Order No. 1383



PROJECT	CHARLESTON DISTRICT	Charleston Harbor		
AREA	Ocean Disposal Area		Lab No. 3S-749	
BORING NO --	SAMPLE NO 78116	DEPTH EL --		DATE 4 April 1979

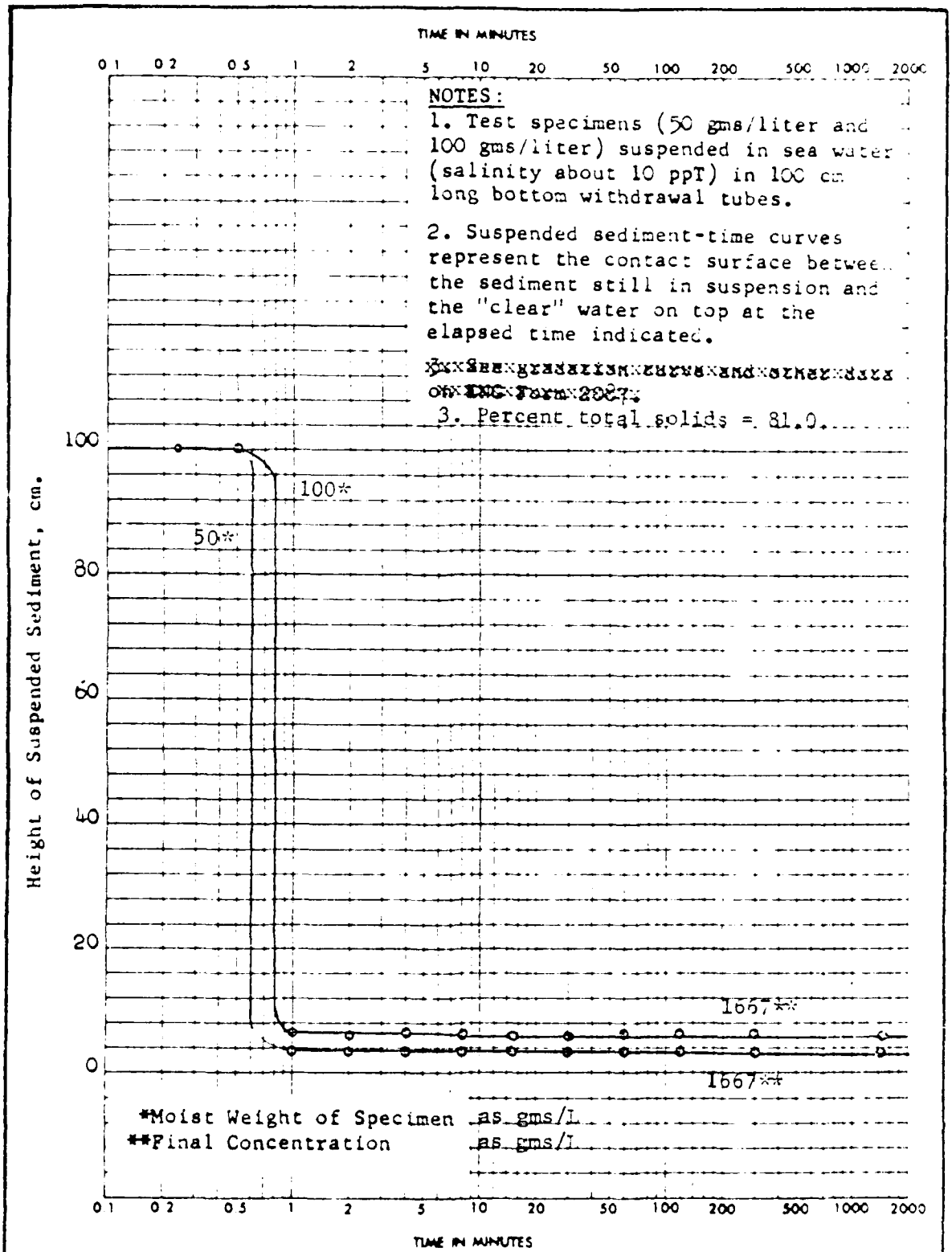
SUSPENDED SEDIMENT-TIME CURVES (TRANSLUCENT)

SAD Form 3023
26 Oct 72

Figure 18. Suspended sediment-time curves for samples from station DS16.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACEC-78-53
Work Order No. 1383



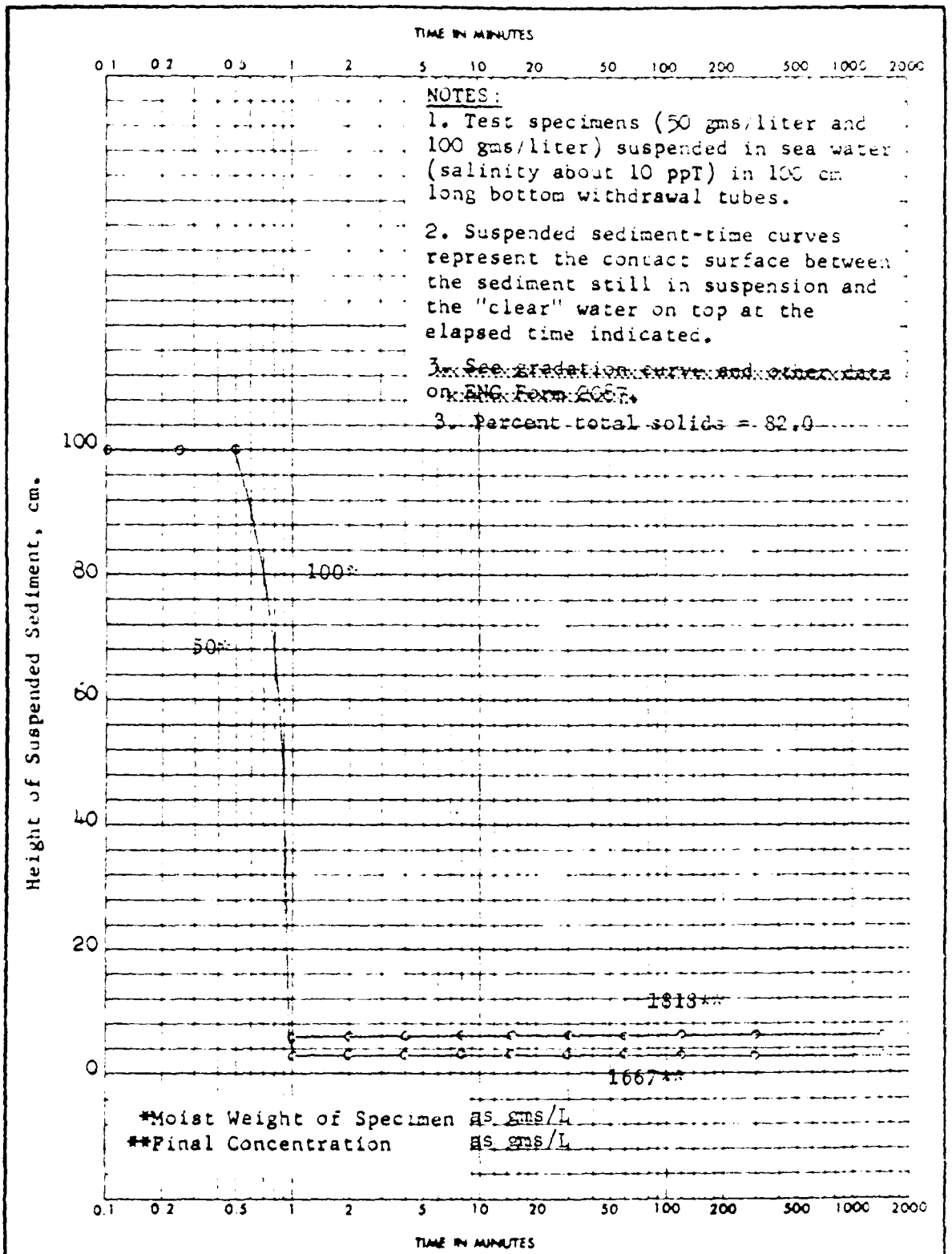
PROJECT	CHARLESTON DISTRICT	Charleston Harbor			
AREA	Ocean Disposal Area		Lab No. 3S-750		
BORING NO	--	SAMPLE NO 78117	DEPTH EL --	DATE April 1979	
SUSPENDED SEDIMENT-TIME CURVES					TRANSLUCENT

SAD Form 3023
26 Oct 72

Figure 16. Suspended sediment-time curves for samples from station DS17.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACWT-78-53
Work Order No. 1343



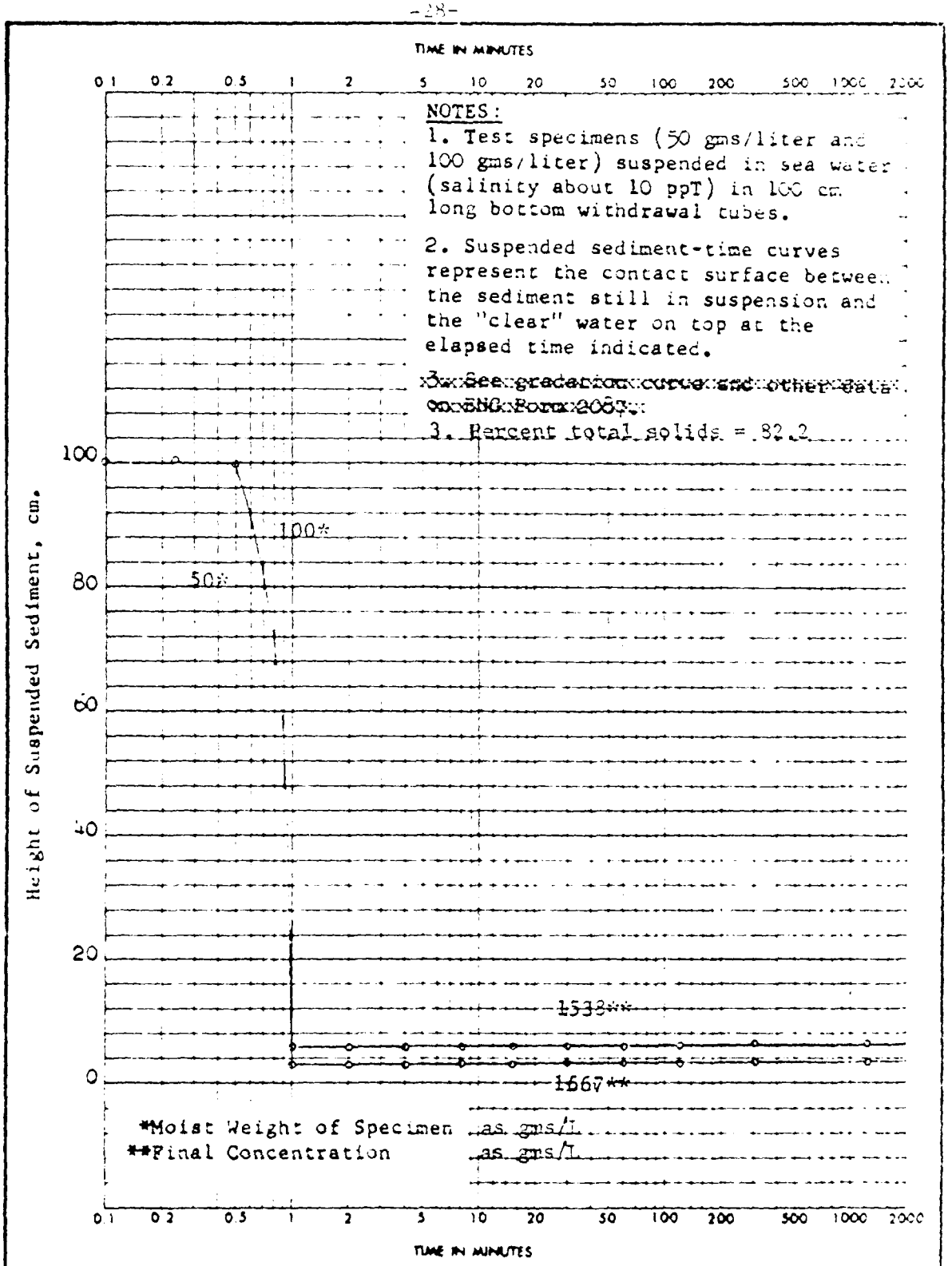
PROJECT	CHARLESTON DISTRICT	Charleston Harbor			
AREA	Ocean Disposal Area	Lab No. 3S-S03			
BORING NO --	SAMPLE NO 78119	DEPTH EL --	DATE 4 April 1979		
SUSPENDED SEDIMENT-TIME CURVES				TRANSLUCENT	

SAD Form 3023
26 Oct 72

Figure 15. Suspended sediment-time curves for samples from stati 0S19.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACEC-78-53
Work Order No. 1383



PROJECT	CHARLESTON DISTRICT		Charleston Harbor				
AREA	Ocean Disposal Area				Lab No. 3S-804		
BORING NO	--	SAMPLE NO	78120	DEPTH EL	--	DATE	4 April 1979

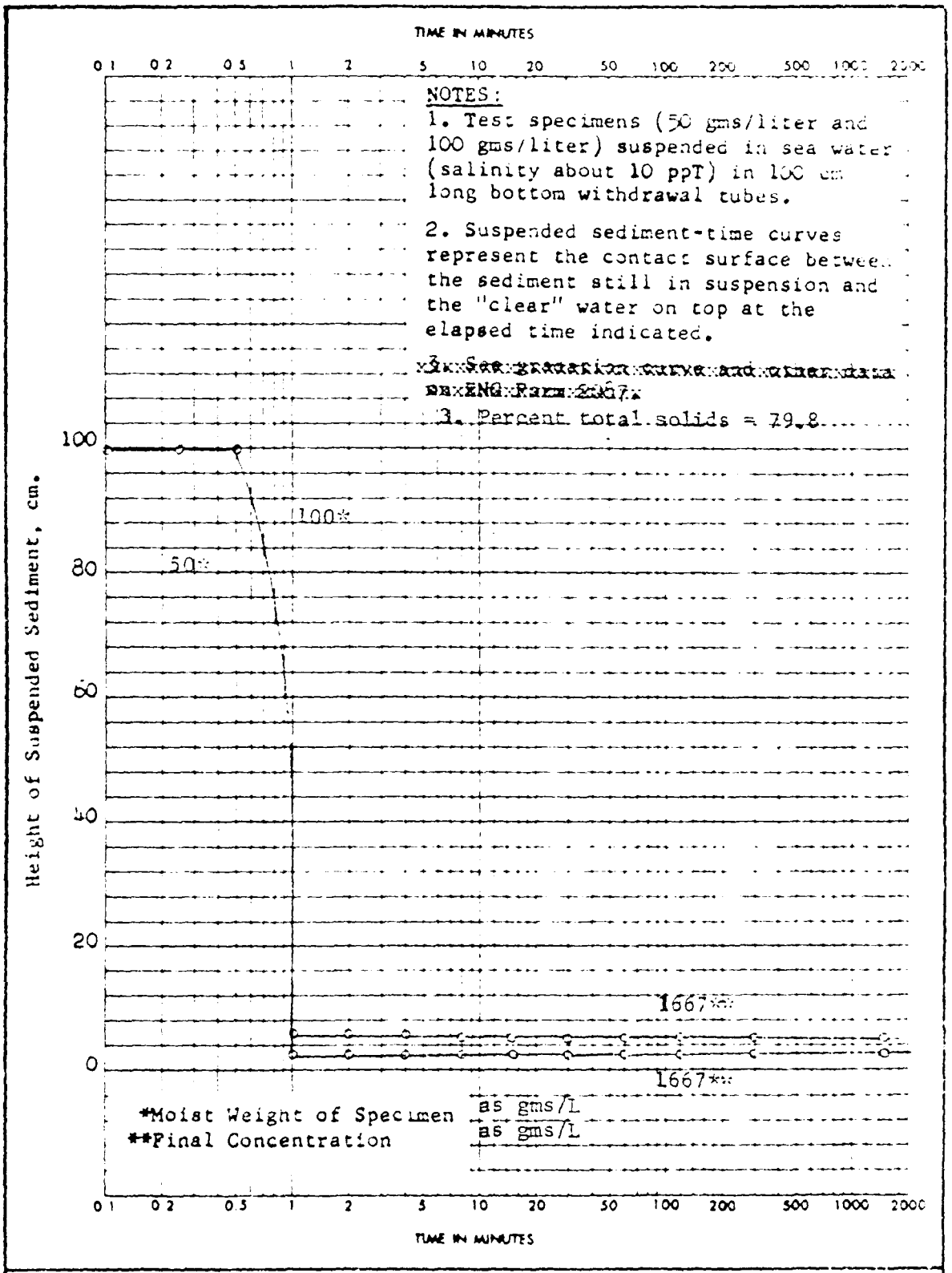
SUSPENDED SEDIMENT-TIME CURVES (TRANSLUCENT

SAD Form 3023
26 Oct 72

Figure 14. Suspended sediment-time curves for samples from stat DS20.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACEC-78-53
Work Order No. 1383



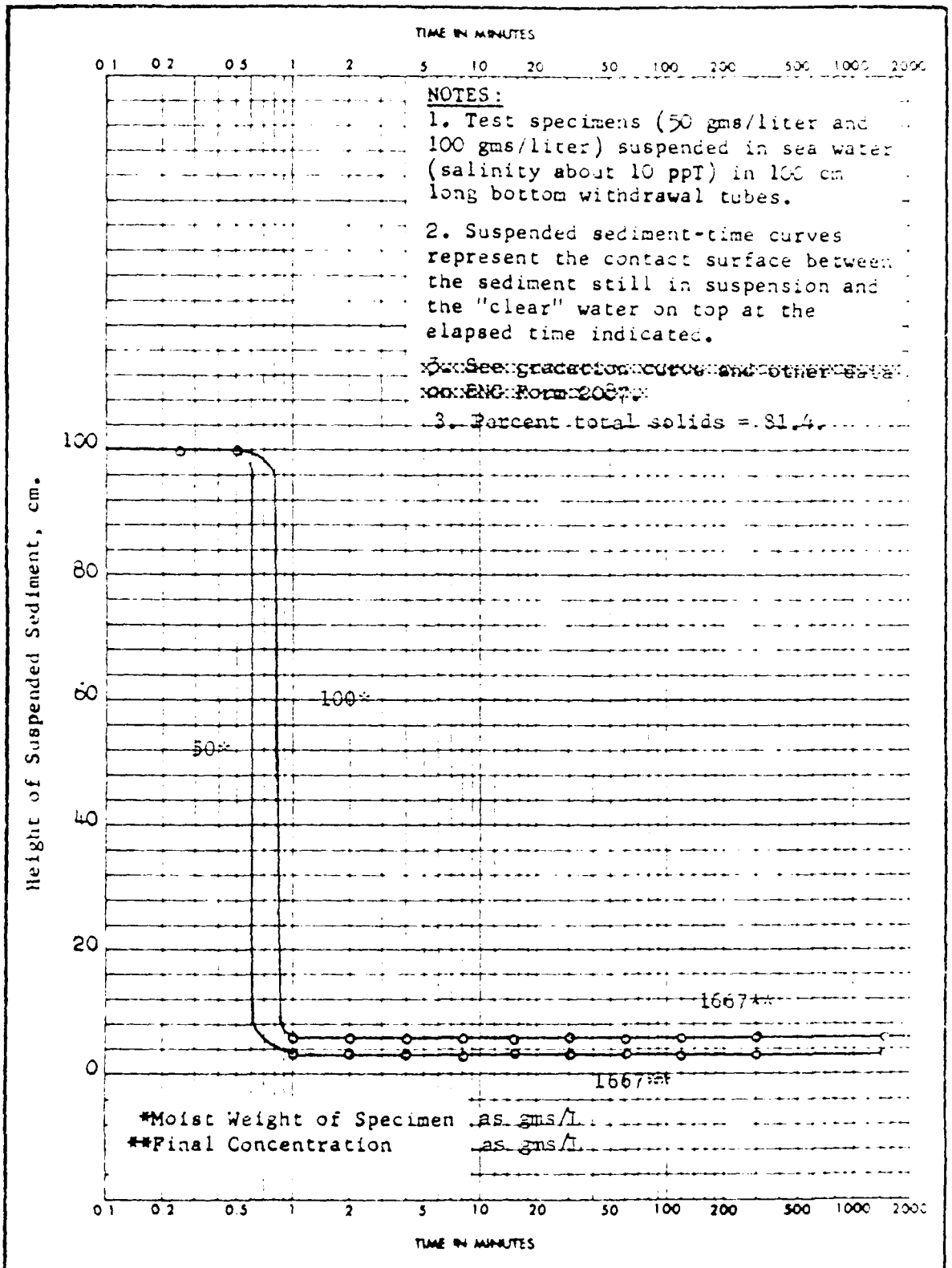
PROJECT	CHARLESTON DISTRICT	Charleston Harbor			
AREA	Ocean Disposal Area	Lab No. 38-805			
BORING NO --	SAMPLE NO 78121	DEPTH EL -		DATE	4 April 1979
SUSPENDED SEDIMENT-TIME CURVES					TRANSLUCENT

SAD Form 3023
26 Oct 72

Figure 17. Suspended sediment-time curves for samples from stat 1 DS21.

Reqn. No. SACEC-78-53
Work Order No. 1383

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060



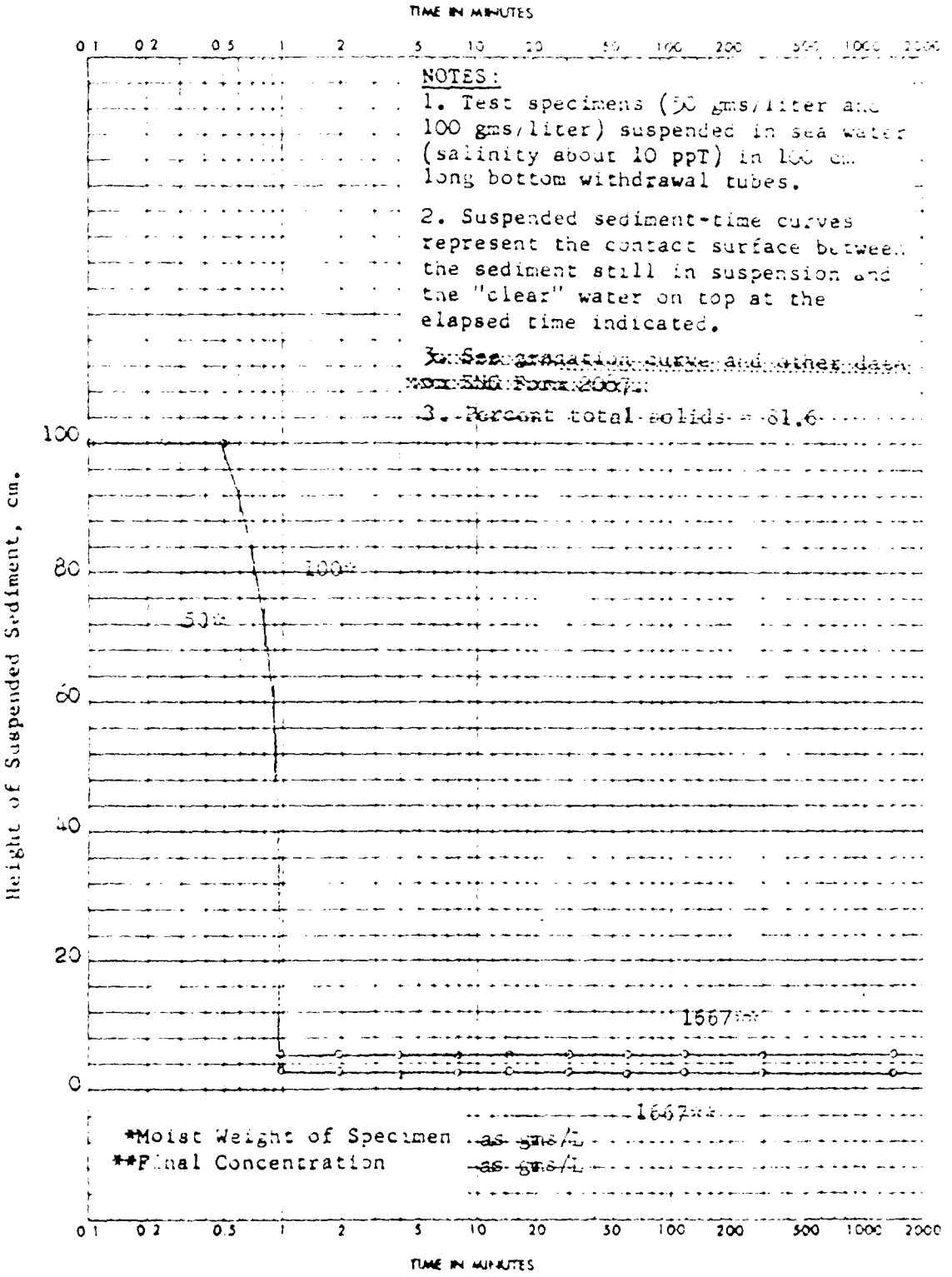
PROJECT	CHARLESTON DISTRICT	Charleston Harbor			
AREA	Ocean Disposal Area		Lab No. 3S-751		
BORING NO	--	SAMPLE NO 78122	DEPTH EL --	DATE	4 April 1979
SUSPENDED SEDIMENT-TIME CURVES					(TRANSLUCENT)

SAD Form 3023
26 Oct 72

Figure 18. Suspended sediment-time curves for samples from station DS22.

Regn. No. SACBC 78-53
Work Order No. 1383

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060



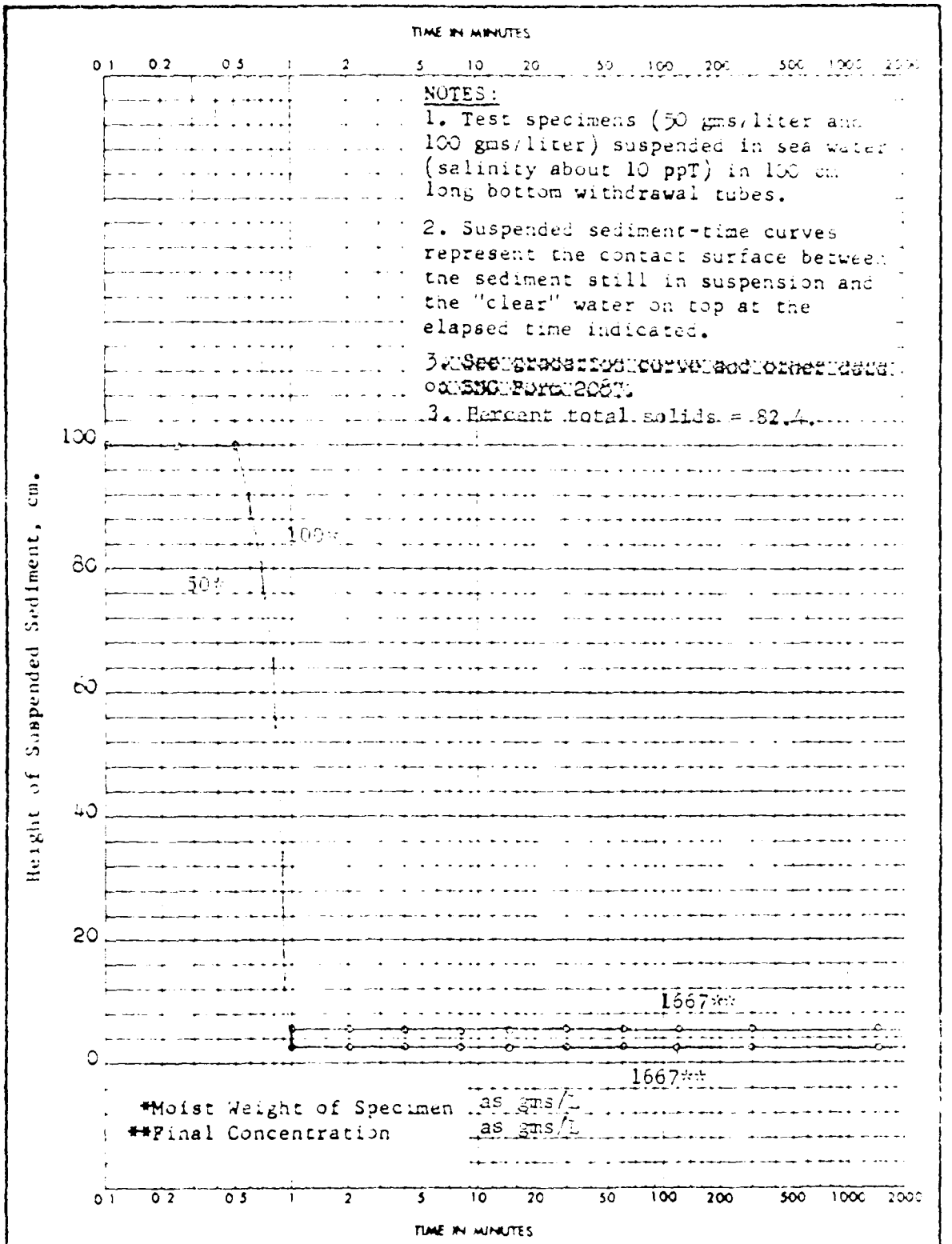
PROJECT CHARLESTON DISTRICT Charleston District
AREA Ocean Disposal Area Lab No. 35-306
BORING NO -- SAMPLE NO 78134 DEPTH ft DATE April 1978
SUSPENDED SEDIMENT-TIME CURVES TRANSLUCENT

SAD Form 3023
26 Oct 72

Figure 19. Suspended sediment-time curves for samples from station DS24.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SAD[illegible]-78-53
Work Order No. 1183



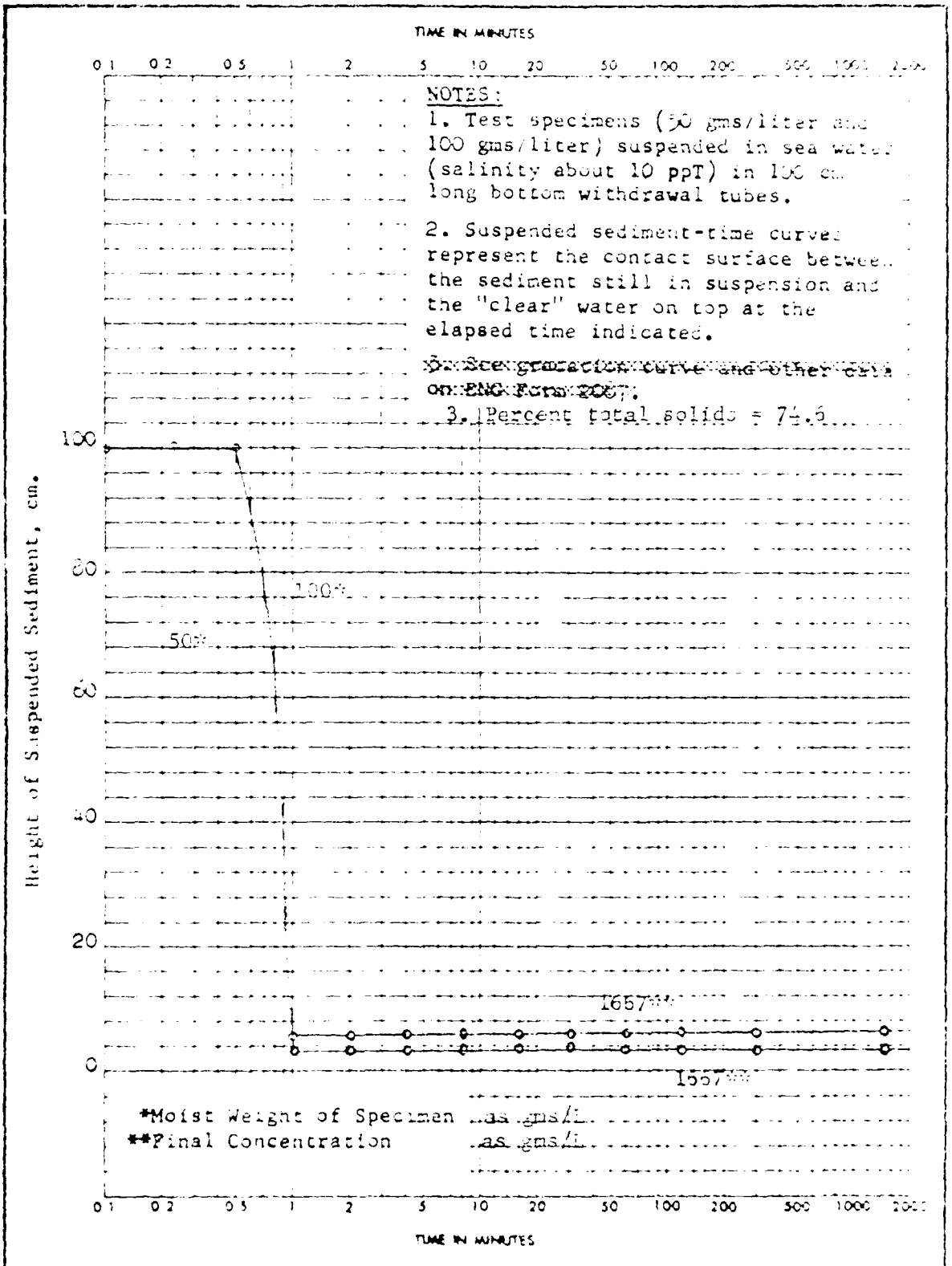
PROJECT CHARLESTON DISTRICT Charleston Harbor
AREA Ocean Disposal Area Lab No. 3S-307
BORING NO. -- SAMPLE NO. 78125 DEPTH EL -- DATE 4 April 1978
SUSPENDED SEDIMENT-TIME CURVES (TRANSLUCENT)

SAD Form 3023
26 Oct 72

Figure 20. Suspended sediment-time curves for samples from stat[illegible] in DS2B.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACPP-78-53
Work Order No. 1393



PROJECT CHARLESTON DISTRICT Charleston Harbor
AREA Ocean Disposal Area Lab No. 38-808
BORING NO. -- SAMPLE NO. 78127 DEPTH EL. -- DATE 4 April 1978

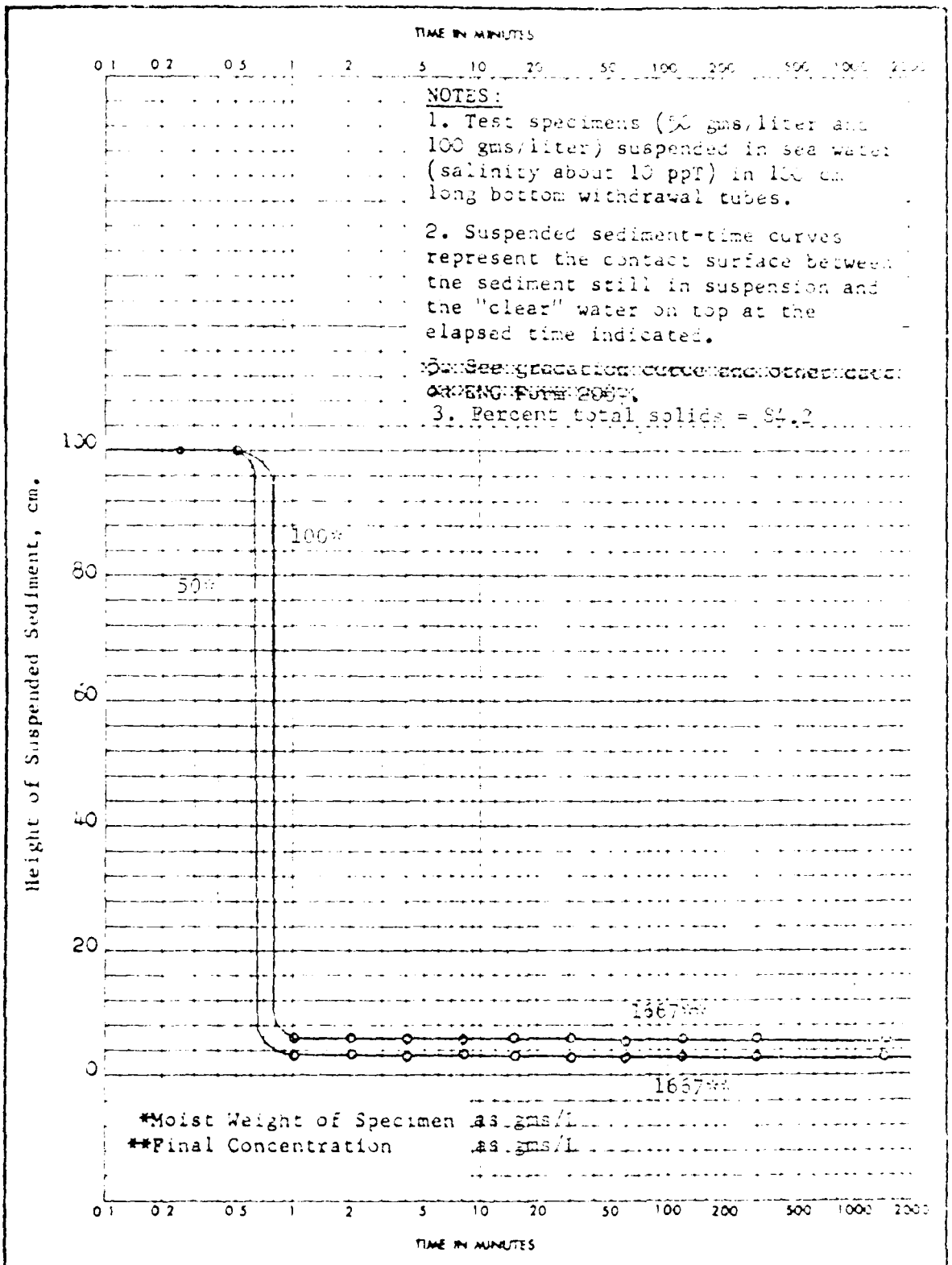
SUSPENDED SEDIMENT-TIME CURVES TRANSLUCENT

SAD Form 3023
26 Oct 72

Suspended sediment time curves for samples from station DS27.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACEC-78-53
Work Order No. 1383



PROJECT	CHARLESTON DISTRICT		Charleston Harbor		
AREA	Ocean Disposal Area			Lab No. 38-752	
BORING NO	--	SAMPLE NO	73123	DEPTH ft. --	DATE April 1978

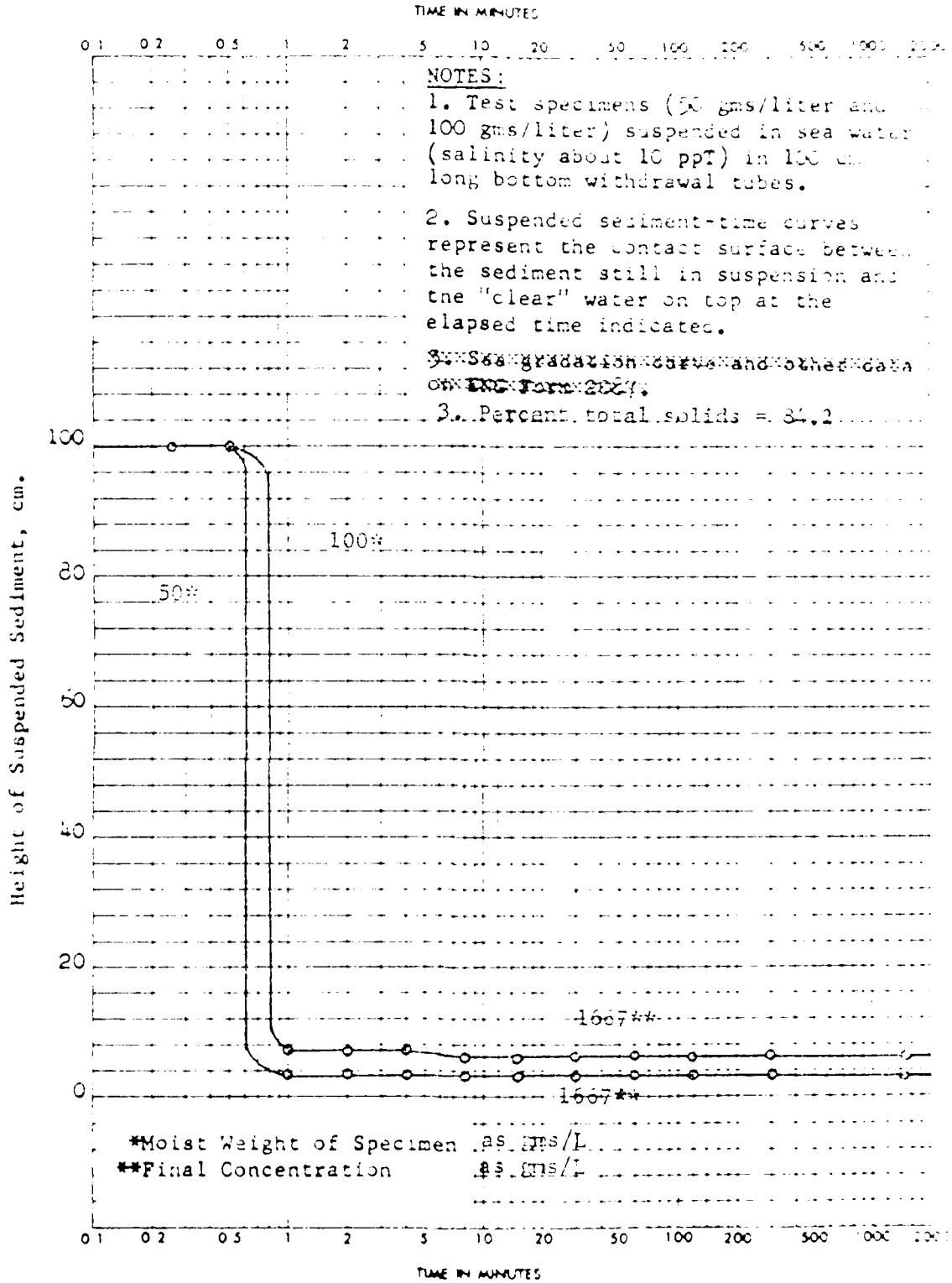
SUSPENDED SEDIMENT-TIME CURVES TRANSLUCENT

SAD Form 3023
26 Oct 72

Suspended sediment time curves for samples from station 1 on DS28.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACEO-78-53
Work Order No. [illegible]



PROJECT CHARLESTON DISTRICT Charleston Harbor

AREA Ocean Disposal Area Lab No. 38-750

BORING NO -- SAMPLE NO 78129 DEPTH ft - DATE April 1978

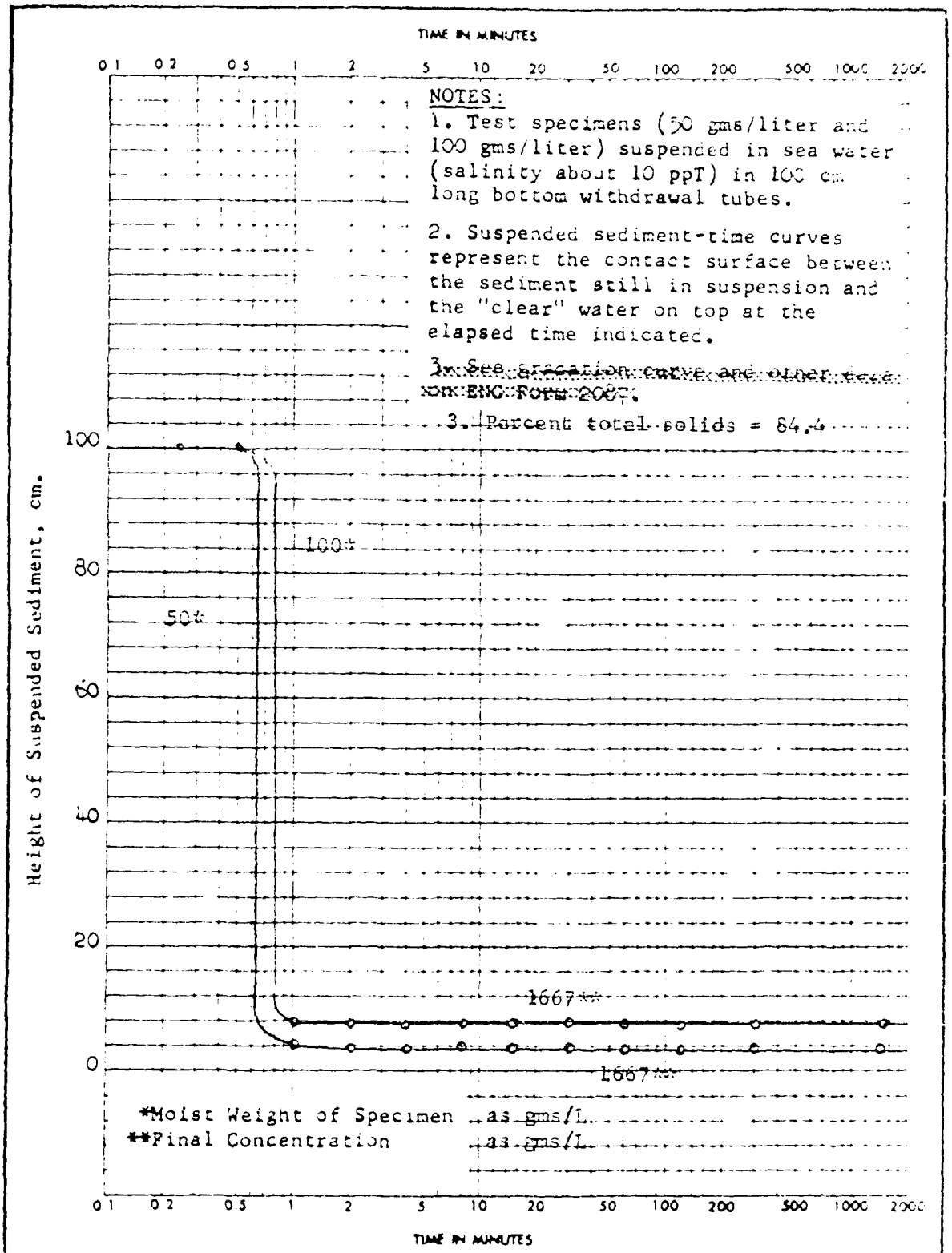
SUSPENDED SEDIMENT-TIME CURVES TRANSLUCENT

SAD Form 3023
26 Oct 72

Figure 15. Suspended sediment time curves for samples from station 1667.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACEC-78-53
Work Order No. 1383



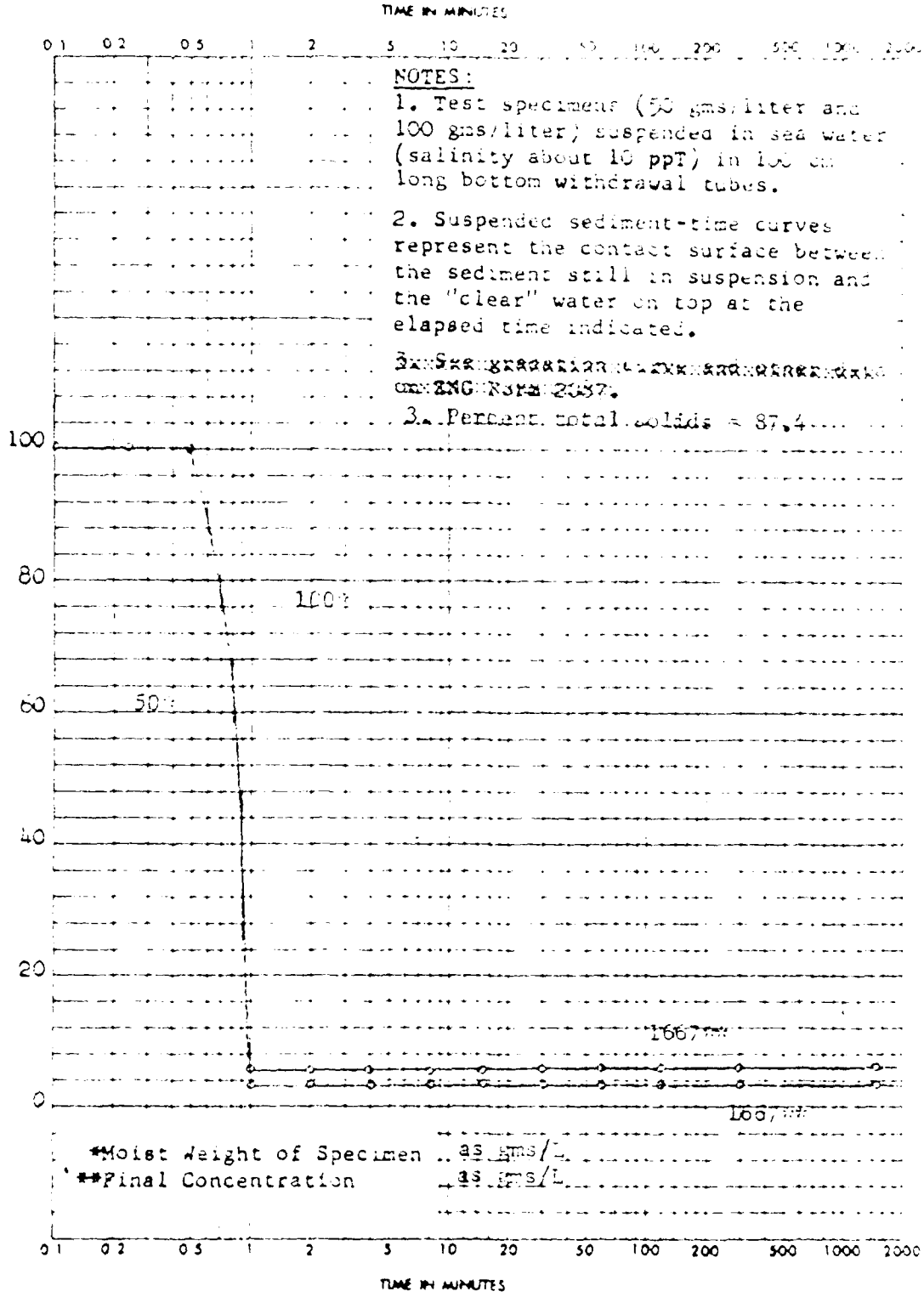
PROJECT	CHARLESTON DISTRICT	Charleston Harbor	
AREA	Ocean Disposal Area	Lab No. 3S-754	
BORING NO	SAMPLE NO 78130	DEPTH EL -	DATE 4 April 1979
SUSPENDED SEDIMENT-TIME CURVES			TRANSLUCENT

SAD Form 3023
26 Oct 72

Figure 24. Suspended sediment-time curves for samples from station DS30.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SACEC-78-53
Work Order No. 1183



PROJECT CHARLESTON DISTRICT Charleston Harbor

AREA Ocean Disposal Area Lab No. 3S-309

BORING NO. -- SAMPLE NO. 73100 DEPTH ft -- DATE 4 April 1979

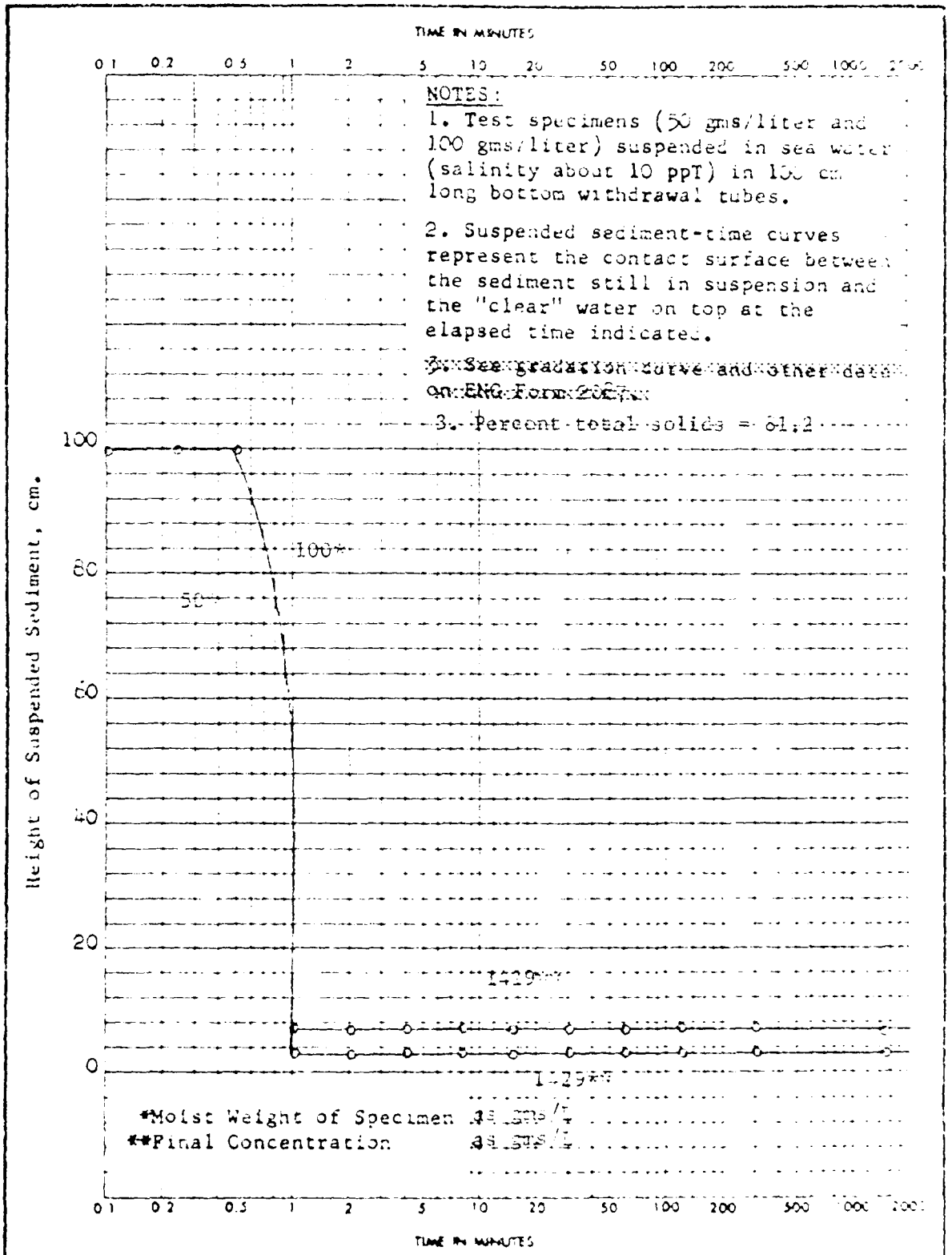
SUSPENDED SEDIMENT-TIME CURVES (TRANSLUCENT)

SAD Form 3023
26 Oct 72

Figure 25. Suspended sediment-time curves for samples from site 4 DSA.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Reqn. No. SAD(C-78-53
Work Order No. 1383



PROJECT CHARLESTON DISTRICT Charleston Harbor

AREA Ocean Disposal Area Lab No. 3S-755

BORING NO. -- SAMPLE NO. DEPTH DATE 4 April 1979

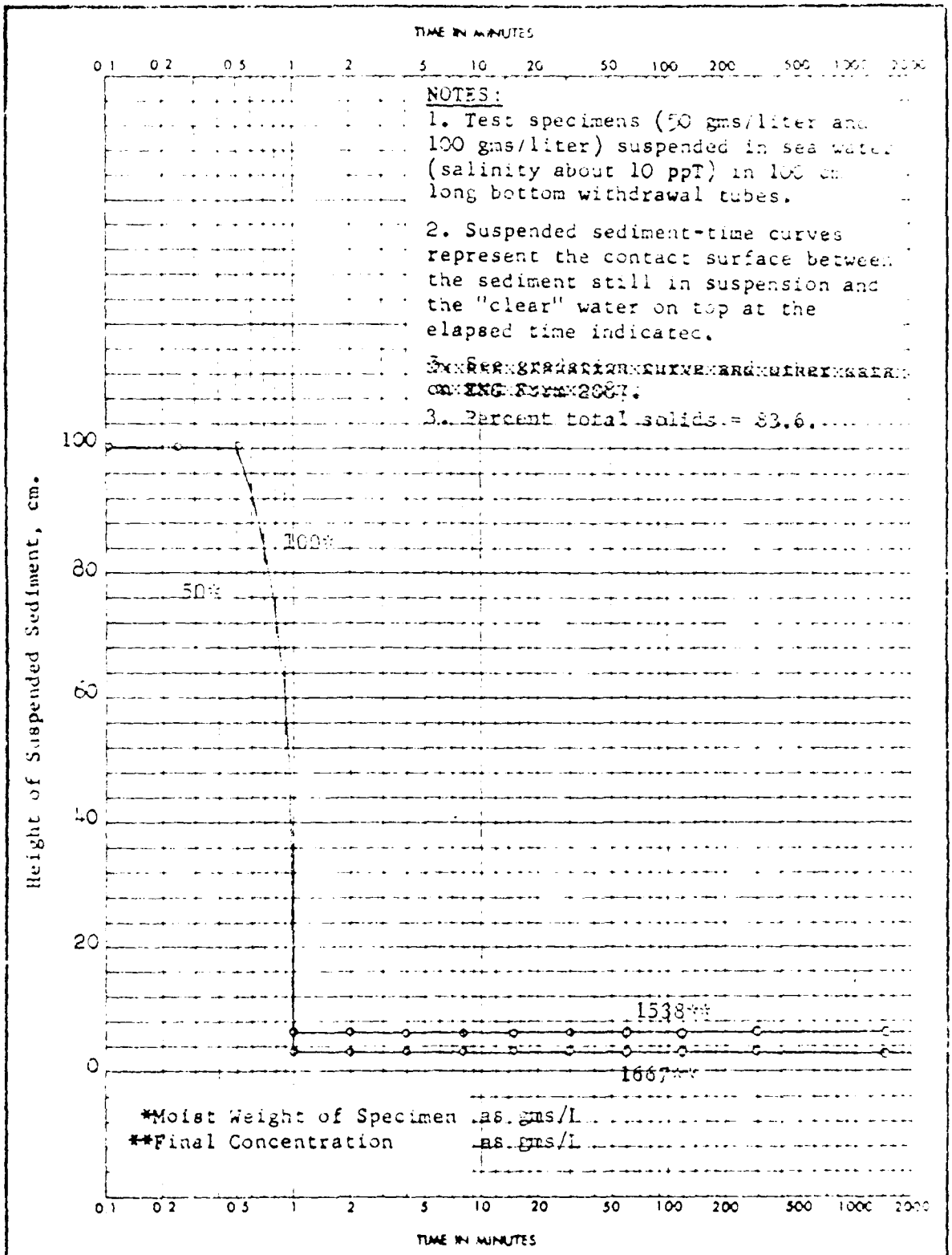
SUSPENDED SEDIMENT-TIME CURVES TRANSLUCENT

SAD Form 3023
26 Oct 72

Suspended sediment-time curves for samples from station DS33.

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060

Requ. No. SACEC-78-53
Work Order No. 13133



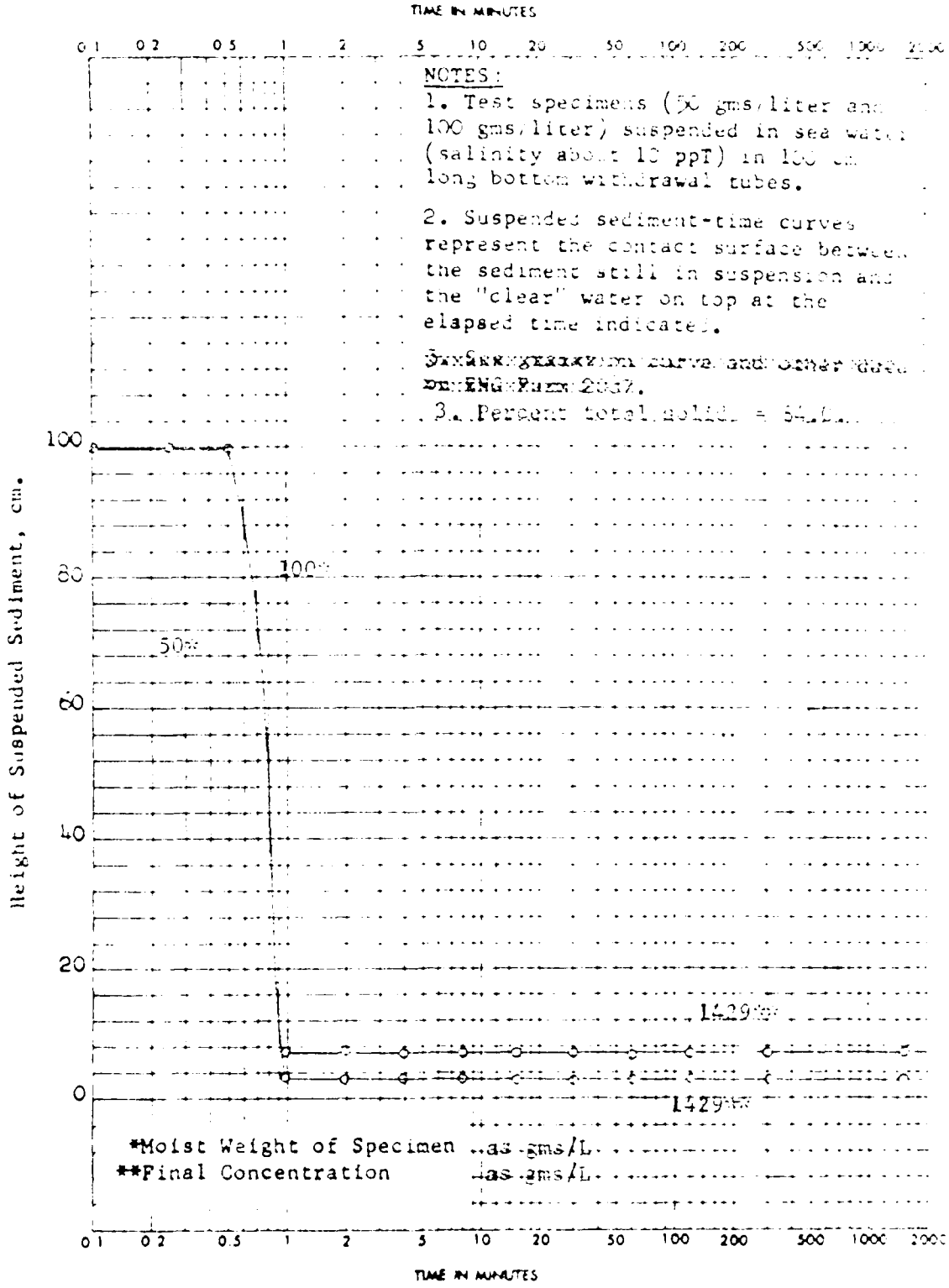
PROJECT	CHARLESTON DISTRICT	Charleston Harbor	
AREA	Ocean Disposal Area	Lab No. 3S-756	
BORING NO. --	SAMPLE NO. 78136	DEPTH EL. -	DATE 4 April 1978
SUSPENDED SEDIMENT-TIME CURVES			(TRANSLUCENT

SAD Form 3023
26 Oct 72

Figure 27. Suspended sediment-time curves for samples from station DS36.

Reqn. No. SACEC-78-[illegible]
Work Order No. [illegible]

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY,
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GEORGIA 30060



PROJECT	CHARLESTON DISTRICT	Charleston Harbor			
AREA	Ocean Disposal Area		Lab No. 3S-757		
BORING NO.	-	SAMPLE NO. 73140	DEPTH EL -	DATE 4 April 1979	

SUSPENDED SEDIMENT-TIME CURVES (TRANSLUCENT)

SAD Form 3023
26 Oct 72

Figure 26. Suspended sediment-time curves for samples from station [illegible]

(2) sandy, clayey silt poor in calcium carbonate shell material extends from the seaward end of the jetties to approximately 0.5 nautical mile seaward of buoy 2"4" (stations EC14 to EC10, Fig. 2 and Table 8a).

(3) calcium carbonate shell-rich quartz sand extends seaward to the beginning of the maintained channel (stations EC9 to EC01, Fig. 2 and Table 8b).

The 46 individuals phi-normal quartz components extracted from the 21 station samples were classified into 6 unique textural groups. These phi-normal components were extracted from cumulative frequency data by the computer program ROXE (Clark, 1976). This classification is based on mean grain size and sorting or standard deviation and was accomplished through cluster analysis, inspection, and step-wise discriminant analysis. These individual phi-normal quartz components are each considered to represent a depositional response to various interacting parameters, i.e., wave-tidal currents and available sediment supply, effecting sedimentation at the sampled stations. The following three major groups containing 72% of the phi-normal quartz components were identified:

Group 1: 10 members, mean grain size of 2.41 ± .13 phi, sorting of 0.30 ± .04 phi units.

Group 2: 14 members, mean grain size of 2.78 ± .19 phi, sorting of 0.10 ± .05 phi units.

Group 3: 9 members, mean grain size of 3.09 ± .37 phi, sorting of 0.34 ± .17 phi units.

The membership of these groups is presented in Table 37.

Using a goodness of fit statistical test, the hypothesis of equal distribution over the three previously mentioned zones was rejected at the 90% confidence level only for Group 3 (see Table 38). Group 3 appears to be localized in Zone 2, the "channel", which is clay- and silt-rich. Inspection of the membership of groups characterized by coarser mean grain sizes

and [illegible] (Table [illegible]) indicates that they [illegible] are [illegible] also not [illegible] within [illegible].

The sampled [illegible] stations are from that portion of the Entrance Channel cut into the 2[illegible] foot- to [illegible] foot-deep nearshore shelf seaward of the jetties. This man-made "canyon" is providing a basin suitable for silt and clay deposition. Furthermore, silt and clay deposition within this "canyon" is much more important than sand deposition, at least in the [illegible] grab samples (Table 86). The existence of this very fine sandy, clayey silt deposit raises questions concerning 1) sand transport both on the shoals flanking Charleston Harbor Entrance and in the nearshore region and 2) the depositional fate of silts and clays (potentially pollutant bearing) leaving Charleston Harbor.

B) Charleston Harbor Offshore Disposal Area:

The only direct sedimentologic evidence of Entrance Channel spoil disposed in this region was the presence of fresh calcarenite rock and fossil fragments from geologic formations exposed on the bottom between the jetties. These were found at 4 stations within and 4 stations without the Offshore Disposal Area (Fig. 2). The calcarenite rock fragments are from Bear Bluff equivalent beds (Upper Pliocene in age) as are the fossils, large scallops (*Chlamys eburna*). No recognizable Cooper Formation rock fragments (marl) were observed. This calcarenite rock was sampled at Entrance Channel station EC15 (Fig. 2).

The bottom sediments of the Offshore Disposal Area are calcium carbonate shell-rich quartz sands (Tables 89 and 90) exhibiting symmetric, wave-generated ripple marks (Table 91). Of the 15 stations observed by divers 13 had symmetric, wave-generated ripple marks with crests oriented NW-SE, 1 had asymmetric ripple marks indicating northward transport, and 1 had a flat bed (Table 91). These [illegible] ripple marks, although sand was not observed to be moving, were

probably a bedform response to recent swell and sea. Bottom sediments in the Offshore Disposal Area are not below wave base and are thus transported under local swell and sea conditions.

These bottom sediments typically contain two phi-normal quartz components, one coarser in grain-size and poorer in sorting than the other (Tables 89 and 90). Ripple mark crests and troughs could be differentiated texturally and compositionally only at stations DS34 and DS39 (Tables 90 and 91). At all the other stations crests and troughs are texturally and compositionally identical.

The 253 individual phi-normal quartz components extracted from bottom sediment samples collected at 40 stations were classified into 16 unique textural groups. These phi-normal components were extracted from cumulative frequency data using the computer program BOKE (Clark, 1976). This classification is based on mean grain size and sorting or standard deviation and was accomplished through cluster analysis, inspection, and step-wise discriminant analysis. The individual phi-normal quartz components are each considered to represent a depositional response to various interacting parameters, i.e., wave-tidal currents and available sediment supply, effecting sedimentation. The following six major groups containing [illegible] of the phi-normal quartz components were identified:

Group 1: 23 members, mean grain size of 1.01 ± .13 phi, Sorting of 0.55 ± .04 phi units.

Group 2: 41 members, mean grain size of 2.00 ± .08 phi, Sorting of 0.56 ± .09 phi units.

Group 3: 29 members, mean grain size of 2.35 ± .11 phi, Sorting of 0.51 ± .07 phi units.

Group 4: 42 members, mean grain size of 2.31 ± .06 phi, Sorting of [illegible] ± [illegible] phi units.

Group 9: 26 members, mean grain size of 2.50 ± .06 phi, Sorting of 0.34 ± .04 phi units.

Group 10: 26 members, mean grain size of 2.67 ± .05 phi, Sorting of 0.26 ± .05 phi units.

The membership of these groups is presented in Table 92.

Using a goodness-of-fit statistical test, the hypothesis of equal distribution within and without the disposal area was rejected at the 90% confidence level only for Group 10 (Table 93). Group 10 alone appears to be preferentially located within the Charleston Harbor Offshore Disposal Area. The hypothesis of equal distribution over the five shore-parallel transects was rejected at the 90% confidence level for Groups 1, 5, 6, 9, and 10 (Table 94). Group 8 alone failed to be rejected. The hypothesis of equal distribution over 4 shore-perpendicular transects was rejected at the 90% confidence level for Groups 1, 8, 9, and 10 (Table 95). Groups 5 and 6 failed to be rejected. These tests were made to analyze the geographic distribution of these groups over the study region.

Rejection of both the shore-parallel and shore-perpendicular hypotheses suggests a distribution of isolated points. This is indicated for Groups 1, 9, and 10. In addition, Group 10 is restricted to the Disposal Area proper.

Rejection of only the shore-parallel hypothesis suggests a distribution of shore-parallel bands and is indicated for Groups 5 and 6. Inspection of the actual distribution of Group 5 members over the 5 shore-parallel transects shows that they are concentrated in two non-adjacent bands (Table 94). This situation may not be the result of shoreward sand transport but could reflect local, shore-parallel sources. However, inspection of the distribution of Group 6 members over the 5 shore parallel transects shows a steady concentration

of members toward the nearshore and away from the offshore (Table 94). This may be indicative of shoreward transport of finer grained sands winnowed from sediments lying further offshore.

Rejection of only the shore-perpendicular hypothesis suggests a distribution of shore-perpendicular bands and is indicated for Group 8. However, inspection of the actual distribution of Group 8 members over the 4 shore-perpendicular transects (Table 94) shows that they are almost equally concentrated in two non-adjacent bands. This situation may not be the result of sand transport NE-SW across the near-shore shelf, but could result from shoreward transport from isolated point sources.

In summary, the only direct evidence of Entrance Channel spoil found in the study area was the presence of fresh calcarenite pebbles and fossils from geologic formations exposed on the bottom between the jetties. The sandy bottom throughout the study area is ripple marked, an indication that swell and sea move sediment over the entire region - no portion of the study area can be considered below "wave base." Analysis of phi-normal quartz components indicates a minimum of 6 unique major textural or grain size groups present in the study area, only one of which is restricted to the Disposal Area proper. Isolated point sources characterize the geographic distributions of three of these groups and are indirectly indicated for 2 more. The remaining group is distributed in shore-parallel bands with members being concentrated in the nearshore bands and deficient in the offshore.

CONCLUSIONS

The Charleston Harbor Ocean Disposal Area is located on the inner continental shelf midway along the coast of South Carolina. Water depths in the area vary from about 10-16 m, and bottom sediments are sandy. Investigations were conducted in and adjacent to the Ocean Disposal Area during the summer and autumn of 1978 to assess the benthic communities and sediment characteristics of the area in relation to disposal of dredged materials over the site.

Waters of high salinity and moderate dissolved oxygen content cover the study area. During August field sampling, salinities varied from 31.32-35.83^{o}/oo, while oxygen concentrations ranged from 4.0-6.9 mg/l. Turbidities decreased progressively with increasing distance from shore, so that water clarity was markedly greater offshore.

Shifting sands provide an unsuitable substrate for most sessile species, and the study area was sparsely populated with epifaunal invertebrates except in areas where accumulations of large shells were present. The number of species in dredge collections varied widely from one station to another. These differences were related to the presence or absence of suitable substrate rather than any effects from disposal of dredged materials in the area. The amount of material collected by the dredge was small at each of the 40 stations sampled. Although sponges, octocorals, hydroids, bryozoans, and ascidians were occasionally taken in the dredge, no live bottom areas were found anywhere in the study area. No noteworthy differences in epifaunal composition were detected between the Ocean Disposal Area and adjacent sites outside that could be directly attributed to disposal practices.

Although the bottom of the study area appears to constitute a relatively uniform habitat, an unexpectedly large variety of infaunal invertebrates were found in grab samples. Thorough taxonomic workup of these collections resulted in the identification of 493 species. This study shows that benthic communities of the inner continental shelf in this region are faunistically richer and have higher species diversity than previously thought. Most of the constituent species are small, and polychaete worms dominated the fauna both in numbers of species (211) and overall abundance (37.5% of the fauna). The most abundant species was the lancelet Branchiostoma caribaeum, a seasonally abundant organism which accounted for nearly 20% of the total number of animals collected. Lancelets were found in much greater concentrations than have been recorded before from the southeastern continental shelf, reaching maximum densities of 2788 individuals m^{-2}. The detailed account of benthic community structure provided by this report provides a data base for appraising the effects of future dredged material disposal in the area.

Variation in species numbers, faunal density, species diversity, and species richness were noted from one station to another. However, differences between sites inside and outside the Ocean Disposal Area were not statistically significant. No effects of dredged material disposal were detectable on either epifaunal or infaunal communities. Such practices have probably had little lasting impact on the macrobenthos because of the similarity of dredged materials to the existing sediments of the disposal area. On the other hand, the impact of dredged materials of a different particle size, such as silts from Charleston Harbor, would probably be significant if these sediments were not rapidly diluted and dispersed from the area by water currents. If such materials settled out [illegible] the disposal area, the impact would be [illegible] as [illegible] inhabiting the site.

The only direct evidence of Entrance Channel shoal found in the study area was the presence of fresh calcarenite pebbles and fossils from geologic formations exposed on the bottom between the jetties. The sandy bottom throughout the study area is ripple marked, an indication that swell and sea move sediment over the entire region - no portion of the study area can be considered to be below "wave base." There are a minimum of 6 unique textural or grain size groups present in the study area, only one of which is restricted to the Disposal Area proper. Isolated point sources characterize the geographic distributions of 3 of these groups and are indirectly indicated for 2 more. One group is distributed in shore-parallel bands with members being concentrated in the nearshore bands and deficient in the offshore.

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Table [illegible]. Physicochemical data collected during benthic sampling in the Charleston Harbor [illegible] sediment [illegible] stations.

Station	Date	Station Depth	Depth	Temp. (C)	Salinity (‰)	D.O. (mg/l)	Turbidity (NTU)	Nutrients (µg/l) Nitrate	Nitrite	Silicate	Phosphate	Solids Total	Settleable
D501	8-[illegible]-78	8.0	Surface	28.9	31.32	6.4	3.7			[illegible]	19.0		
			Bottom	28.0	34.36	5.5	8.7	1.8	1.0	30.7	49.0		
D502	8-[illegible]-78	8.0	Surface	28.7	33.03	6.0	1.8	2.4	1.1	[illegible]	3.0		
			Bottom	28.3	33.99	5.6	6.8	1.4	0.7	[illegible]	31.0		
D503	8-[illegible]-78	9.0	Surface	28.9	32.99	6.4	3.5	2.0	1.0	59.7	13.5		
			Bottom	28.2	33.90	5.5	5.7	2.7	0.5	91.3	37.0	111.6	[illegible]
D504	8-[illegible]-78	9.0	Surface	29.0	32.04	6.5	4.3	1.4	1.[illegible]	77.3	31.0	[illegible]	[illegible]
			Bottom	28.2	34.20	5.1	10.0	10.6	1.5	105.4	75.[illegible]	133.8	31.[illegible]
D505	8-[illegible]-78	8.0	Surface	28.3	31.57	6.5	8.6			175.6	[illegible]	106.5	[illegible]
			Bottom	29.2	33.94	5.1	6.9			113.4	36.[illegible]		
D506	8-8-78	9.0	Surface	28.6	31.54	6.6	7.5			139.2	66.0	76.0	13.[illegible]
			Bottom	28.[illegible]	34.63	5.7		3.4	1.[illegible]	96.2	21.0	108.0	41.6
D507	8-8-78	9.0	Surface	28.8	33.67	6.6	1.3	5.1	1.[illegible]	105.4	0.0		
			Bottom	28.2	34.63	5.7	0.7	1.8	1.5	70.[illegible]	8.0		
D503	8-8-78	10.2	Surface	28.8	33.65	6.8	0.7			70.[illegible]	0.0		
			Bottom	28.3	34.61	5.7	5.9	1.4	1.5	28.1	3.0		
D509	8-9-78	12.0	Surface	29.0	32.90	6.2	1.8			70.2	4.5		
			Bottom	28.0	34.71	5.9	2.0	2.1	0.4	56.2	9.5		
D510	8-9-78	11.0	Surface	29.3	31.70	6.8	1.8	2.0	0.4	156.[illegible]	0.0	88.[illegible]	5.6
			Bottom	28.0	34.58	5.7	6.0	1.7	0.5	28.1	0.0		
D511	8-9-78	12.6	Surface	29.3	-	6.6	1.6	2.8	0.5	133.5	0.0		
			Bottom	28.0	34.77	5.8	3.2	2.[illegible]	0.4	42.2	9.5	83.2	2.5
D512	8-9-78	12.5	Surface	29.5	32.20	6.9	1.4	4.0	0.6	105.4	6.5		
			Bottom	28.4	34.73	5.7	2.0	2.9	0.3	42.2	6.5	108.0	5.6
D513	8-9-78	11.5	Surface	29.2	34.20	6.4	0.7	7.7	0.7	57.9	8.0		
			Bottom	28.1	34.74	5.8	2.0	4.9	0.4	42.2	0.0		
D514	8-8-78	11.5	Surface	29.2	34.22	6.5	0.2	2.8	0.0	35.1	0.0	2.0	16.8
			Bottom	28.2	34.68	6.7	1.1	2.9	0.3	35.1	3.5	27.4	15.8
D515	8-8-78	12.0	Surface	29.3	34.15	6.4	0.7	7.7	1.1	70.2	0.0	86.[illegible]	31.2
			Bottom	28.2	34.70	5.6	3.7	5.7	0.3	105.4	13.0	111.6	30.8
D516	8-8-78	12.0	Surface	29.2	34.22	6.5	1.0	5.1	0.1	28.1	0.0	1.0	
			Bottom	28.2	34.73	5.9	1.3	3.2	0.0	28.1	0.0	1.3	

Table 1. (cont.)

Station	Date	Station Depth	Depth	Temp. (°C)	Salinity (‰)	D.O. (mg/l)	Turbidity (FTU)	Nutrients (µg/l) Nitrate	Nitrite	Silicate	Phosphate	Solids Total	Settleable
DS17	8-9-78	13.6	Surface	30.0	32.66	6.6	1.2	3.7	70.3	0.0	1.2	82.5	30.8
			Bottom	28.3	35.77	6.6	2.3	3.4	84.3	8.0	2.3	174.5	28.8
DS18	8-9-78	11.2	Surface	29.2	33.43	6.5	1.0	2.7	0.1	35.1		91.6	32.0
			Bottom	28.3	35.85	6.0	1.1	3.2	0.0	[illegible]	0.0	115.7	33.6
DS19	8-10-78	12.3	Surface	28.9	32.92	6.8	0.6	3.8	0.0	63.2	13.0		
			Bottom	28.0	34.91	6.0	1.6	3.8	0.0	35.1	3.0		
DS20	8-10-78	12.8	Surface	29.1	33.00	6.7	0.2	2.5	0.9	63.2	19.5	74.8	12.0
			Bottom	28.2	35.05	6.1	3.0	2.1	0.0	28.1	19.5	109.2	[illegible]
DS21	8-10-78	12.8	Surface	29.0	33.33	6.5	1.1	2.8	0.0	56.2		28.8	15.8
			Bottom	28.0	35.98	6.0	1.5	2.4	0.0	42.2	0.0	26.4	9.6
DS22	8-10-78	12.9	Surface	29.2	32.61	6.6	1.0	2.8	0.0	84.3	0.0	86.8	36.5
			Bottom	28.2	35.01	6.2	2.3	2.0	0.1	28.1	0.0	89.2	19.2
DS23	8-10-78	14.0	Surface	30.1	32.61	6.9	0.7	2.5	0.3	35.1	11.5	69.2	[illegible]
			Bottom	28.5	35.01	6.3	1.9	2.9	0.3	98.4	3.0	86.0	16.4
DS24	8-10-78	15.2	Surface	29.6	33.60	6.5	1.2	2.9	0.3	49.2	6.5		
			Bottom	28.5	35.05	6.2	0.7	2.5	0.3	49.2	2.0		
DS25	8-11-78	14.1	Surface	28.0	33.58	6.4	1.2	1.8	0.3	35.1	0.0	77.2	8.4
			Bottom	27.8	35.15	6.0	1.4	1.1	0.3	21.1	0.0	108.4	22.0
DS26	8-11-78	14.1	Surface	28.8	33.80	6.5	0.2	1.4	0.0	21.1	0.0		
			Bottom	27.8	35.21	6.0	1.0	1.3	0.1	21.1	0.0		
DS27	8-11-78	12.5	Surface	29.0	33.73	6.5	1.0	1.8	0.0	28.1	8.0	63.2	1.6
			Bottom	28.0	35.17	6.1	1.1	1.8	0.0	21.1	0.0	63.6	5.8
DS28	8-11-78	11.6	Surface	29.0	33.74	6.5	1.0	1.0	0.1	21.1	0.0	-	
			Bottom	28.0	35.17	6.0	2.0	2.1	0.0	35.1	0.0		
DS29	8-11-78	14.6	Surface	29.2	33.72	6.6	1.0	2.3	0.1	49.2	13.0	64.2	9.6
			Bottom	28.0	35.25	6.0	4.0	3.4	0.4	63.2	35.5	86.8	24.0
DS30	8-14-78	14.8	Surface	29.3	34.13	6.3	0.9	2.8	0.0	56.2	0.0	73.2	[illegible]
			Bottom	27.4	35.76	5.6	1.0	5.1	0.1	49.2	0.0	93.2	[illegible]
DS31	8-14-78	13.2	Surface	29.4	33.98	6.5	1.0	2.4	0.0	49.2	0.0	76.0	14.6
			Bottom	27.4	35.77	5.3	1.0	4.2	0.0	21.1	0.0	97.2	[illegible]
DS32	8-10-78	13.8	Surface	29.6	33.72	6.5	0.6	3.5	0.3	42.2	13.0	84.0	10.4
			Bottom	28.2	35.22	6.4	1.0	7.1	0.3	28.1	19.5	94.4	25.5
DS33	8-14-78	14.5	Surface	28.6	33.70	5.5	0.9	0.4	0.3	14.1	0.0	-	
			Bottom	26.5	35.79	5.3	0.5	7.4	0.0	28.1	0.1		

Table 1. (cont.)

Station	Date	Station Depth	Depth	Temp. (C)	Salinity (‰)	D.O. (mg/l)	Turbidity (FTU)	Nutrients (µg/l) Nitrate	Nitrite	Silicate	Phosphate	Solids Total	Settleable
DS34	8-14-78	15.0	Surface	28.7	34.54	6.4	0.8	3.2	0.0	28.1	0.0		
			Bottom	26.5	35.80	5.5	0.4	4.6	0.0	21.1	0.0		
DS35	8-14-78	14.1	Surface	28.8	34.56	6.4	1.0	2.8	0.0	28.1	0.0	63.2	11.6
			Bottom	26.8	35.80	5.4	0.5	6.3	0.0	32.2	0.0	70.4	16.4
DS36	8-14-78	14.2	Surface	28.8	34.56	6.3	0.6	3.2	0.0	28.1	0.0	71.6	20.4
			Bottom	26.7	35.82	5.5	0.4	6.0	0.0	28.1	0.0	88.5	36.0
DS37	8-15-78	15.0	Surface	29.0	34.64	6.4	0.5	3.2	0.0	28.1	0.0	76.5	9.6
			Bottom	26.9	35.81	5.5	0.7	9.0	0.1	105.4	0.0	94.5	15.6
DS38	8-14-78	17.1	Surface	29.0	34.72	6.4	0.6	3.2	0.0	31.1	0.0	77.6	16.4
			Bottom	27.0	35.81	5.3	0.6	4.3	0.6	28.1	0.0		
DS39	8-14-78	15.5	Surface	29.4	34.74	6.2	0.7	2.7	0.1	34.1	0.0	83.6	34.4
			Bottom	27.0	35.88	5.6	0.5	2.8	0.5	14.1	0.0	98.0	36.4
DS40	8-15-78	15.3	Surface	30.0	34.80	6.6	0.8	3.4	0.1	56.2	0.0		
			Bottom	26.9	35.87	5.9	0.6	4.2	0.4	28.1	0.0		

Table 2. List of epifaunal species collected in oyster dredge samples, and their frequency of occurrence at 40 stations in the study area.

Species	Occurrence at Number of Stations
Phylum Porifera	
Cliona sp.	13
Leucosolenia canariensis	5
Porifera (undet.)	3
Spheciospongia vesparia	1
Orange sponge (undet.)	1
Phylum Cnidaria	
Clytia cylindrica	25
Astrangia danae	17
Turritopsis nutricula	16
Schizotricha tenella	15
Eudendrium sp.	14
Dynamena cornicina	13
Telesto sanguinea	12
Ectopleura dumortieri	11
Halecium dysymmetrum	8
Telesto fruticulosa	8
Leptogorgia setacea	7
Zanclea costata	5
Actiniaria (undet.)	4
Halecium sp.	3
Lovenella grandis	3
Titanideum frauenfeldii	3
Chrysaora quinquecirrha (polyp)	2
Leptogorgia virgulata	2
Lovenella gracilis	2
Monostaechas quadridens	2
Plumularia floridana	2
Proboscidactyla ornata	2
Bougainvillia sp.	1
Campanulina sp.	1
Clytia fragilis	1
Clytia kincaidi	1
Clytia paulensis	1
Cuspidella humilis	1
Epizoanthus americanus	1
Hydractinia echinata	1
Lophogorgia hebes	1
Pandeidae (undet.)	1
Sertularella conica	1
Phylum Platyhelminthes	
Tubellaria (undet.)	5
Phylum Rhynchocoela	
Nemertean (undet.)	1
Phylum Entoprocta	

Table 2. (continued)

Species	Occurrence at Number of Stations
Barentsia sp.	1
Entoproct (undet.)	1
Phylum Bryozoa	
Parasmittina nitida	24
Membranipora tenuis	23
Microporella ciliata	21
Schizoporella cornuta	17
Aetea anguina	15
Cribrilaria radiata	14
Hippopleurifera mucronata	13
Hippoporina verrilli	12
Phylactella aviculifera	12
Trypsostega venusta	9
Cleidochasma porcellanum	8
Cyclostomata A (undet.)	8
Schizoporella errata	8
Bowerbankia gracilis	7
Crisia sp.	7
Floridina parvicella	7
Hippoporella uvulifera	7
Copidozoum tenuirostre	6
Lichenopora sp.	6
Celleporidae (undet.)	4
Reptadeonella violacea	3
Sundanella sibogae	3
Aeverrillia setigera	2
Amathia distans	2
Caulibugula pearsei	2
Cribrilina floridana	2
Cryptosula pallasiana	2
Hippaliosina rostrigera	2
Hippoporina contracta	2
Alcyonidium hauffi	1
Amathia alternata	1
Amathia sp.	1
Anasca A (undet.)	1
Celleporina hassalli	1
Ctenostomata (undet.)	1
Discoporella umbellata	1
Electra monostachys	1
Membranipora arborescens	1
Nolella stipata	1
Phylum Sipuncula	
Sipunculid (undet.)	14
Phylum Echiura	
Echiurid (undet.)	1
Phylum Annelida	
Hydroides dianthus	27
Sabellaria vulgaris	22
Lepidonotus sublevis	13

Table 2. (continued)

Species	Ocurrence at Number of Stations
Hypsicomus phaeotaenia	11
Pomatoceros caeruleus	10
Polychaeta A (undet.)	2
Polydora sp.	1
Sabellidae (undet.)	1
Phylum Mollusca	
Chama macerophylla	21
Crepidula fornicata	14
Anadara transversa	13
Ostrea equestris	13
Anomia simplex	10
Chaetopleura apiculata	8
Crepidula plana	8
Mitrella lunata	8
Octopus vulgaris	4
Anachis translirata	3
Musculus lateralis	3
Oliva sayana	3
Polinices duplicatus	3
Eupleura caudata	2
Modiolus modiolus squamosus	2
Acanthodoris pilosa	1
Argopecten gibbus	1
Dinocardium robustum	1
Didora cayenensis	1
Diplothyra smithi	1
Fasciolaria lilium hunteria	1
Gastropoda (undet.)	1
Lithophaga bisulcata	1
Muricidae (undet.)	1
Prunum apicinum	1
Sinum perspectivum	1
Turbo castanea	1
Urosalpinx cinerea	1
Phylum Arthropoda	
Balanus venustus	29
Balanus calidus	12
Ovalipes stephensoni	11
Kochlorine floridana	8
Xanthidae (undet.)	7
Pilumnus sp.	5
Portunus gibbesii	5
Caprellidae (undet.)	3
Pagurus pollicaris	3
Podochela sidneyi	3
Libinia dubia	2
Ovalipes ocellatus	2
Portunus spinimanus	2
Squilla empusa	2
Balanus galeatus	1

Table 2. (continued)

Species	Ocurrence at Number of Stations
Balanus improvisus	1
Callinectes sapidus	1
Chelonibia patula	1
Hepatus pudibundus	1
Hypoconcha sabulosa	1
Metoporhaphis calcarata	1
Micropanope xanthiformis	1
Paguridae (undet.)	1
Pilumnus sayi	1
Synalpheus townsendi	1
Tanystylum orbiculare	1
Trachypenaeus constrictus	1
Phylum Echinodermata	
Arbacia punctulata	14
Astropecten duplicatus	11
Ophiothrix angulata	11
Asterias forbesi	9
Mellita quinquesperforata	8
Luidia clathrata	3
Clypeaster rosaceus	2
Lytechinus variegatus	2
Astropecten articulatus	1
Clypeaster subdepressus	1
Luidia bernasconiae	1
Ophioderma appressum	1
Ophiolepis elegans	1
Phylum Chordata	
Didemnum candidum	12
Ascidiacea A (undet.)	8
Styela plicata	7
Ascidiacea B (undet.)	6
Amaroucium sp.	4
Amaroucium constellatum	2
Ascidiacea C (undet.)	2
Ascidiacea (undet.)	1
Ascidiacea D (undet.)	1
Clavelina picta	1
Molgulidae (undet.)	1
Styela sp.	1

Table 3. Occurrence of epifaunal invertebrates in dredge collections from station DS01.

Phylum Arthropoda
Ovalipes ocellatus
Phylum Echinodermata
Mellita quinquesperforata

Table 4. Occurrence of epifaunal invertebrates in dredge collections from station DS02.

Phylum Arthropoda
Portunus gibbesii
Phylum Echinodermata
Mellita quinquesperforata
Phylum Chordata
Amaroucium constellatum

Table 5. Occurrence of epifaunal invertebrates in dredge collections from station DS03.

Phylum Cnidaria
Clytia cylindrica
Phylum Polychaeta
Sabellaria vulgaris
Phylum Mollusca
Crepidula fornicata
Crepidula plana
Phylum Arthropoda
Balanus venustus
Pagurus pollicaris
Libinia dubia
Squilla empusa
Phylum Echinodermata
Luidia clathrata
Mellita quinquesperforata

Table [illegible]. Occurrence of epifaunal invertebrates in dredge collections from station DS[illegible].

Phylum Cnidaria
- Pandeidae (undet.)
- *Proboscidactyla ornata*
- *Eudendrium* sp.
- *Clytia fragilis*
- *Clytia kincaidi*
- *Clytia paulensis*
- *Dynamena cornicina*
- *Schizotricha tenella*
- *Astrangia danae*

Phylum Entoprocta
- *Barentsia* sp.

Phylum Bryozoa
- *Membranipora tenuis*

Phylum Annelida
- Sabellidae (undet.)
- *Lepidonotus sublevis*
- *Sabellaria vulgaris*
- *Hydroides dianthus*

Phylum Mollusca
- *Polinices duplicatus*
- *Modiolus modiolus squamosus*

Phylum Arthropoda
- *Callinectes sapidus*
- *Libinia dubia*

Phylum Echinodermata
- *Asterias forbesi*
- *Mellita quinquesperforata*

Table 7. Occurrence of epifaunal invertebrates in dredge collections from station DS05.

Phylum Porifera
Cliona sp.
Phylum Cnidaria
Turritopsis nutricula
Hydractinia echinata
Eudendrium sp.
Halecium dysymmetrum
Clytia cylindrica
Campanulina sp.
Dynamena cornicina
Chrysaora quinquecirrha (polyp)
Astrangia danae
Phylum Bryozoa
Membranipora arborescens
Membranipora tenuis
Microporella ciliata
Schizoporella cornuta
Phylum Annelida
Hydroides dianthus
Sabellaria vulgaris
Phylum Mollusca
Crepidula plana
Phylum Arthropoda
Balanus venustus
Caprellidae (undet.)
Pagurus pollicaris
Ovalipes ocellatus
Phylum Echinodermata
Asterias forbesi
Arbacia punctulata
Mellita quinquesperforata

Table 8. Occurrence of epifaunal invertebrates in dredge collections from station DS06.

Phylum Porifera
Cliona sp.
Phylum Cnidaria
Clytia cylindrica
Lovenella gracilis
Telesto fruticulosa
Astrangia danae
Phylum Bryozoa
Electra monostachys
Hippoporina verrilli
Membranipora tenuis
Microporella ciliata
Parasmittina nitida
Schizoporella cornuta
Schizoporella errata
Phylum Annelida
Lepidonotus sublevis
Hydroides dianthus
Sabellaria vulgaris
Phylum Mollusca
Crepidula fornicata
Anadara transversa
Anomia simplex
Ostrea equestris
Chama macerophylla
Phylum Arthropoda
Balanus venustus
Phylum Chordata
Didemnum candidum
Ascidiacea B (undet.)

Table 9. Occurrence of epifaunal invertebrates in dredge collections from station DS07.

Phylum Porifera
- *Cliona* sp.

Phylum Cnidaria
- *Turritopsis nutricula*
- *Bougainvillia* sp.
- *Eudendrium* sp.
- *Clytia cylindrica*
- *Telesto fruticulosa*
- *Telesto sanguinea*
- *Leptogorgia virgulata*
- *Astrangia danae*

Phylum Platyhelminthes
- Turbellaria (undet.)

Phylum Bryozoa
- *Alcyonidium hauffi*
- *Bowerbankia gracilis*
- *Cryptosula pallasiana*
- *Hippoporina verrilli*
- *Membranipora tenuis*
- *Microporella ciliata*
- *Parasmittina nitida*
- *Schizoporella cornuta*
- *Schizoporella errata*

Phylum Sipuncula
- Sipunculid (undet.)

Phylum Annelida
- *Lepidonotus sublevis*
- *Sabellaria vulgaris*
- *Hypsicomus phaeotaenia*
- *Hydroides dianthus*

Phylum Mollusca
- *Crepidula fornicata*
- *Crepidula plana*
- *Anadara transversa*
- *Musculus lateralis*
- *Anomia simplex*
- *Ostrea equestris*
- *Chama macerophylla*
- *Diplothyra smithii*
- *Octopus vulgaris*

Phylum Arthropoda
- *Kochlorine floridana*
- *Balanus calidus*
- *Balanus venustus*
- *Squilla empusa*
- *Pagurus pollicaris*

Table 9. (continued)

Xanthidae (undet.)
Phylum Echinodermata
Astropecten duplicatus
Asterias forbesi
Ophiothrix angulata
Arbacia punctulata
Phylum Chordata
Didemnum candidum
Ascidiacea A (undet.)

Table 10. Occurrence of epifaunal invertebrates in dredge collection from station DS08.

Phylum Porifera
Porifera (undet.)
Phylum Cnidaria
Eudendrium sp.
Telesto fruticulosa
Titanideum frauenfeldii
Phylum Bryozoa
Celleporidae (undet.)
Crisia sp.
Hippoporina verrilli
Membranipora tenuis
Schizoporella cornuta
Phylum Mollusca
Crepidula fornicata
Crepidula plana
Urosalpinx cinerea
Mitrella lunata
Anomia simplex
Ostrea equestris
Phylum Arthropoda
Tanystylum orbiculare
Balanus venustus
Ovalipes stephensoni
Portunus spinimanus
Xanthidae (undet.)
Pilumnus sp.
Metoporhaphis calcarata
Phylum Echinodermata
Luidia bernasconiae
Ophiothrix angulata
Mellita quinquesperforata
Phylum Chordata
Amaroucium sp.
Clavelina picta
Styela plicata
Ascidiacea (undet.)

Table 11. Occurrence of epifaunal invertebrates in dredge collection from station DS09.

Phylum Cnidaria	
	Chrysaora quinquecirrha (polyp)
Phylum Bryozoa	
	Membranipora tenuis
Phylum Annelida	
	Hydroides dianthus
Phylum Mollusca	
	Oliva sayana
Phylum Arthropoda	
	Balanus improvisus
	Ovalipes stephensoni

Table 12. Occurrence of epifaunal invertebrates in dredge collections from station DS10.

Nothing recovered

Table 13. Occurrence of epifaunal invertebrates in dredge collections from station DS11.

Phylum Arthropoda
Trachypenaeus constrictus
Phylum Echinodermata
Astropecten duplicatus

Table 14. Occurrence of epifaunal invertebrates in dredge collections from station DS12.

Phylum Porifera
Spheciospongia vesparia
Phylum Cnidaria
Eudendrium sp.
Proboscidactyla ornata
Clytia cylindrica
Dynamena cornicina
Telesto sanguinea
Titanideum frauenfeldii
Lophogorgia hebes
Leptogorgia setacea
Actiniaria (undet.)
Phylum Bryozoa
Aeverrillia setigera
Bowerbankia gracilis
Celleporidae (undet.)
Crisia sp.
Ctenostomata (undet.)
Schizoporella cornuta
Phylum Mollusca
Anachis translirata
Musculus lateralis
Phylum Arthropoda
Balanus calidus
Balanus galeatus
Xanthidae (undet.)
Pilumnus sp.
Podochela sidneyi
Phylum Echinodermata
Astropecten duplicatus
Phylum Chordata
Amaroucium sp.
Didemnum candidum
Styela plicata
Molgulidae (undet.)
Ascidiacea C (undet.)
Ascidiacea D (undet.)

Table 15. Occurrence of epifaunal invertebrates in dredge collections from station DS13.

Phylum Porifera
- *Cliona* sp.

Phylum Cnidaria
- *Turritopsis nutricula*
- *Eudendrium* sp.
- *Clytia cylindrica*
- *Dynamena cornicina*
- *Schizotricha tenella*
- *Plumularia floridana*
- *Telesto fruticulosa*
- *Leptogorgia setacea*
- *Astrangia danae*

Phylum Platyhelminthes
- Tubellaria (undet.)

Phylum Bryozoa
- *Aetea anguina*
- *Bowerbankia gracilis*
- Celleporidae (undet.)
- *Copidozoum tenuirostre*
- *Crisia* sp.
- *Hippoporina contracta*
- *Hippoporina verrilli*
- *Membranipora tenuis*
- *Parasmittina nitida*
- *Schizoporella cornuta*
- *Sundanella sibogae*

Phylum Annelida
- *Lepidonotus sublevis*
- *Sabellaria vulgaris*
- *Hypsicomus phaeotaenia*
- *Hydroides dianthus*

Phylum Mollusca
- *Crepidula fornicata*
- *Mitrella lunata*
- *Prunum apicinum*
- *Anadara transversa*
- *Musculus lateralis*
- *Anomia simplex*
- *Ostrea equestris*
- *Chama macerophylla*
- *Chaetopleura apiculata*

Phylum Arthropoda
- *Kochlorine floridana*
- *Balanus venustus*
- Xanthidae (undet.)
- *Pilumnus* sp.

Table 15. (continued)

Phylum Echinodermata
- *Astropecten duplicatus*
- *Asterias forbesi*
- *Ophiothrix angulata*
- *Arbacia punctulata*

Phylum Chordata
- *Didemnum candidum*
- *Styela plicata*
- Ascidiacea A (undet.)
- Ascidiacea B (undet.)

Table 16. Occurrence of epifaunal invertebrates in dredge collections from station DS14.

Phylum Cnidaria
Clytia cylindrica
Phylum Bryozoa
Membranipora tenuis
Parasmittina nitida
Phylum Annelida
Sabellaria vulgaris
Hydroides dianthus
Phylum Mollusca
Ostrea equestris
Phylum Arthropoda
Balanus venustus
Phylum Echinodermata
Luidia clathrata

Table 17. Occurrence of epifaunal invertebrates in dredge collections from station DS15.

Phylum Cnidaria
Eudendrium sp.
Clytia cylindrica
Telesto fruticulosa
Telesto sanguinea
Astrangia danae
Phylum Bryozoa
Aetea anguina
Bowerbankia gracilis
Celleporina hassalli
Crisia sp.
Hippoporina verrilli
Microporella ciliata
Schizoporella cornuta
Phylum Annelida
Lepidonotus sublevis
Hydroides dianthus
Sabellaria vulgaris
Phylum Mollusca
Polinices duplicatus
Modiolus modiolus squamosus
Anadara transversa
Anomia simplex
Dinocardium robustum
Phylum Arthropoda
Balanus venustus
Ovalipes stephensoni
Phylum Echinodermata
Astropecten articulatus
Mellita quinquesperforata
Phylum Chordata
Ascidiacea A (undet.)

Table 18. Occurrence of epifaunal invertebrates in dredge collections from station DS16.

Phylum Cnidaria
Turritopsis nutricula
Clytia cylindrica
Dynamena cornicina
Schizotricha tenella
Astrangia danae
Phylum Rhynchocoela
Nemertean (undet.)
Phylum Bryozoa
Aetea anguina
Amathia alternata
Copidozoum tenuirostre
Hippoporina verrilli
Membranipora tenuis
Microporella ciliata
Parasmittina nitida
Schizoporella cornuta
Phylum Annelida
Lepidonotus sublevis
Sabellaria vulgaris
Hydroides dianthus
Phylum Mollusca
Crepidula fornicata
Anadara transversa
Musculus lateralis
Anomia simplex
Chama macerophylla
Phylum Arthropoda
Balanus calidus
Balanus venustus
Phylum Echinodermata
Ophiothrix angulata
Arbacia punctulata
Phylum Chordata
Didemnum candidum
Ascidiacea A (undet.)
Ascidiacea B (undet.)

Table 19. Occurrence of epifaunal invertebrates in dredge collections from station DS17.

Phylum Porifera
- Porifera (undet.)

Phylum Cnidaria
- *Turritopsis nutricula*
- *Eudendrium* sp.
- *Clytia cylindrica*
- *Dynamena cornicina*
- *Schizotricha tenella*
- *Telesto fruticulosa*
- *Telesto sanguinea*
- *Titanideum frauenfeldii*
- Actiniaria (undet.)
- *Astrangia danae*

Phylum Bryozoa
- *Aetea anguina*
- *Copidozoum tenuirostre*
- *Cribrilaria radiata*
- *Hippopleurifera mucronata*
- *Hippoporella uvulifera*
- *Hippoporina verrilli*
- *Membranipora tenuis*
- *Microporella ciliata*
- *Parasmittina nitida*
- *Phylactella aviculifera*
- *Reptadeonella violacea*
- *Schizoporella cornuta*
- *Schizoporella errata*
- *Trypsostega venusta*

Phylum Annelida
- *Lepidonotus sublevis*
- *Sabellaria vulgaris*
- *Hydroides dianthus*

Phylum Mollusca
- *Crepidula fornicata*
- *Fasciolaria lilium hunteria*
- *Chaetopleura apiculata*
- *Ostrea equestris*
- *Chama macerophylla*

Phylum Arthropoda
- *Balanus calidus*
- *Balanus venustus*
- Caprellidae (undet.)
- *Synalpheus townsendi*
- Paguridae (undet.)
- *Pilumnus savi*
- Xanthidae (undet.)

Table 19. (cont.)

Phylum Echinodermata
- *Ophiothrix angulata*
- *Arbacia punctulata*
- *Clypeaster rosaceus*

Phylum Chordata
- *Amaroucium constellatum*
- *Didemnum candidum*
- Ascidiacea A (undet.)

Table [illegible]. [illegible] invertebrates in dredge collections from station [illegible]

Phylum Cnidaria
Ectopleura dumortieri
Clytia cylindrica
Schizotricha tenella
Telesto sanguinea
Phylum Bryozoa
Cryptosula pallasiana
Hippoporina verrilli
Membranipora tenuis
Microporella ciliata
Schizoporella errata
Phylum Annelida
Hydroides dianthus
Sabellaria vulgaris
Phylum Mollusca
Crepidula fornicata
Crepidula plana
Mitrella lunata
Anadara transversa
Anomia simplex
Ostrea equestris
Phylum Arthropoda
Balanus venustus
Hepatus pudibundus
Ovalipes stephensoni
Phylum Echinodermata
Astropecten duplicatus
Phylum Chordata
Styela sp.

Table 21. Occurrence of epifaunal invertebrates in dredge collections from station DS19.

Phylum Cnidaria
Eudendrium sp.
Halecium dysymmetrum
Clytia cylindrica
Dynamena quadridentata
Schizotricha tenella
Phylum Bryozoa
Microporella ciliata
Phylum Annelida
Hydroides dianthus
Phylum Mollusca
Sinum perspectivum
Phylum Arthropoda
Balanus venustus

Table 22. Occurrence of epifaunal invertebrates in dredge collections from station DS20.

Phylum Cnidaria
Ectopleura dumortieri
Astrangia danae
Phylum Bryozoa
Membranipora tenuis
Parasmittina nitida
Schizoporella cornuta
Schizoporella errata
Phylum Annelida
Hydroides dianthus
Sabellaria vulgaris
Phylum Mollusca
Mitrella lunata
Phylum Arthropoda
Balanus venustus
Micropanope xanthiformis
Phylum Echinodermata
Ophiothrix angulata

Table 23. Occurrence of epifaunal invertebrates in dredge collections from station DS21.

Phylum Porifera
- *Cliona* sp.

Phylum Cnidaria
- *Ectopleura dumortieri*
- *Zanclea costata*
- *Turritopsis nutricula*
- *Eudendrium* sp.
- *Halecium* sp.
- *Lovenella grandis*
- *Clytia cylindrica*
- *Dynamena cornicina*
- *Sertularella conica*
- *Schizotricha tenella*
- *Telesto sanguinea*
- Actiniaria (undet.)
- *Astrangia danae*

Phylum Bryozoa
- *Aetea anguina*
- Anasca A (undet.)
- *Bowerbankia gracilis*
- *Caulibugula pearsei*
- Celleporidae (undet.)
- *Cleidochasma porcellanum*
- *Cribrilaria radiata*
- *Crisia* sp.
- *Floridina parvicella*
- *Hippaliosina rostrigera*
- *Hippopleurifera mucronata*
- *Hippoporella uvulifera*
- *Hippoporina verrilli*
- *Membranipora tenuis*
- *Microporella ciliata*
- *Parasmittina nitida*
- *Phylactella aviculifera*
- *Reptadeonella violacea*
- *Schizoporella cornuta*
- *Schizoporella errata*
- *Sundanella sibogae*
- *Trypsostega venusta*

Phylum Sipuncula
- Sipunculid (undet.)

Phylum Annelida
- *Sabellaria vulgaris*
- *Hypsicomus phaeotaenia*
- *Hydroides dianthus*
- Polychaeta A (undet.)

Table 23. (continued)

Phylum Mollusca
- *Diodora cayenensis*
- *Crepidula fornicata*
- *Anachis translirata*
- *Anomia simplex*
- *Ostrea equestris*
- *Chama macerophylla*
- *Octopus vulgaris*

Phylum Arthropoda
- *Kochlorine floridana*
- *Balanus venustus*
- Xanthidae (undet.)
- *Podochela sidneyi*

Phylum Echinodermata
- *Ophiothrix angulata*
- *Arbacia punctulata*

Phylum Chordata
- *Amaroucium* sp.
- *Didemnum candidum*
- *Styela plicata*
- Ascidiacea A (undet.)
- Ascidiacea B (undet.)

Table 24. Occurrence of epifaunal invertebrates in dredge collections from station DS22.

Phylum Cnidaria
Astrangia danae
Phylum Bryozoa
Hippopleurifera mucronata
Hippoporella uvulifera
Microporella ciliata
Parasmittina nitida
Schizoporella cornuta
Phylum Annelida
Sabellaria vulgaris
Hydroides dianthus
Phylum Mollusca
Chama macerophylla
Phylum Echinodermata
Astropecten duplicatus

Table 25. Occurrence of epifaunal invertebrates in dredge collections from station DS23.

Nothing recovered

Table 26. Occurrence of epifaunal invertebrates in dredge collections from DS24.

Phylum Bryozoa
Amathia sp.
Aeverrillia setigera
Phylum Arthropoda
Ovalipes stephensoni

Table 27. Occurrence of epifaunal invertebrates in dredge collections from station DS25.

Phylum Porifera
- *Cliona* sp.

Phylum Cnidaria
- *Ectopleura dumortieri*
- *Zanclea costata*
- *Turritopsis nutricula*
- *Eudendrium* sp.
- *Halecium dysymmetrum*
- *Halecium* sp.
- *Clytia cylindrica*
- *Dynamena cornicina*
- *Schizotricha tenella*
- *Telesto fruticulosa*
- *Telesto sanguinea*
- *Astrangia danae*

Phylum Bryozoa
- *Aetea anguina*
- *Bowerbankia gracilis*
- *Cleidochasma porcellanum*
- *Copidozoum tenuirostre*
- *Cribrilaria radiata*
- *Crisia* sp.
- Cyclostomata A (undet.)
- *Discoporella umbellata*
- *Floridina parvicella*
- *Hippopleurifera mucronata*
- *Hippoporina contracta*
- *Hippoporina verrilli*
- *Membranipora tenuis*
- *Microporella ciliata*
- *Parasmittina nitida*
- *Phylactella aviculifera*
- *Schizoporella cornuta*
- *Schizoporella errata*
- *Sundanella sibogae*
- *Trypsostega venusta*

Phylum Sipuncula
- Sipunculid (undet.)

Phylum Annelida
- *Lepidonotus sublevis*
- *Sabellaria vulgaris*
- *Hypsicomus phaeotaenia*
- *Hydroides dianthus*
- *Pomatoceros caeruleus*

Phylum Mollusca
- *Crepidula fornicata*

Table 27. (continued)

	Crepidula plana
	Muricidae (undet.)
	Mitrella lunata
	Anadara transversa
	Musculus lateralis
	Anomia simplex
	Chama macerophylla
	Chaetopleura apiculata
Phylum Arthropoda	
	Kochlorine floridana
	Balanus calidus
	Balanus venustus
	Paguridae (undet.)
	Portunus gibbesii
Phylum Echinodermata	
	Astropecten duplicatus
	Ophiothrix angulata
	Arbacia punctulata
	Lytechinus variegatus
Phylum Chordata	
	Didemnum candidum
	Ascidiacea A (undet.)
	Ascidiacea B (undet.)

Table 28. Occurrence of epifaunal invertebrates in dredge collections from station DS26.

Phylum Porifera
- *Cliona* sp.

Phylum Cnidaria
- *Turritopsis nutricula*
- *Eudendrium* sp.
- *Halecium dysymmetrum*
- *Clytia cylindrica*
- *Monostaechas quadridens*
- *Schizotricha tenella*
- *Leptogorgia setacea*

Phylum Bryozoa
- *Aetea anguina*
- *Cleidochasma porcellanum*
- *Cribrilaria radiata*
- Cyclostomata A (undet.)
- *Hippopleurifera mucronata*
- *Hippoporella uvulifera*
- *Membranipora tenuis*
- *Microporella ciliata*
- *Parasmittina nitida*
- *Phylactella aviculifera*
- *Trypsostega venusta*

Phylum Sipuncula
- Sipunculid (undet.)

Phylum Annelida
- *Lepidonotus sublevis*
- *Sabellaria vulgaris*
- *Hypsicomus phaeotaenia*
- *Hydroides dianthus*
- *Pomatoceros caeruleus*
- Polychaeta A (undet.)

Phylum Mollusca
- *Crepidula plana*
- *Eupleura caudata*
- *Mitrella lunata*
- *Oliva sayana*
- *Anadara transversa*
- *Ostrea equestris*
- *Chama macerophylla*
- *Chaetopleura apiculata*

Phylum Arthropoda
- *Balanus calidus*
- *Balanus venustus*
- *Chelonibia patula*
- *Ovalipes stephensoni*
- *Portunus gibbesii*

Table 28. (continued)

	Portunus spinimanus
	Xanthidae (undet.)
Phylum Echinodermata	
	Astropecten duplicatus
	Ophiothrix angulata
	Arbacia punctulata
Phylum Chordata	
	Styela plicata

Table 29. Occurrence of epifaunal invertebrates in dredge collections from station DS27.

Phylum Cnidaria
Turritopsis nutricula
Cuspidella humilis
Clytia cylindrica
Astrangia danae
Phylum Bryozoa
Parasmittina nitida
Phylum Sipuncula
Sipunculid (undet.)
Phylum Annelida
Hydroides dianthus
Sabellaria vulgaris
Phylum Mollusca
Chama macerophylla
Phylum Arthropoda
Balanus venustus
Ovalipes stephensoni
Phylum Echinodermata
Mellita quinquesperforata

Table 30. Occurrence of epifaunal invertebrates in dredge collections from station DS28.

Phylum Cnidaria
Ectopleura dumortieri
Turritopsis nutricula
Clytia cylindrica
Schizotricha tenella
Plumularia floridana
Telesto sanguinea
Phylum Bryozoa
Parasmittina nitida
Schizoporella cornuta
Phylum Arthropoda
Balanus venustus
Ovalipes stephensoni
Phylum Echinodermata
Astropecten duplicatus

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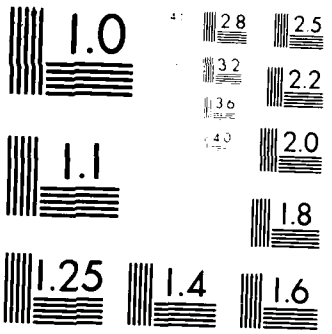

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Table 31. Occurrence of epifaunal invertebrates in dredge collections from station DS29.

Phylum Cnidaria
Ectopleura dumortieri
Eudendrium sp.
Halecium dysymmetrum
Clytia cylindrica
Schizotricha tenella
Astrangia danae
Phylum Bryozoa
Aetea anguina
Cribrilaria radiata
Hippopleurifera mucronata
Hippoporina verrilli
Membranipora tenuis
Parasmittina nitida
Schizoporella cornuta
Schizoporella errata
Phylum Sipuncula
Sipunculid (undet.)
Phylum Echiura
Echiurid (undet.)
Phylum Annelida
Sabellaria vulgaris
Hypsicomus phaeotaenia
Hydroides dianthus
Pomatoceros caeruleus
Phylum Mollusca
Crepidula fornicata
Crepidula plana
Polinices duplicatus
Mitrella lunata
Anadara transversa
Anomia simplex
Ostrea equestris
Chama macerophylla
Octopus vulgaris
Phylum Arthropoda
Kochlorine floridana
Balanus venustus
Xanthidae (undet.)
Phylum Echinodermata
Ophiolepis elegans
Phylum Chordata
Amaroucium sp.

Table 32. Occurrence of epifaunal invertebrates in dredge collections from station DS30.

Phylum Porifera
- *Cliona* sp.
- *Leucosolenia canariensis*

Phylum Cnidaria
- *Turritopsis nutricula*
- *Eudendrium* sp.
- *Halecium dysymmetrum*
- *Halecium* sp.
- *Clytia cylindrica*
- *Dynamena cornicina*
- *Schizotricha tenella*
- *Telesto sanguinea*
- *Astrangia danae*

Phylum Platyhelminthes
- Turbellaria (undet.)

Phylum Bryozoa
- *Aetea anguina*
- *Cribrilaria radiata*
- Cyclostomata A (undet.)
- *Membranipora tenuis*
- *Microporella ciliata*
- *Parasmittina nitida*
- *Phylactella aviculifera*

Phylum Sipuncula
- Sipunculid (undet.)

Phylum Annelida
- *Polydora* sp.
- *Hypsicomus phaeotaenia*
- *Hydroides dianthus*
- *Pomatoceros caeruleus*

Phylum Mollusca
- *Crepidula fornicata*
- *Eupleura caudata*
- *Mitrella lunata*
- Gastropoda (undet.)
- *Anadara transversa*
- *Argopecten gibbus*
- *Chama macerophylla*
- *Chaetopleura apiculata*

Phylum Arthropoda
- *Balanus calidus*
- *Balanus venustus*
- *Portunus gibbesii*
- *Pilumnus* sp.

Phylum Echinodermata
- *Ophiothrix angulata*

Table 32. (continued)

	Arbacia punctulata
Phylum Chordata	
	Styela plicata
	Ascidiacea A (undet.)

Table 33. Occurrence of epifaunal invertebrates in dredge collections from station DS31.

Phylum Cnidaria
Clytia cylindrica
Telesto fruticulosa
Phylum Bryozoa
Cribrilaria radiata
Membranipora tenuis
Microporella ciliata
Parasmittina nitida
Phylum Annelida
Lepidonotus sublevis
Sabellaria vulgaris
Phylum Mollusca
Anachis translirata
Mitrella lunata
Acanthodoris pilosa
Anadara transversa
Chama macerophylla
Phylum Arthropoda
Balanus calidus
Balanus venustus
Phylum Echinodermata
Astropecten duplicatus
Arbacia punctulata

Table 34. Occurrence of epifaunal invertebrates in dredge collections from station DS32.

Phylum Cnidaria
Ectopleura dumortieri
Schizotricha tenella
Leptogorgia virgulata
Phylum Bryozoa
Cleidochasma porcellanum
Copidozoum tenuirostre
Cribrilaria radiata
Floridina parvicella
Hippopleurifera mucronata
Hippoporella uvulifera
Hippoporina verrilli
Membranipora tenuis
Microporella ciliata
Parasmittina nitida
Phylactella aviculifera
Phylum Sipuncula
Sipunculid (undet.)
Phylum Annelida
Hydroides dianthus
Phylum Mollusca
Oliva sayana
Ostrea equestris
Chama macerophylla
Phylum Arthropoda
Balanus venustus
Ovalipes stephensoni

Table 35. Occurrence of epifaunal invertebrates in dredge collections from station DS33.

Phylum Porifera
- *Cliona* sp.
- *Leucosolenia canariensis*

Phylum Cnidaria
- *Ectopleura dumortieri*
- *Zanclea costata*
- *Turritopsis nutricula*
- *Lovenella grandis*
- *Leptogorgia setacea*
- *Astrangia danae*

Phylum Platyhelminthes
- Turbellaria (undet.)

Phylum Bryozoa
- *Aetea anguina*
- *Amathia distans*
- Anasca A (undet.)
- *Cleidochasma porcellanum*
- *Cribrilaria radiata*
- *Cribrilina floridana*
- Cyclostomata A (undet.)
- *Floridina parvicella*
- *Hippopleurifera mucronata*
- *Hippoporella uvulifera*
- *Lichenopora* sp.
- *Parasmittina nitida*
- *Phylactella aviculifera*
- *Trypsostega venusta*

Phylum Sipuncula
- Sipunculid (undet.)

Phylum Annelida
- *Lepidonotus sublevis*
- *Hypsicomus phaeotaenia*
- *Pomatoceros caeruleus*

Phylum Mollusca
- *Turbo castanea*
- *Chama macerophylla*
- *Chaetopleura apiculata*
- *Octopus vulgaris*

Phylum Arthropoda
- *Kochlorine floridana*
- *Balanus calidus*
- *Balanus venustus*
- *Ovalipes stephensoni*
- *Portunus gibbesii*
- *Podochela sidneyi*

Phylum Echinodermata

Table 35. (continued)

	Asterias forbesi
	Arbacia punctulata
	Clypeaster subdepressus
Phylum Chordata	
	Didemnum candidum
	Ascidiacea C

Table 36. Occurrence of epifaunal invertebrates in dredge collections from station DS34.

Phylum Porifera
Cliona sp.
Phylum Cnidaria
Ectopleura dumortieri
Turritopsis nutricula
Halecium dysymmetrum
Clytia cylindrica
Dynamena cornicina
Phylum Bryozoa
Aetea anguina
Cleidochasma porcellanum
Copidozoum tenuirostre
Cribrilaria radiata
Cyclostomata A (undet.)
Floridina parvicella
Hippopleurifera mucronata
Lichenopora sp.
Microporella ciliata
Parasmittina nitida
Phylactella uvulifera
Trypsostega venusta
Phylum Sipuncula
Sipunculid (undet.)
Phylum Annelida
Sabellaria vulgaris
Hypsicomus phaeotaenia
Hydroides dianthus
Pomatoceros caeruleus
Phylum Mollusca
Crepidula fornicata
Chaetopleura apiculata
Anadara transversa
Ostrea equestris
Chama macerophylla
Phylum Arthropoda
Kochlorine floridana
Balanus calidus
Balanus venustus
Hypoconcha sabulosa
Pilumnus sp.
Phylum Echinodermata
Arbacia punctulata
Phylum Chordata
Didemnum candidum
Styela plicata

Table 37.Occurrence of epifaunal invertebrates in dredge collections from station DS35.

Phylum Porifera
Cliona sp.
Phylum Cnidaria
Ectopleura dumortieri
Turritopsis nutricula
Clytia cylindrica
Dynamena cornicina
Monostaechas quadridens
Leptogorgia setacea
Phylum Bryozoa
Aetea anguina
Cribrilaria radiata
Cyclostomata A (undet.)
Floridina parvicella
Lichenopora sp.
Membranipora tenuis
Microporella ciliata
Parasmittina nitida
Phylactella aviculifera
Trypsostega venusta
Phylum Sipuncula
Sipunculid (undet.)
Phylum Annelida
Hydroides dianthus
Pomatoceros caeruleus
Phylum Mollusca
Chama macerophylla
Phylum Arthropoda
Balanus venustus
Ovalipes stephensoni
Phylum Echinodermata
Asterias forbesi

Table 38. Occurrence of epifaunal invertebrates in dredge collections from station DS36.

Phylum Cnidaria
Ectopleura dumortieri
Clytia cylindrica
Lovenella grandis
Leptogorgia setacea
Phylum Bryozoa
Hippopleurifera mucronata
Membranipora tenuis
Schizoporella cornuta
Phylum Annelida
Hydroides dianthus

Table 39. Occurrence of epifaunal invertebrates in dredge collections from station DS37.

Phylum Cnidaria
Lovenella grandis
Phylum Bryozoa
Hippoporella uvulifera
Lichenopora sp.
Microporella ciliata
Parasmittina nitida
Phylum Annelida
Hydroides dianthus
Phylum Mollusca
Chama macerophylla
Phylum Arthropoda
Balanus venustus

Table 40. Occurrence of epifaunal invertebrates in dredge collections from station DS38.

Phylum Porifera
- Orange sponge (undet.)
- *Cliona* sp.

Phylum Cnidaria
- *Zanclea costata*
- *Turritopsis nutricula*
- *Halecium dysymmetrum*
- *Schizotricha tenella*
- *Telesto sanguinea*
- *Epizoanthus americanus*
- *Astrangia danae*

Phylum Platyhelminthes
- Turbellaria (undet.)

Phylum Entoprocta
- Entoproct (undet.)

Phylum Bryozoa
- *Aetea anguina*
- *Amathia distans*
- *Bowerbankia gracilis*
- *Caulibugula pearsei*
- *Cleidochasma porcellanum*
- *Cribrilaria radiata*
- *Cribrilina floridana*
- *Crisia* sp.
- Cyclostomata A (undet.)
- *Floridina parvicella*
- *Hippaliosina rostrigera*
- *Hippopleurifera mucronata*
- *Lichenopora* sp.
- *Membranipora tenuis*
- *Microporella ciliata*
- *Nolella stipata*
- *Parasmittina nitida*
- *Phylactella uvulifera*
- *Reptadeonella violacea*
- *Schizoporella cornuta*
- *Trypsostega venusta*

Phylum Sipuncula
- Sipunculid (undet.)

Phylum Annelida
- *Sabellaria vulgaris*
- *Hypsicomus phaeotaenia*
- *Pomatoceros caeruleus*

Phylum Mollusca
- *Crepidula plana*
- *Musculus lateralis*

Table 40. (continued)

	Lithophaga bisulcata
	Chama macerophylla
	Chaetopleura apiculata
Phylum Arthropoda	
	Kochlorine floridana
	Balanus calidus
	Balanus venustus
Phylum Echinodermata	
	Luidia clathrata
	Astropecten articulatus
	Asterias forbesi
	Ophioderma appressum
	Lytechinus variegatus
Phylum Chordata	
	Didemnum candidum
	Ascidiacea B (undet.)

Table 41. Occurrence of epifaunal invertebrates in dredge collections from station DS39.

Phylum Porifera
Leucosolenia canariensis
Phylum Cnidaria
Turritopsis nutricula
Clytia cylindrica
Dynamena cornicina
Schizotricha tenella
Telesto sanguinea
Leptogorgia setacea
Phylum Bryozoa
Aetea anguina
Cleidochasma porcellanum
Cribrilaria radiata
Cyclostomata A (undet.)
Hippopleurifera mucronata
Lichenopora sp.
Membranipora tenuis
Microporella ciliata
Parasmittina nitida
Phylactella aviculifera
Trypsostega venusta
Phylum Sipuncula
Sipunculid (undet.)
Phylum Annelida
Pomatoceros caeruleus
Phylum Mollusca
Anadara transversa
Chama macerophylla
Phylum Arthropoda
Balanus calidus
Balanus venustus
Caprellidae (undet.)
Phylum Echinodermata
Asterias forbesi
Ophiothrix angulata
Arbacia punctulata
Phylum Chordata
Didemnum candidum

Table 42. Occurrence of epifaunal invertebrates in dredge collections from station DS40.

Phylum Porifera
Leucosolenia canariensis
Cliona sp.
Porifera (undet.)
Phylum Cnidaria
Zanclea costata
Turritopsis nutricula
Clytia cylindrica
Telesto sanguinea
Actiniaria (undet.)
Phylum Bryozoa
Aetea truncata
Cribrilaria radiata
Hippopleurifera mucronata
Membranipora tenuis
Microporella ciliata
Parasmittina nitida
Phylactella avicularifera
Phylum Sipuncula
Sipunculid (undet.)
Phylum Annelida
Lepidonotus sublevis
Hydroides dianthus
Pomatoceros caeruleus
Phylum Mollusca
Chama macerophylla
Phylum Arthropoda
Balanus calidus
Balanus venustus
Phylum Echinodermata
Asterias forbesi
Arbacia punctulata

Table [illegible]. Abundance of macroinvertebrate species in grab collections from station DS01. (A = Amphipoda; Cn = Cnidaria; D = Decapoda; E = Echinodermata; I = Isopoda; M = Mollusca; P = Polychaeta).

	DS01				
Species	Total Number	Number/0.1m² $\bar{x}$	SD	Estimated Number/m²	Rank by Number
Nereis pelagica (P)	28	5.6	1.5	56	1.0
Nemertina (undet.) (A)	10	2.0	1.0	20	2.0
Tellina probrina (M)	8	1.6	1.5	16	3.0
Pseudopolydora paucibranchiata floridana (A)	7	1.4	1.3	14	4.0
Tellina texana (M)	5	1.0	2.2	10	5.0
Protohaustorius sp. nr. deichmannae (A)	4	0.8	0.8	8	7.5
Sonilla rentiformis (Cn)	4	0.8	0.4	8	7.5
Strigilla mirabilis (M)	4	0.8	0.8	8	7.5
Magelona rosea (P)	4	0.8	1.1	8	7.5
Trichophoxus epistomus (A)	3	0.6	1.3	6	11.0
Melita longidentata (A)	3	0.6	0.4	6	11.0
Tharyx marioni (P)	3	0.6	0.9	6	11.0
Dissodactylus mellitae (D)	2	0.4	0.4	4	15.5
Lucinidae (undet.) (A, M)	2	0.4	0.5	4	15.5
Glycera sp. (Car.) (P)	2	0.4	0.5	4	15.5
Nonida littorea (P)	2	0.4	0.5	4	15.5
Onuphis eremita (P)	2	0.4	0.5	4	15.5
Haploscoloplos fragilis (P)	2	0.4	0.5	4	15.5
Trachypeneus constrictus (D)	1	0.2	0.4	2	23.0
Leptochela serratorbita (D)	1	0.2	0.4	2	23.0
Pinnixa sayana (D)	1	0.2	0.4	2	23.0
Astrosaccus sp. A (Mr)	1	0.2	0.4	2	23.0
Thiridotea stenops (I)	1	0.2	0.4	2	23.0
Nemertina (undet.) B	1	0.2	0.4	2	23.0
Glycera capitata (P)	1	0.2	0.4	2	23.0
Spiophanes bombyx (P)	1	0.2	0.4	2	23.0
Spiochaetopterus costarum sculatus (P)	1	0.2	0.4	2	23.0

Table 44. Abundance of macroinvertebrate species in grab collections from station DS02. (A = Amphipoda; C = Cumacea; Cn = Cnidaria; D = Decapoda; E = Echinodermata; M = Mollusca; P = Polychaeta).

DS02					
Species	Total Number	Number/0.1m² $\bar{X}$	SD	Estimated Number m⁻²	Rank by Number
Nephtys picta (P)	93	18.6	4.7	186	1.0
Magelona rosea (P)	33	6.6	3.8	66	2.0
Spiophanes bombyx (P)	17	3.4	2.6	34	3.0
Cirratulus sp. (P)	12	2.4	0.9	24	4.0
Dissoactylus mellitae (D)	8	1.6	2.6	16	5.0
Tharyx marioni (P)	6	1.2	1.1	12	6.5
Mellita quinquiesperforata (E)	6	1.2	2.2	12	6.5
Tellina probrina (M)	5	1.0	1.4	10	8.0
Onuphis eremita (D)	5	1.0	1.2	10	8.0
Haploscoloplos fragilis (P)	5	1.0	1.0	10	8.0
Nyonoscolex smithi (P)	4	0.8	1.1	8	11.0
Renilla reniformis (Cn)	4	0.8	0.8	8	11.0
Glycera tridactyla (P)	4	0.8	1.0	8	11.0
Squilla (D)	3	0.6	0.8	6	16.0
Pinnixa sayana (D)	3	0.6	0.5	6	16.0
Nemertina (indet.) A	3	0.6	0.5	6	16.0
Nemertina (indet.) B	3	0.6	1.0	6	16.0
Strigilla mirabilis (M)	3	0.6	0.9	6	16.0
Tellina texana (M)	3	0.6	0.9	6	16.0
Donax texasana (P)	3	0.6	0.5	6	16.0
Brachyura (indet.) A (D)	2	0.4	0.5	4	21.5
Pseudoplatyrhynchus floridanus (A)	2	0.4	0.9	4	21.5
Owenia fusiformis (P)	2	0.4	0.5	4	21.5
Paraprionospio pinnata (P)	2	0.4	0.5	4	21.5
Leptochela serratorbita (D)	1	0.2	0.4	2	28.0
Pagurus longicarpus (D)	1	0.2	0.4	2	28.0
Decapoda larvae (indet.)	1	0.2	0.4	2	28.0
Batea catharinensis (A)	1	0.2	0.4	2	28.0
Natica pusilla (M)	1	0.2	0.4	2	28.0
Mulinia lateralis (M)	1	0.2	0.4	2	28.0
Scoloplos rubra (P)	1	0.2	0.4	2	28.0
Glycera capitata (P)	1	0.2	0.4	2	28.0
Ceratonereis irritabilis (P)	1	0.2	0.4	2	28.0

Table 49. Abundance of macroinvertebrate species in grab collections from station DS03. (A = Amphipoda; C = Cumacea; Cn = Cnidaria; D = Decapoda; M = Mollusca; P = Polychaeta).

DS03					
Species	Total Number	Number 0.1m² $\bar{X}$	SD	Estimated Number m²	Rank by Number
Spiophanes bombyx (P)	81	16.2	8.2	162	1.0
Nephtys picta (P)	70	14.0	4.4	140	2.0
Magelona phyllisae (P)	12	2.4	2.3	24	3.0
Notomastus lobatus (P)	9	1.8	1.8	18	4.5
Prionospio dayi (P)	9	1.8	1.1	18	4.5
Haploscoloplos fragilis (P)	7	1.4	0.9	14	6.0
Callianassa atlantica (D)	6	1.2	0.8	12	7.5
Phyllodoce arenae (P)	6	1.2	1.1	12	7.5
Nemertina (undet.) A	5	1.0	0.7	10	10.5
Tellina iris (M)	5	1.0	0.7	10	10.5
Cirratulus sp. (P)	5	1.0	1.0	10	10.5
Aglaophamus verrilli (P)	5	1.0	0.7	10	10.5
Ogyrides limicola (D)	4	0.8	0.4	8	14.5
Solen viridis (M)	4	0.8	1.3	8	14.5
Glycera dibranchiata (P)	4	0.8	0.8	8	14.5
Anaitis eremita (P)	4	0.8	1.1	8	14.5
Brachyura (undet.) B (D)	3	0.6	0.9	6	18.5
Tharyx marioni (P)	3	0.6	0.5	6	18.5
Loniada littorea (P)	3	0.6	0.5	6	18.5
Magelona rosea (P)	3	0.6	0.9	6	18.5
Magelona sp. (Day '73) (P)	2	0.4	0.9	4	22.5
Scoloplos rubra (P)	2	0.4	0.5	4	22.5
Paraprionospio pinnata (P)	2	0.4	0.5	4	22.5
Sthenelais limicola (P)	2	0.4	0.9	4	22.5
Leptochela serratorbita (D)	1	0.2	0.4	2	33.0
Albunea paretii (D)	1	0.2	0.4	2	33.0
Pinnixa sayana (D)	1	0.2	0.4	2	33.0
Listriella barnardi (A)	1	0.2	0.4	2	33.0
Oxyurostylis smithi (C)	1	0.2	0.4	2	33.0
Pseudoplatyishnopus floridanus (A)	1	0.2	0.4	2	33.0
Renilla reniformis (Cn)	1	0.2	0.4	2	33.0
Natica pusilla (M)	1	0.2	0.4	2	33.0
Mostomia sp. A (M)	1	0.2	0.4	2	33.0
Unninidae (undet.) A (M)	1	0.2	0.4	2	33.0
Abra aequalis (M)	1	0.2	0.4	2	33.0
Lumbrineris impatiens (P)	1	0.2	0.4	2	33.0
Glycera sp. (Tar.) (P)	1	0.2	0.4	2	33.0
Steone lactea (P)	1	0.2	0.4	2	33.0
Lumbrineris latreilli (P)	1	0.2	0.4	2	33.0
Owenia fusiformis (P)	1	0.2	0.4	2	33.0
Magelona papillicornis (P)	1	0.2	0.4	2	33.0

Table 4b. Abundance of macroinvertebrate species in grab collections from station DS04. (A = Amphipoda; C = Cumacea; Cn = Cnidaria; D = Decapoda; E = Echinodermata; M = Mollusca; P = Polychaeta; St = Stomatopoda).

	DS04				
Species	Total Number	Number 0.1m² $\bar{X}$	Number 0.1m² SD	Estimated Number m²	Rank by Number
Spiophanes bombyx (P)	96	14.2	13.6	192	1.0
Magelona sp. (Day 73) (P)	62	12.4	7.6	124	2.0
Nephtys picta (P)	34	6.8	3.2	68	3.0
Onuphis eremita (P)	18	3.6	2.1	36	4.5
Notocirrus spiniferus (P)	18	3.6	1.1	36	4.5
Callianassa atlantica (D)	9	1.8	1.9	18	7.5
Tiron tropakis (A)	9	1.8	1.1	18	7.5
Cirratulus sp. (P)	9	1.8	1.3	18	7.5
Glycinella torquata (P)	9	1.8	1.9	18	7.5
Pinnixa sayana (D)	8	1.6	1.5	16	10.0
Loimia medusa (P)	7	1.4	1.5	14	11.5
Owenia fusiformis (P)	7	1.4	1.1	14	11.5
Tellina texana (M)	6	1.2	2.2	12	15.5
Pelecypoda (undet.) B	6	1.2	1.3	12	15.5
Tharyx marioni (P)	6	1.2	0.8	12	15.5
Notomastus hemipodus (P)	6	1.2	1.6	12	15.5
Glycera dibranchiata (P)	6	1.2	1.3	12	15.5
Haploscoloplos fragilis (P)	6	1.2	1.8	12	15.5
Nemertina (undet.) A	5	1.0	1.2	10	20.5
Sigambra tentaculata (P)	5	1.0	1.2	10	20.5
Magelona phyllisae (P)	5	1.0	1.4	10	20.5
Phyllodoce arenae (P)	5	1.0	1.7	10	20.5
Glycera americana (P)	4	0.8	0.8	8	24.0
Scoloplos rubra (P)	4	0.8	0.8	8	24.0
Ioniada littorea (P)	4	0.8	0.8	8	24.0
Dissodactylus mellitae (D)	3	0.6	1.3	6	28.0
Batea catharinensis (A)	3	0.6	0.9	6	28.0
Solen viridis (M)	3	0.6	0.5	6	28.0
Macroclymene zonalis (P)	3	0.6	0.7	6	28.0
Armandia agilis (P)	3	0.6	0.9	6	28.0
Oxyurostylis smithi (C)	2	0.4	0.5	4	32.5
Nemertina (undet.) B	2	0.4	0.9	4	32.5
Mellita quinquiesperforata (E)	2	0.4	0.9	4	32.5
Tellina iris (M)	2	0.4	0.5	4	32.5
Brachyura (undet.) A (D)	1	0.2	0.4	2	45.5
Pagurus longicarpus (D)	1	0.2	0.4	2	45.5
Squilla neglecta (St)	1	0.2	0.4	2	45.5
Pseudoplatyischnopus floridanus (A)	1	0.2	0.4	2	45.5
Melita appendiculata (A)	1	0.2	0.4	2	45.5
Actiniaria (undet.) (Cn)	1	0.2	0.4	2	45.5
Ophiuroidea (undet.) B (E)	1	0.2	0.4	2	45.5
Turbonilla sp. A (M)	1	0.2	0.4	2	45.5
Busycon carica (M)	1	0.2	0.4	2	45.5
Abra aequalis (M)	1	0.2	0.4	2	45.5
Tellina disjecta (M)	1	0.2	0.4	2	45.5
Unknown Taxon A	1	0.2	0.4	2	45.5
Sabellaria vulgaris (P)	1	0.2	0.4	2	45.5
Glycera sp. (Gar.) (P)	1	0.2	0.4	2	45.5
Aglaophamus verrilli (P)	1	0.2	0.4	2	45.5
Lumbrineris latreilli (P)	1	0.2	0.4	2	45.5
Paranaitis polynoides (P)	1	0.2	0.4	2	45.5
Rectinaria gouldii (P)	1	0.2	0.4	2	45.5
Arabella iricolor (P)	1	0.2	0.4	2	45.5
Lumbrineris tenuis (P)	1	0.2	0.4	2	45.5
Diopatra cuprea pinnata (P)	1	0.2	0.4	2	45.5
Polydora ligni (P)	1	0.2	0.4	2	45.5

Table 4. Abundance of macroinvertebrate species in grab collections from station DS05 (A = Amphipoda; Br = Brachiopoda; Co = Coelenterata; D = Decapoda; E = Echinodermata; I = Isopoda; M = Mollusca; P = Polychaeta; S = Stomatopoda).

Species	DS05 Total Number	Number/0.1m² x̄	Number/0.1m² SD	Estimated Number/m²	Rank by Number
Branchiostoma caribaeum (C)	68	13.6	9.6	136	1.0
Tharyx marioni (P)	60	12.0	9.2	120	2.0
Prionospio cristata (P)	55	11.0	3.4	110	3.0
Pseudeurythoe argenta (P)	37	7.4	7.0	74	4.0
Nematoda (undet.)	36	7.2	4.2	72	5.0
Crassinella lunulata (M)	30	6.0	10.7	60	6.0
Sabellaria vulgaris (P)	26	5.2	11.1	52	7.5
Nephtys picta (P)	26	5.2	1.9	52	7.5
Monticellina carolinae (P)	25	5.0	5.2	50	9.0
Tiron tropakis (A)	20	4.0	5.7	40	10.0
Spiophanes bombyx (P)	14	2.8	1.9	28	11.0
Cirratulidae (undet.) B (P)	12	2.4	2.3	24	12.0
Glycera rouxephala (P)	11	2.2	2.2	22	13.5
Sigambra bassi (P)	11	2.2	1.8	22	13.5
Armandia maculata (P)	8	1.6	1.5	16	15.0
Nemertina (undet.) A	7	1.4	1.1	14	17.0
Tellina texana (M)	7	1.4	1.3	14	17.0
Glycera dibranchiata (P)	7	1.4	1.5	14	17.0
Ancinus depressus (P)	6	1.2	1.6	12	19.5
Pseudoplatyishnopus floridanus (A)	6	1.2	0.4	12	19.5
Tellina probrina (M)	5	1.0	1.0	10	21.0
Mellita quinquiesperforata (E)	4	0.8	0.4	8	24.0
Crassinella martinicensis (M)	4	0.8	1.3	8	24.0
Magelona sp. (Day 73) (P)	4	0.8	0.8	8	24.0
Aphelochaetella longi (P)	4	0.8	1.3	8	24.0
Drilonereis magna (P)	4	0.8	0.4	8	24.0
Pagurus longicarpus (D)	3	0.6	0.9	6	28.5
Apseudura magnifica (I)	3	0.6	0.9	6	28.5
Asphisiphon spinalis (S)	3	0.6	1.3	6	28.5
Schistomeringos rudolphi (P)	3	0.6	0.9	6	28.5
Brachyura (undet.) A (D)	2	0.4	0.9	4	37.5
Dissolastylis nellitae (D)	2	0.4	0.9	4	37.5
Mistrella barnardi (A)	2	0.4	0.9	4	37.5
Jonghnium sp. (A)	2	0.4	0.9	4	37.5
Ophiuroidea (undet.) B (E)	2	0.4	0.5	4	37.5
Mytilidia pyramidata (Br)	2	0.4	0.5	4	37.5
Erwilla longentrica (M)	2	0.4	0.9	4	37.5
Abra aequalis (M)	2	0.4	0.5	4	37.5
Nereiphylla sp. (P)	2	0.4	0.9	4	37.5
Notomastus latericeus (P)	2	0.4	0.5	4	37.5
Armandia fallax (P)	2	0.4	0.9	4	37.5
Nereis pelagica (P)	2	0.4	0.5	4	37.5
Euchilomma arenae (P)	2	0.4	0.9	4	37.5
Prionospio lari (P)	2	0.4	0.9	4	37.5
Penaeidae (undet.) (D)	1	0.2	0.4	2	51.5
Portunidae (undet.) (D)	1	0.2	0.4	2	51.5
Chaetopterus americanum (A)	1	0.2	0.4	2	51.5
Dentalium aboreum (M)	1	0.2	0.4	2	51.5
Nucula proxima (M)	1	0.2	0.4	2	51.5
Erosella solidissima (M)	1	0.2	0.4	2	51.5
Arrhinoerus branchiatus (P)	1	0.2	0.4	2	51.5
Aricidea suecica (P)	1	0.2	0.4	2	51.5
Anopsis eremita (P)	1	0.2	0.4	2	51.5
Ekaine heteropoda (P)	1	0.2	0.4	2	51.5
Ekaine filipar (P)	1	0.2	0.4	2	51.5
Ophelina killariensis (P)	1	0.2	0.4	2	51.5
Magelona rosea (P)	1	0.2	0.4	2	51.5
Phyllodocidae (undet.) (P)	1	0.2	0.4	2	51.5

Table 48. Abundance of major invertebrate species in grab collections from station DS06. A = Amphipoda; Br = Brachiopoda; C = Cumacea; Ch = Chordata (Ascidiacea); D = Decapoda; E = Echinodermata; Ev = Echiuroidea; I = Isopoda; M = Mollusca; Mv = Mysidacea; P = Polychaeta; Pc = Pycnogonida; S = Sipunculidea.

	DS06				
Species	Total Number	Number/0.1m² $\bar{x}$	Number/0.1m² SD	Estimated Number/m²	Rank by Number
Nereis succinea (P)	182	36.4	17.1	364	1.0
Polydorus caecus (P)	95	19.0	11.9	190	2.0
Crassinella lunulata (M)	78	15.6	5.1	156	3.0
Exilia longirostra (P)	46	9.2	6.3	92	4.0
Nuculana concinna (P)	39	7.8	4.1	78	5.0
Sabellaria vulgaris (P)	33	6.6	4.2	66	6.0
Cossuridrilla sima (P)	30	6.0	6.5	60	7.0
Polydoranus bimbex (P)	29	5.8	4.0	58	8.0
Lumbrineris tenuis (P)	27	5.4	4.3	54	9.0
Nematoda (indet.)	24	4.8	3.2	48	10.0
Mysidopsis bigelowi (Mv)	21	4.2	3.3	42	11.0
Axinothella mucosa (P)	20	4.0	1.6	40	12.5
Glycera dibranchiata (P)	20	4.0	1.9	40	12.5
Ophiuroidea (indet.) E (B)	19	3.8	3.9	38	14.0
Neopanope sayi (P)	17	3.4	4.5	34	15.0
Tharyx marioni (P)	16	3.2	4.0	32	16.0
Polychaeta (indet.) B	15	3.0	3.2	30	18.0
Magelona sp. Sav (3) (P)	15	3.0	4.5	30	18.0
Glycinde solitaria (P)	15	3.0	2.8	30	18.0
Nereis pelagica (M)	14	2.8	3.8	28	20.0
Ostrea equestris (A)	13	2.6	3.6	26	21.0
Nereiphylla castanea (P)	12	2.4	2.3	24	22.5
Nemertina (indet.) A	12	2.4	1.7	24	22.5
Lumbrineris (indet.) A (M)	11	2.2	2.3	22	24.0
Nereiphylla rubiginosa (P)	10	2.0	3.9	20	25.0
Euchlorena rubella (P)	8	1.6	1.7	16	27.0
Scolelepis texana (P)	8	1.6	1.5	16	27.0
Spiophanes wigleyi (P)	8	1.6	1.9	16	27.0
Eteone trilineata (P)	7	1.4	1.1	14	31.5
Pagurus longicarpus (D)	7	1.4	1.7	14	31.5
Nereidora sp. 1 (P)	7	1.4	1.7	14	31.5
Lumbrineris latreilli (P)	7	1.4	1.1	14	31.5
Artificial Substrate (P)	7	1.4	1.5	14	31.5
Nereiphylla (indet.) P	7	1.4	1.7	14	31.5
Brachyura (indet.) A (D)	6	1.2	1.3	12	38.5
Ampelisca vadorum (A)	6	1.2	1.6	12	38.5
Nuculana proxima (M)	6	1.2	0.8	12	38.5
Goniada sp. A (S)	6	1.2	1.3	12	38.5
Tricorythus tyriformis (P)	6	1.2	0.8	12	38.5
Glycera tetra (P)	6	1.2	1.6	12	38.5
Lumbrineris magna (P)	6	1.2	2.2	12	38.5
Leptosynapta sulevis (P)	6	1.2	1.1	12	38.5
Ophelia serrata (A)	5	1.0	0.7	10	45.0
Phoxocephalus epistomata (M)	5	1.0	1.7	10	45.0
Nephtyidae arctiae (P)	5	1.0	1.4	10	45.0
Phyllodoce arenae (P)	5	1.0	1.4	10	45.0
Lumbrineris irritabilis (P)	5	1.0	2.2	10	45.0
Pinnixa sp. B (D)	4	0.8	0.4	8	52.5
Callianassidae (indet.) D	4	0.8	1.1	8	52.5
Tiron tropakis (A)	4	0.8	0.8	8	52.5
Tornidon tuberculatum (A)	4	0.8	1.5	8	52.5
Nuculana texana (M)	4	0.8	1.3	8	52.5
Macrominis (indet.) A (M)	4	0.8	1.1	8	52.5
Tellinoma contrarium (M)	4	0.8	1.7	8	52.5
Polydoridae (indet.)	4	0.8	1.3	8	52.5
Phoxocephalus (P)	4	0.8	1.4	8	52.5
Nuculana acuta (M)	4	0.8	1.3	8	52.5
Euchlorena wilsoni (P)	3	0.6	1.1	6	64.5
Tricorythus (P)	3	0.6	1.1	6	64.5
Nuculana concinna (M)	3	0.6	1.1	6	64.5
Ophelia (indet.) A	3	0.6	1.1	6	64.5
Lumbrineris (M)	3	0.6	1.1	6	64.5

Table 4 (Cont.)

Species	Total Number	Number /0.1m² %	Number /0.1m² SD	Estimated Number/m²	Rank by Number
	DS06				
Hypsicomus sp. (P)	3	0.6	0.9	6	64.0
Streptosyllis sp. (P)	3	0.6	1.4	6	64.0
Owenia fusiformis (P)	3	0.6	1.3	6	64.0
Chaetozone eremita (P)	3	0.6	1.3	6	64.0
Arabella iricolor (P)	3	0.6	1.3	6	64.0
Glycinde solitaria (P)	3	0.6	0.9	6	64.0
Mediomastus californiensis (P)	3	0.6	1.9	6	64.0
Glycinde solitaria (P)	3	0.6	1.3	6	64.0
Trichobranchus glacialis (D)	2	0.4	0.9	4	81.5
Paraonis sp. (D)	2	0.4	0.9	4	81.5
Brachyura (juvet.) B (D)	2	0.4	0.9	4	81.5
Calappidae (juvet.) (D)	2	0.4	0.9	4	81.5
Pinnixa retinens (D)	2	0.4	0.5	4	81.5
Prionospio cirrobranchiata (D)	2	0.4	0.9	4	81.5
Pseudoplatyhelminthes floridanus (A)	2	0.4	0.5	4	81.5
Nemertina (juvet.) B	2	0.4	0.9	4	81.5
Pleurobranchaea pyramidata (Br)	2	0.4	0.5	4	81.5
Tellina iris (M)	2	0.4	0.9	4	81.5
Turridae (juvet.) A (M)	2	0.4	0.9	4	81.5
Anadara obesa (M)	2	0.4	0.5	4	81.5
Mitrella lunata (M)	2	0.4	0.5	4	81.5
Aspidosiphon spinalis (S)	2	0.4	0.5	4	81.5
Labellaria floridensis (P)	2	0.4	0.9	4	81.5
Nereis sp. B (P)	2	0.4	0.9	4	81.5
Thelepus setosus (P)	2	0.4	0.5	4	81.5
Aphelochaeta glabrebranchis (P)	2	0.4	0.9	4	81.5
Glycinde solitaria (P)	2	0.4	0.9	4	81.5
Haploscoloplos fragilis (P)	2	0.4	0.5	4	81.5
Paraprionospio pinnata (P)	2	0.4	0.9	4	81.5
Hemipodus roseus (P)	2	0.4	0.9	4	81.5
Brachyuriana caribaeum (C)	1	0.2	0.4	2	109.0
Lepidepecreum carmelum (D)	1	0.2	0.4	2	109.0
Epitonium candeanum (D)	1	0.2	0.4	2	109.0
Heteromysis grandis (D)	1	0.2	0.4	2	109.0
Portunidae (juvet.) (D)	1	0.2	0.4	2	109.0
Cistenides sp. A (Mu)	1	0.2	0.4	2	109.0
Axinopsida mitis (M)	1	0.2	0.4	2	109.0
Macoma tenta (M)	1	0.2	0.4	2	109.0
Cerithium atramum (M)	1	0.2	0.4	2	109.0
Anomia simplex (M)	1	0.2	0.4	2	109.0
Cerithidea (juvet.) (M)	1	0.2	0.4	2	109.0
Anomia sp. B (M)	1	0.2	0.4	2	109.0
Nassarius (juvet.) (M)	1	0.2	0.4	2	109.0
Tellina tenuis (M)	1	0.2	0.4	2	109.0
Nassarius sp. (M)	1	0.2	0.4	2	109.0
Anadara ovalis (M)	1	0.2	0.4	2	109.0
Nassarius sp. (M)	1	0.2	0.4	2	109.0
Crepidula ebo (M)	1	0.2	0.4	2	109.0
Anomia simplex (M)	1	0.2	0.4	2	109.0
Anomia pellucidula (M)	1	0.2	0.4	2	109.0
Anomia simplex (M)	1	0.2	0.4	2	109.0
Ensis minor (M)	1	0.2	0.4	2	109.0
Polydora ciliata (P)	1	0.2	0.4	2	109.0
Streptosyllis websteri (P)	1	0.2	0.4	2	109.0
Nereis fucata (P)	1	0.2	0.4	2	109.0
Armandia maculata (P)	1	0.2	0.4	2	109.0
Nereididae (juvet.) (P)	1	0.2	0.4	2	109.0
Aphelochaeta marioni (P)	1	0.2	0.4	2	109.0
Cirratulidae (juvet.) (P)	1	0.2	0.4	2	109.0
Tharyx sp. (P)	1	0.2	0.4	2	109.0
Tharyx sp. (P)	1	0.2	0.4	2	109.0
Tharyx sp. (P)	1	0.2	0.4	2	109.0
Tharyx sp. (P)	1	0.2	0.4	2	109.0

[illegible] 4[illegible]. [illegible] [illegible] Invertebrate species in grab collections from Station DS 37. (A = Amphipoda; Br = Brachiopoda; C = Cumacea; E = Echinoidea; H = Holothuria; D = [illegible]; [illegible] = [illegible]; P = Polychaeta; I = Isopoda; M = Mollusca; Mv = [illegible]; P = [illegible]; S = Stomatopoda).

DS37				
Species	Total Number	Number 0.1m² $\bar{X}$	SD	Estimated Number m²	Rank by Number
[illegible] [illegible] (P)	337	67.4	25.8	674	1.0
[illegible] [illegible] (P)	96	19.2	18.9	192	2.0
[illegible] [illegible] (M)	54	10.8	15.0	108	3.0
[illegible] [illegible] (P)	45	9.0	6.0	90	4.0
[illegible] [illegible] (P)	38	7.6	6.5	76	5.0
[illegible] [illegible] (P)	30	6.0	3.8	60	6.0
[illegible] [illegible] (P)	23	4.6	3.6	46	7.0
[illegible] [illegible] (P)	22	4.4	5.0	44	8.0
[illegible] (indet.)	21	4.2	4.0	42	10.0
[illegible] [illegible] (M)	21	4.2	4.4	42	10.0
[illegible] (indet.)	21	4.2	6.4	42	10.0
[illegible] [illegible]	18	3.6	3.7	36	12.5
[illegible] [illegible] (P)	18	3.6	3.9	36	12.5
[illegible] [illegible] (M)	15	3.0	3.2	30	15.0
[illegible] [illegible] (P)	15	3.0	1.4	30	15.0
[illegible] [illegible] (P)	15	3.0	2.5	30	15.0
[illegible] [illegible] (M)	14	2.8	1.3	28	17.0
[illegible]	13	2.6	2.6	26	18.0
[illegible] [illegible] (A)	12	2.4	5.4	24	19.5
[illegible] (P)	12	2.4	1.1	24	19.5
[illegible] (P)	11	2.2	2.8	22	21.0
[illegible] (M)	10	2.0	0.0	20	23.0
[illegible] (M)	10	2.0	2.3	20	23.0
[illegible] [illegible] (S)	10	2.0	2.[illegible]	20	23.0
[illegible] (D)	8	1.6	1.1	16	25.5
[illegible] [illegible] (M)	8	1.6	1.9	16	25.5
[illegible] (indet.) (A)	7	1.4	2.1	14	28.5
[illegible] [illegible] (P)	7	1.4	3.1	14	28.5
[illegible] (P)	7	1.4	2.6	14	28.5
[illegible] [illegible] (P)	7	1.4	3.1	14	28.5
[illegible] [illegible] (Br)	6	1.2	0.8	12	32.0
[illegible] [illegible] (P)	6	1.2	1.1	12	32.0
[illegible] [illegible] (P)	6	1.2	1.3	12	32.0
[illegible] [illegible] (A)	5	1.0	1.4	10	35.5
[illegible] [illegible] (M)	5	1.0	1.0	10	35.5
[illegible] [illegible] (P)	5	1.0	1.7	10	35.5
[illegible] (P)	5	1.0	1.7	10	35.5
[illegible] (P)	4	0.8	1.3	8	41.5
[illegible]	4	0.8	1.8	8	41.5
[illegible] (indet.) (P, M)	4	0.8	1.3	8	41.5
[illegible] [illegible] (M)	4	0.8	1.3	8	41.5
[illegible] (indet.) (A, M)	4	0.8	0.8	8	41.5
[illegible] [illegible] (M)	4	0.8	0.4	8	41.5
[illegible] [illegible] (S)	4	0.8	0.8	8	41.5
[illegible] (P)	4	0.8	1.3	8	41.5
[illegible] (M)	3	0.6	1.3	6	44.5
[illegible] (A)	3	0.6	0.5	6	44.5
[illegible] (indet.) (M)	3	0.6	0.4	6	44.5
[illegible] (P)	3	0.6	0.4	6	44.5
[illegible] (P)	3	0.6	1.4	6	44.5
[illegible]	3	0.6	1.3	6	44.5
[illegible] (P)		0.6	0.5	6	44.5
[illegible] (P)		0.6	0.4	6	44.5
[illegible]		0.4	0.5	4	51.5
[illegible]		0.4	0.5	4	51.5
[illegible] (A)		0.4	0.5	4	51.5
[illegible] (P)		0.4	0.4	4	51.5
[illegible]		0.4	0.5	4	51.5
[illegible]		0.4	0.5	4	51.5
[illegible]		0.4	0.5	4	51.5

Table 4. [illegible]

[illegible]	Total Number	Number [illegible] X	[illegible] SD	Estimated Number [illegible]	Rank [illegible] Number
[illegible] (M)	2	0.4	0.5	4	62.5
[illegible] (M)	2	0.4	0.5	4	62.5
[illegible] (M)	2	0.4	0.5	4	62.5
[illegible] (M)	2	0.4	0.9	4	62.5
[illegible] (M)	2	0.4	0.9	4	62.5
[illegible] (P)	2	0.4	0.5	4	62.5
[illegible] (P)	2	0.4	0.9	4	62.5
[illegible] (P)	2	0.4	0.5	4	62.5
[illegible] (P)	2	0.4	0.5	4	62.5
Mysteria fibrinolitata (P)	2	0.4	0.5	4	62.5
Magelona rosea (P)	2	0.4	0.5	4	62.5
Brachyura (undet.) B (D)	1	0.2	0.4	2	95.0
Chaetomus orientanus (D)	1	0.2	0.4	2	95.0
[illegible] (D)	1	0.2	0.4	2	95.0
Heteromorpha granulata (D)	1	0.2	0.4	2	95.0
[illegible] (D)	1	0.2	0.4	2	95.0
[illegible] (A)	1	0.2	0.4	2	95.0
[illegible] (undet.) B	1	0.2	0.4	2	95.0
[illegible] (undet.) A	1	0.2	0.4	2	95.0
Amphisia merrilli (A)	1	0.2	0.4	2	95.0
[illegible] serrata (A)	1	0.2	0.4	2	95.0
[illegible] burbankii (D)	1	0.2	0.4	2	95.0
[illegible] (undet.) (Cn)	1	0.2	0.4	2	95.0
[illegible] (undet.) B (E)	1	0.2	0.4	2	95.0
[illegible] (undet.) A (E)	1	0.2	0.4	2	95.0
[illegible] (undet.) B (E)	1	0.2	0.4	2	95.0
[illegible] sp. 2 (M)	1	0.2	0.4	2	95.0
[illegible] sp. 8 (M)	1	0.2	0.4	2	95.0
[illegible] sp. 2 (M)	1	0.2	0.4	2	95.0
[illegible] (M)	1	0.2	0.4	2	95.0
[illegible] (undet.) (M)	1	0.2	0.4	2	95.0
Epitonium multistriatum (M)	1	0.2	0.4	2	95.0
[illegible] (M)	1	0.2	0.4	2	95.0
Pherusa perplana (M)	1	0.2	0.4	2	95.0
[illegible] (undet.) (M)	1	0.2	0.4	2	95.0
[illegible] (undet.) A (M)	1	0.2	0.4	2	95.0
[illegible] (M)	1	0.2	0.4	2	95.0
[illegible] (M)	1	0.2	0.4	2	95.0
[illegible] sp. (M)	1	0.2	0.4	2	95.0
[illegible] (M)	1	0.2	0.4	2	95.0
[illegible] (M)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0
[illegible] medusa (P)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0
[illegible] (A) (P)	1	0.2	0.4	2	95.0
[illegible] regalis carolinae (P)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0
[illegible] magna (P)	1	0.2	0.4	2	95.0
[illegible] sp. A (P)	1	0.2	0.4	2	95.0
[illegible] pinnata (P)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0
[illegible] (P)	1	0.2	0.4	2	95.0

[illegible] Abundance of macroinvertebrate species in grab [illegible] [illegible] Abbreviations: [illegible] = Amphipoda; D = Decapoda; E = [illegible]; [illegible] = [illegible]; M = Mollusca; Mo = Monoplacophora; P = Polychaeta; S = Sipunculoidea.

Species	1978 Total Number	Number/0.1m² X̄	SD	Estimated Number N	Rank of Number
[illegible]	101	20.2	22.1	202	1.5
[illegible]	63	12.6	17.2	126	2.[illegible]
[illegible]	37	7.4	4.2	74	3.[illegible]
[illegible]	35	7.0	6.2	70	4.[illegible]
[illegible]	27	5.4	5.2	54	5.5
[illegible]	25	5.0	5.4	50	6.5
[illegible]	25	5.0	3.7	50	6.5
[illegible]	16	3.2	1.3	32	[illegible]
[illegible]	15	3.0	1.2	30	9.5
[illegible]	14	2.8	3.0	28	11.5
[illegible]	13	2.6	2.5	26	11.5
[illegible]	10	2.0	3.1	20	12.5
[illegible]	8	1.6	2.9	16	13.5
[illegible]	8	1.6	3.0	16	[illegible]
[illegible]	7	1.4	1.1	14	15.5
[illegible]	7	1.4	2.9	14	15.5
[illegible]	7	1.4	2.2	14	15.5
[illegible]	7	1.4	1.1	14	15.5
[illegible]	7	1.4	2.0	14	15.5
[illegible]	7	1.4	2.1	14	15.5
[illegible]	7	1.4	1.4	14	15.5
[illegible]	7	1.4	3.4	14	15.5
[illegible]	6	1.2	1.1	12	17.5
[illegible]	6	1.2	2.2	12	17.5
[illegible]	6	1.2	1.8	12	17.5
[illegible]	6	1.2	1.6	12	17.5
[illegible]	5	1.0	1.0	10	19.5
[illegible]	5	1.0	0.7	10	19.5
[illegible]	5	1.0	0.7	10	19.5
[illegible]	5	1.0	1.0	10	19.5
[illegible]	5	1.0	0.7	10	19.5
[illegible]	5	1.0	1.4	10	19.5
[illegible]	4	0.8	1.3	8	21.5
[illegible]	4	0.8	1.1	8	21.5
[illegible]	4	0.8	1.3	8	21.5
[illegible]	4	0.8	1.6	8	21.5
[illegible]	4	0.8	1.1	8	21.5
[illegible]	4	0.8	1.7	8	21.5
[illegible]	4	0.8	1.8	8	21.5
[illegible]	4	0.8	1.3	8	21.5
[illegible]	4	0.8	1.1	8	21.5
[illegible]	4	0.8	1.1	8	21.5
[illegible]	3	0.6	0.7	6	27.5
[illegible]	3	0.6	1.3	6	27.5
[illegible]	3	0.6	0.9	6	27.5
[illegible]	3	0.6	0.4	6	27.5
[illegible]	3	0.6	0.5	6	27.5
[illegible]	3	0.6	0.4	6	27.5
[illegible]	3	0.6	0.4	6	27.5
[illegible]	3	0.6	0.4	6	27.5
[illegible]	3	0.6	0.4	6	27.5
[illegible]	2	0.4	0.4	4	38.5
[illegible]	2	0.4	0.8	4	38.5
[illegible]	2	0.4	0.8	4	38.5
[illegible]	1	0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]	1	0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.4	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5
[illegible]		0.2	0.8	2	48.5

	Total Number	Number %		Percentage Number %	Total Number
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 51. Abundance of macroinvertebrate species in grab collections from station DS09. (A = Amphipoda; C = Cumacea; Cc = Cephalochordata; Cn = Cnidaria; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; I = Isopoda; M = Mollusca; My = Mysidacea; P = Polychaeta; S = Sipunculida; T = Tanaidacea).

Species	DS09 Total Number	Number/0.1m² $\bar{X}$	SD	Estimated Number/m²	Rank by Number
Branchiostoma caribaeum (Cc)	67	13.4	10.0	134	1.0
Protohaustorius nr. deichmannae (A)	29	5.8	6.0	58	2.0
Tellina proterina (M)	25	5.0	4.4	50	3.0
Onuphis eremita (P)	23	4.6	2.5	46	4.0
Glycera oxycephala (P)	19	3.8	3.1	38	5.0
Acanthohaustorius millsi (A)	18	3.6	4.0	36	7.5
Aspidosiphon spinalis (S)	18	3.6	2.6	36	7.5
Nephtys picta (P)	18	3.6	2.1	36	7.5
Prionospio cristata (P)	18	3.6	6.4	36	7.5
Acanthohaustorius sp. (A)	15	3.0	2.4	30	10.0
Nellita quinquesperforata (E)	12	2.4	2.8	24	11.5
Ervilia concentrica (M)	12	2.4	1.5	24	11.5
Nematoda (undet.)	10	2.0	1.4	20	13.5
Lepidodria doma (E)	10	2.0	1.6	20	13.5
Apanthura magnifica (I)	8	1.6	0.9	16	15.5
Crassinella martinicensis (M)	8	1.6	2.5	16	15.5
Oligochaeta (undet.)	7	1.4	1.7	14	17.0
Trichophoxus floridanus (A)	6	1.2	0.4	12	20.0
Strigilla mirabilis (M)	6	1.2	1.6	12	20.0
Prionospio filiax (P)	6	1.2	2.2	12	20.0
Dipatra cuprea (P)	6	1.2	2.2	12	20.0
Hemipodus roseus (P)	6	1.2	2.2	12	20.0
Oxyurostylis smithi (C)	5	1.0	1.2	10	24.0
Anchinus depressus (I)	5	1.0	1.0	10	24.0
Nemertina (undet.) A	5	1.0	1.2	10	24.0
Nemertina (undet.) B	4	0.8	0.8	8	27.5
Discoporella umbellata (Ec)	4	0.8	1.8	8	27.5
Abra aequalis (M)	4	0.8	1.1	8	27.5
Spio pettibongae (P)	4	0.8	1.8	8	27.5
Trichophoxus epistomus (A)	3	0.6	1.3	6	32.5
Cyathura burbanki (I)	3	0.6	1.3	6	32.5
Pseudoplatyischnopus floridanus (A)	3	0.6	0.9	6	32.5
Semele nuculoides (M)	3	0.6	1.3	6	32.5
Cirratulidae (undet.) B (P)	3	0.6	0.9	6	32.5
Spiophanes bombyx (P)	3	0.6	0.5	6	32.5
Digurus longicarpus (D)	2	0.4	0.9	4	41.0
Pinnixa sayana (D)	2	0.4	0.5	4	41.0
Amphipoda (undet.) A	2	0.4	0.5	4	41.0
Listrosacrus sp. A (My)	2	0.4	0.5	4	41.0
Leptognathia laeta (T)	2	0.4	0.5	4	41.0
Drepidia sp. (M)	2	0.4	0.9	4	41.0
Brisula solidissima (M)	2	0.4	0.5	4	41.0
Crassinella lunulata (M)	2	0.4	0.9	4	41.0
Nereidiles virilinae (P)	2	0.4	0.9	4	41.0
Paranis sp. A (P)	2	0.4	0.9	4	41.0
Nephtys bucera (P)	2	0.4	0.9	4	41.0
Emerita talpoida (D)	1	0.2	0.4	2	51.0
Pinnixa sp. (D)	1	0.2	0.4	2	51.0
Maera carolineana (A)	1	0.2	0.4	2	51.0
Melita nitida (A)	1	0.2	0.4	2	51.0
Gammos smithi (A)	1	0.2	0.4	2	51.0
Tiron triakis (A)	1	0.2	0.4	2	51.0
Actiniaria (undet.) (Cn)	1	0.2	0.4	2	51.0
Turbellaria (undet.)	1	0.2	0.4	2	51.0
Chaetozone inquilina (P)	1	0.2	0.4	2	51.0
Tanaidacea sp. A (T)	1	0.2	0.4	2	51.0
Natica pusilla (M)	1	0.2	0.4	2	51.0
Tellina lineata (M)	1	0.2	0.4	2	51.0
Tellina parkeriana (M)	1	0.2	0.4	2	51.0
Mitrella lunata (M)	1	0.2	0.4	2	51.0
Nuculana sp. (M)	1	0.2	0.4	2	51.0

Table [illegible] (Cont.)

Species	Total Number	Number [illegible] m^2 R	SE	Estimated Number m^2	Rank by Number
Sonina littorea (P)	1	0.2	0.4	2	61.0
Cumbrinereis litoralis (P)	1	0.2	0.4	2	61.0
Ancistrosyllis jonesi (P)	1	0.2	0.4	2	61.0
Nephtys incisa (P)	1	0.2	0.4	2	61.0
Notomastus hemipodus (P)	1	0.2	0.4	2	61.0
Polydora sp. A (P)	1	0.2	0.4	2	61.0
Polydora sp. B (P)	1	0.2	0.4	2	61.0
Nemertina (unidet.) (P)	1	0.2	0.4	2	61.0
Synelmis albini (P)	1	0.2	0.4	2	61.0
Prionospio ehrenbergiana (P)	1	0.2	0.4	2	61.0
Armandia maculata (P)	1	0.2	0.4	2	61.0
Podarke pallidus (P)	1	0.2	0.4	2	61.0
Pectinaria granulata (P)	1	0.2	0.4	2	61.0
Ophelia bicornis (P)	1	0.2	0.4	2	61.0

Table 52. Abundance of major invertebrate species in grab collections from station DS10. (A = Amphipoda; C = Cumacea; Cc = Cephalocarida; E = Echinodermata; Fc = Ectoprocta; I = Isopoda; M = Mollusca; P = Polychaeta).

DS10					
Species	Total Number	Number/0.1m² $\bar{X}$	SD	Estimated Number m²	Rank by Number
Sphigilla micropilis (M)	93	12.9	4.2	126	1.0
Tellina proxima (M)	40	5.6	1.2	80	2.0
Mellita quinquiesperforata (E)	27	3.4	3.2	54	3.0
Protohaustorius sp. deichmannae (A)	15	3.0	2.7	30	4.0
Trichoplexus edistymis (A)	13	2.0	1.8	26	5.0
Nemertina (undet.) (A)	4	1.8	1.7	18	6.0
Glycera exopthala (P)	7	1.4	1.1	14	7.5
Acanthohaustorius sp. (A)	7	1.4	1.7	14	7.5
Neptys picta (P)	6	1.2	0.8	12	9.0
Tellina texana (M)	5	1.0	1.0	10	10.0
Spiophanes bombyx (P)	4	0.8	0.8	8	12.5
Pseudolatrisochromus floridanus (A)	4	0.8	0.8	8	12.5
Bathyporeia pinseri (A)	4	0.8	0.8	8	12.5
Tellina sp. (M)	4	0.8	0.8	8	12.5
Ampnis oremata (P)	3	0.6	0.7	6	15.5
Nuculla proxima (M)	3	0.6	0.7	6	15.5
Nematoda (undet.)	4	0.4	0.5	4	17.0
Glycera americana (P)	1	0.2	0.4	2	24.5
Crassinella martinicensis (M)	1	0.2	0.4	2	24.5
Erulia concentrica (M)	1	0.2	0.4	2	24.5
Tiron tropakis (A)	1	0.2	0.4	2	24.5
Oxyurostylis smithi (C)	1	0.2	0.4	2	24.5
Anthinus depressus (I)	1	0.2	0.4	2	24.5
Oligochaeta (undet.)	1	0.2	0.4	2	24.5
Gammaphracmus sp. (A-E)	1	0.2	0.4	2	24.5
Nemertina (undet. B)	1	0.2	0.4	2	24.5
Discoporella umbellata (Cc)	1	0.2	0.4	2	24.5
Pireulepis sp. (P)	1	0.2	0.4	2	24.5
Brachiostoma caribaeum (Cc)	1	0.2	0.4	2	24.5
Nitida pusilla (M)	1	0.2	0.4	2	24.5
Ostracoda (undet., A-P)	1	0.2	0.4	2	24.5

Table 53. Abundance of macroinvertebrate species in grab collections from station DS11. (A = Amphipoda; C = Cumacea; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; I = Isopoda; M = Mollusca; P = Polychaeta).

DS11					
Species	Total Number	Number/0.1m² $\bar{x}$	Number/0.1m² SD	Estimated Number/m²	Rank by Number
Strigilla pirabilis (M)	56	11.2	6.5	112	1.0
Pisaporella umbellata (P)	44	8.8	5.4	88	2.0
Protohaustorius nr. deichmannae (A)	33	6.6	5.6	66	3.0
Tellina texana (M)	15	3.0	2.0	30	4.0
Spiophanes bombyx (P)	14	2.8	2.2	28	5.5
Nephtys picta (P)	14	2.8	2.0	28	5.5
Nemertina (undet.) A	10	2.0	1.0	20	7.0
Trichophoxus epistomus (A)	7	1.4	1.9	14	8.0
Inuphis eremita (P)	6	1.2	0.8	12	9.0
Xenoparaphis sp. A. (P)	5	1.0	1.0	10	10.0
Lucinidae (undet.) A (M)	4	0.8	0.8	8	12.0
Ninoe externata (P)	4	0.8	1.3	8	12.0
Magelona papillicornis (P)	4	0.8	0.8	8	12.0
Tellina sp. (M)	3	0.6	0.9	6	14.5
Terebra dislocata (M)	3	0.6	0.5	6	14.5
Trichupenaeus constrictus (D)	2	0.4	0.5	4	18.0
Acanthohaustorius sp. (A)	2	0.4	0.5	4	18.0
Gastrosaccus sp. A (M)	2	0.4	0.5	4	18.0
Oxyurostylis smithi (C)	2	0.4	0.9	4	18.0
Ariciea sp. A	2	0.4	0.5	4	18.0
Brachyura (undet.) A (D)	1	0.2	0.4	2	30.5
Brachyura (undet.) B (D)	1	0.2	0.4	2	30.5
Digerus longiarpus (D)	1	0.2	0.4	2	30.5
Alpheus paratti (D)	1	0.2	0.4	2	30.5
Lepidopa websteri (D)	1	0.2	0.4	2	30.5
Mysidacea (undet.) A	1	0.2	0.4	2	30.5
Chiridotea stenops (I)	1	0.2	0.4	2	30.5
Pseudolitoisopodus floridanus (A)	1	0.2	0.4	2	30.5
Turbellaria (undet.)	1	0.2	0.4	2	30.5
Mellita quinquiesperforata (E)	1	0.2	0.4	2	30.5
Chromodoris sp. B (M)	1	0.2	0.4	2	30.5
Erycina conventrica (M)	1	0.2	0.4	2	30.5
Terridae (undet.) A (M)	1	0.2	0.4	2	30.5
Unciola litorea (P)	1	0.2	0.4	2	30.5
Lumbrineris latreilli (P)	1	0.2	0.4	2	30.5
Armandia agilis (P)	1	0.2	0.4	2	30.5
Leitoscoloplos litoralis (P)	1	0.2	0.4	2	30.5
Owenia fusiformis (P)	1	0.2	0.4	2	30.5
Armandia maculata (P)	1	0.2	0.4	2	30.5
Prionospio [illegible] (P)	1	0.2	0.4	2	30.5

Table [illegible]. Abundance of macroinvertebrate species in grab collections from station DS12. A = Amphipoda; I = Cumacea; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; M = Mollusca; My = Mysidacea; S = Sipunculida; P = Polychaeta; Ph = Phoronida.

Species	DS12 Total Number	Number/0.1m² $\bar{x}$	Number/0.1m² SD	Estimated Number m²	Rank by Number
Protomedeia nr. fasciata (A)	97	19.4	13.4	194	1.0
Melita nitidoides (A)	47	9.4	3.5	94	2.0
Pinnixa chaetopterana (D)	29	5.8	9.1	58	3.0
Solenia texana (M)	23	4.6	1.9	46	4.0
Spiophanes bombyx (P)	21	4.2	3.6	42	5.0
Dispiorella umbellata (Ec)	17	3.4	2.4	34	6.5
Nereis grubei (P)	17	3.4	1.3	34	6.5
Mitrella mitrella (M)	12	2.4	2.5	24	8.0
Aseudopolydeucopus floridanus (A)	10	2.0	1.0	20	9.5
Sphaerosyllis piriformis (P)	10	2.0	1.0	20	9.5
Trichomaxillus epistomus (A)	8	1.6	0.9	16	11.5
Tellina iridescens (M)	7	1.4	1.1	14	12.0
Transennella constricta (M)	6	1.2	1.1	12	13.0
Tellina tumidula (M)	6	1.2	0.8	12	13.0
Nemertina (indet.) (A)	6	1.2	1.1	12	13.0
Magelona pettibonei (P)	6	1.2	1.3	12	13.0
Prionospio dayi (P)	6	1.2	1.3	12	13.0
Magelona sp. (Day 1973) (P)	5	1.0	1.2	10	19.0
Armandia maculata (P)	5	1.0	0.7	10	19.0
Ophiocnidus sp. A (E)	5	1.0	1.2	10	19.0
Lysianassidae sminti (A)	4	0.8	0.8	8	22.0
Ophiura lyrifera (E)	4	0.8	1.3	8	22.0
Diopatra sp. B (P)	4	0.8	0.8	8	22.0
Mesochelidium americanum (A)	3	0.6	0.9	6	25.5
Astrosiphonus sp. A (My)	3	0.6	0.5	6	25.5
Nitida lyrata (M)	3	0.6	0.5	6	25.5
Tellinella biplicata (M)	3	0.6	1.3	6	25.5
Leptomysis sexcirrata (My)	2	0.4	0.5	4	36.0
Brachyura (indet. A) (D)	2	0.4	0.5	4	36.0
Brachyura (indet. B) (D)	2	0.4	0.5	4	36.0
Alpheus carpilii (D)	2	0.4	0.5	4	36.0
Astrocaria (indet.)	2	0.4	0.5	4	36.0
Caprella tenuis (A)	2	0.4	0.9	4	36.0
Nemertina (indet.) (E)	2	0.4	0.5	4	36.0
Nematoda (indet.)	2	0.4	0.5	4	36.0
Tellina iris (M)	2	0.4	0.5	4	36.0
Ophiuroidea (indet.) (E)	2	0.4	0.5	4	36.0
Polydoracium tridentatum (S)	2	0.4	0.5	4	36.0
Polydoracium sulcatum (S)	2	0.4	0.5	4	36.0
Leptosynapta inhaerens (E)	2	0.4	0.5	4	36.0
Lumbrineris latreilli (P)	2	0.4	0.5	4	36.0
Glycinde solitaria (P)	2	0.4	0.5	4	36.0
Nereis pelagica (P)	2	0.4	0.5	4	36.0
Tellina [illegible] (M)	2	0.4	0.5	4	36.0
Ophiuroidea (indet.) (E)	1	0.2	0.4	2	54.0
Aceteadrilus sp. A (A)	1	0.2	0.4	2	54.0
Ophiura (indet.) (E)	1	0.2	0.4	2	54.0
Pagurus (sp. A) (D)	1	0.2	0.4	2	54.0
Tellina tenta (M)	1	0.2	0.4	2	54.0
Cirrifrons (indet.) (A)	1	0.2	0.4	2	54.0
Ophiura [illegible] (E)	1	0.2	0.4	2	54.0
[illegible] (M)	1	0.2	0.4	2	54.0
[illegible] (indet.) (A)	1	0.2	0.4	2	54.0
[illegible] (M)	1	0.2	0.4	2	54.0
[illegible] (P)	1	0.2	0.4	2	54.0
[illegible] (M)	1	0.2	0.4	2	54.0
[illegible] (P)	1	0.2	0.4	2	54.0
[illegible] (P)	1	0.2	0.4	2	54.0
[illegible] (P)	1	0.2	0.4	2	54.0
[illegible] (P)	1	0.2	0.4	2	54.0
[illegible] (P)	1	0.2	0.4	2	54.0
[illegible] (P)	1	0.2	0.4	2	54.0

Table 55. Abundance [illegible]

Br = Breeding [illegible] = [illegible] = [illegible] = [illegible]
Br = [illegible] M = [illegible] Mo = [illegible]

[illegible]	Total Number	Number [illegible] %	[illegible] %	Estimated Number [illegible]	Rank by Number
[illegible] indet.	145	19.[illegible]	16.4	293	1.5
[illegible]	112	12.4	14.4	224	2.5
[illegible]	[illegible]	14.2	16.[illegible]	142	3.0
[illegible]	[illegible]	13.5	14.8	286	4.[illegible]
[illegible]	86	12.2	13.2	172	5.[illegible]
[illegible]	78	13.6	12.6	156	6.0
[illegible]	57	11.4	8.4	114	7.0
[illegible]	54	10.4	14.0	108	8.0
[illegible]	51	11.2	9.2	102	9.0
[illegible]	[illegible]	4.4	[illegible]	94	10.5
[illegible]	[illegible]	4.4	10.[illegible]	94	10.5
[illegible]	[illegible]	4.[illegible]	[illegible]	42	12.5
[illegible]	[illegible]	4.2	12.2	92	12.[illegible]
[illegible]	[illegible]	4.2	[illegible]	82	14.0
[illegible]	[illegible]	[illegible]	5.3	80	15.0
[illegible]	[illegible]	3.4	[illegible]	68	16.5
[illegible]	[illegible]	3.8	[illegible]	58	16.5
[illegible]	[illegible]	3.2	6.6	52	18.5
[illegible] indet.	[illegible]	3.2	5.8	52	18.5
[illegible]	[illegible]	2.4	2.5	44	21.5
[illegible]	[illegible]	2.4	[illegible]	44	21.5
[illegible]	[illegible]	2.4	[illegible]	44	21.5
[illegible]	[illegible]	2.4	4.2	44	21.5
[illegible]	[illegible]	2.[illegible]	[illegible]	[illegible]	25.[illegible]
[illegible]	[illegible]	2.[illegible]	5.8	[illegible]	25.[illegible]
[illegible]	[illegible]	2.[illegible]	[illegible]	[illegible]	25.[illegible]
[illegible] indet.	[illegible]	1.8	[illegible]	38	27.5
[illegible]	[illegible]	1.8	[illegible]	38	27.5
[illegible]	[illegible]	1.6	[illegible]	36	29.0
[illegible]	[illegible]	1.4	2.4	34	30.5
[illegible]	[illegible]	1.4	3.2	34	30.5
[illegible]	[illegible]	1.2	[illegible]	32	32.5
[illegible]	[illegible]	1.2	[illegible]	32	32.5
[illegible]	[illegible]	1.0	3.5	30	34.0
[illegible]	[illegible]	1.0	[illegible]	28	36.0
[illegible]	[illegible]	1.0	[illegible]	28	36.0
[illegible]	[illegible]	1.0	[illegible]	28	36.0
[illegible]	[illegible]	[illegible]	[illegible]	26	39.5
[illegible]	[illegible]	[illegible]	3.[illegible]	26	39.5
[illegible]	[illegible]	0.6	[illegible]	26	39.5
[illegible]	[illegible]	0.6	[illegible]	26	39.5
[illegible]	[illegible]	0.4	[illegible]	22	42.[illegible]
[illegible]	[illegible]	0.4	[illegible]	22	43.5
[illegible] indet.	[illegible]	0.4	2.5	22	43.5
[illegible]	[illegible]	0.[illegible]	[illegible]	20	46.[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	20	46.0
[illegible]	[illegible]	[illegible]	[illegible]	20	46.0
[illegible] indet.	[illegible]	0.2	[illegible]	18	50.0
[illegible]	[illegible]	0.2	[illegible]	18	50.0
[illegible]	[illegible]	0.2	[illegible]	18	50.0
[illegible]	[illegible]	0.2	[illegible]	18	50.0
[illegible]	[illegible]	0.2	[illegible]	18	50.0
[illegible]	[illegible]	0.0	[illegible]	16	54.5
[illegible]	[illegible]	0.0	[illegible]	16	54.5
[illegible]	[illegible]	0.0	[illegible]	16	54.5
[illegible]	[illegible]	0.0	[illegible]	16	54.5
[illegible]	[illegible]	0.0	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	0.0	[illegible]	[illegible]	54.5
[illegible]	[illegible]	0.0	[illegible]	[illegible]	[illegible]

Table [illegible]

Species	Total Number	Number 0.1m² $\bar{X}$	SD	Estimated Number m²	Rank by Number
[illegible] (P) A	7	1.2	1.3	12	64.0
[illegible] (P) B	6	1.2	0.8	12	64.0
[illegible] (P)	6	1.2	1.3	12	64.0
[illegible] (P)	6	1.2	1.3	12	64.0
[illegible] (P)	6	1.2	1.3	12	64.0
[illegible] sp. B (P)	6	1.2	1.2	12	64.0
[illegible] (P)	6	1.2	1.0	12	64.0
[illegible] (P)	6	1.2	1.5	12	64.0
Arbacia sp. A (P)	6	1.2	1.1	12	64
[illegible] varians (P)	5	1.0	1.0	10	71.5
[illegible] sp. A	5	1.0	2.2	10	71.5
[illegible] (indet.) B (M)	5	1.0	1.2	10	71.5
[illegible] (M)	5	1.0	1.4	10	71.5
[illegible] spirals (P)	5	1.0	1.0	10	71.5
[illegible] (P)	5	1.0	1.7	10	71.5
[illegible] (P)	4	1.0	1.2	8	78.0
[illegible] sp. A (P)	4	0.8	0.8	8	78.0
[illegible] (indet.) B (P)	4	0.8	1.1	8	78.0
[illegible] sp. (M)	4	0.8	0.8	8	78.0
[illegible] sp. (P)	4	0.8	1.3	8	78.0
[illegible] (P)	4	0.8	1.3	8	78.0
[illegible] (P)	4	0.8	0.8	8	78.0
[illegible] (P)	3	0.6	0.9	6	86.5
[illegible] (indet.) A (P)	3	0.6	1.5	6	86.5
[illegible] (P)	3	0.6	0.9	6	86.5
[illegible] (P)	3	0.6	0.9	6	86.5
[illegible] (P)	3	0.6	1.3	6	86.5
[illegible] (indet.)	3	0.6	1.5	6	86.5
[illegible] (P)	3	0.6	1.3	6	86.5
[illegible] (M)	3	0.6	0.5	6	86.5
[illegible] (P)	3	0.6	0.5	6	86.5
[illegible] (P)	3	0.6	0.5	6	86.5
[illegible] (indet. B (P)	2	0.4	0.5	4	106.0
[illegible] (indet.) (P)	2	0.4	0.9	4	106.0
[illegible] sp. (P)	2	0.4	0.4	4	106.0
[illegible] (M)	2	0.4	0.9	4	106.0
[illegible] (indet.) (P)	2	0.4	0.5	4	106.0
[illegible] (indet. (P)	2	0.4	0.5	4	106.0
[illegible] (M)	2	0.4	0.5	4	106.0
[illegible]	2	0.4	0.9	4	106.0
[illegible] (M)	2	0.4	0.9	4	106.0
[illegible] (M)	2	0.4	0.9	4	106.0
[illegible]	2	0.4	0.	4	106.0
[illegible] (M)	2	0.4	0.5	4	106.0
[illegible] (M)	2	0.4	0.5	4	106.0
[illegible] (M)	2	0.4	0.5	4	106.0
[illegible] (M)	2	0.4	0.	4	106.0
[illegible] (indet.)	2	0.4		4	106.0
[illegible] sp. (P)	2	0.4		4	106.0
[illegible] (P)	2	0.4		4	106.0
[illegible] (P)	2	0.4		4	106.0
[illegible] (P)	2	0.4		4	106.0
[illegible] (P)	2	0.4		4	106.0
[illegible] (P)	2	0.4	0.5	4	106.0
[illegible] (P)	2	0.4	0.2	4	106.0
[illegible] (P)	2	0.4	0.5	4	106.0
[illegible]	2	0.4	0.4	4	106.0
[illegible]	2	0.4	0.5	4	106.0

Table 35. (Cont.)

Species	Total Number	Number/1m² $\bar{X}$	SD	Estimated Number ±SE	Rank by Number
	DS13				
Drilonereis longa (P)	2	0.4	0.5	4	106.0
Scoloplos armiger rudolphi (P)	2	0.4	0.5	4	106.0
Alpheus normanni (D)	1	0.2	0.4	2	144.5
Latreutes parvulus (D)	1	0.2	0.4	2	144.5
Pagurinus prideaux (D)	1	0.2	0.4	2	144.5
Brachyura (undet.) (D)	1	0.2	0.4	2	144.5
Portunidae (undet.) (D)	1	0.2	0.4	2	144.5
Processa hemphilli (D)	1	0.2	0.4	2	144.5
Rathyporeia parkeri (A)	1	0.2	0.4	2	144.5
Lembos unicornis (A)	1	0.2	0.4	2	144.5
Rudilemboides sp. (A)	1	0.2	0.4	2	144.5
Lilljeborgia sp. (A)	1	0.2	0.4	2	144.5
Lysianopsis alba (A)	1	0.2	0.4	2	144.5
Mysidacea (undet.) (My)	1	0.2	0.4	2	144.5
Mysidopsis bigelowi (My)	1	0.2	0.4	2	144.5
Cumacea (undet.)	1	0.2	0.4	2	144.5
Actiniaria (undet.) (In)	1	0.2	0.4	2	144.5
Nemertina (undet.) B	1	0.2	0.4	2	144.5
Ophiothrix angulata (E)	1	0.2	0.4	2	144.5
Arbacia punctulata (E)	1	0.2	0.4	2	144.5
Turritellae (undet.) (M)	1	0.2	0.4	2	144.5
Corbula barrattiana (M)	1	0.2	0.4	2	144.5
Pelecypoda (undet.) C	1	0.2	0.4	2	144.5
Anachis avara (M)	1	0.2	0.4	2	144.5
Tornonilla sp. E (M)	1	0.2	0.4	2	144.5
Tornonilla sp. F (M)	1	0.2	0.4	2	144.5
Pelecypoda (undet.) K	1	0.2	0.4	2	144.5
Pelecypoda (undet.)	1	0.2	0.4	2	144.5
Donsia spatina (M)	1	0.2	0.4	2	144.5
Eulalia macroceros (P)	1	0.2	0.4	2	144.5
Serpulus vermicularis granulosa (P)	1	0.2	0.4	2	144.5
Megalomma sp. B (P)	1	0.2	0.4	2	144.5
Marpysa sp. B var. (P)	1	0.2	0.4	2	144.5
Nereiphylis sp. (P)	1	0.2	0.4	2	144.5
Neotenoneilea heteropodia (P)	1	0.2	0.4	2	144.5
Spiophanes bombyx (P)	1	0.2	0.4	2	144.5
Nicolea zostericola (P)	1	0.2	0.4	2	144.5
Nephtys picta (P)	1	0.2	0.4	2	144.5
Glycinde solitaria (P)	1	0.2	0.4	2	144.5
Paraprionospio pinnata (P)	1	0.2	0.4	2	144.5
[illegible] (P)	1	0.2	0.4	2	144.5
[illegible] (undet.)	1	0.2	0.4	2	144.5
Brania clavata (P)	1	0.2	0.4	2	144.5
Pygospio elegans (P)	1	0.2	0.4	2	144.5
[illegible] (P)	1	0.2	0.4	2	144.5
[illegible] sp. (P)	1	0.2	0.4	2	144.5

Table [illegible]. Abundance of macroinvertebrate species in grab collections from station [illegible]. A = Amphipoda; C = Cumacea; D = Decapoda; E = Echinodermata; [illegible]; I = Isopoda; M = Mollusca; P = Polychaeta; S = Sipunculida.

Species	Total Number	Number/0.1m² $\bar{x}$	Number/0.1m² SD	Estimated Number m²	Rank by Number
		19[illegible]			
Protohaustorius nr. deichmannae (A)	[illegible]	7.2	4.[illegible]	72	1.0
Spiophanes bombyx (P)	2[illegible]	5.6	3.5	56	2.0
[illegible] mirabilis (M)	2[illegible]	5.0	1.4	50	3.0
[illegible]rella umbellata (E)	24	4.8	2.2	48	4.0
Nephtys picta (P)	22	4.4	3.4	44	5.0
Nemertini undet. [illegible]	19	3.8	3.0	38	6.5
[illegible] (M)	19	3.8	2.6	38	6.5
Aspidosiphon [illegible]ensis (S)	10	2.0	2.9	20	8.0
[illegible] (M)	9	1.8	2.5	18	9.0
[illegible] (A)	6	1.2	1.5	12	11.0
[illegible] (P)	6	1.2	0.8	12	11.0
[illegible] (P)	6	1.2	1.3	12	11.0
[illegible] sp. (A)	5	1.0	0.7	10	14.0
[illegible] floridanus (A)	5	1.0	0.7	10	14.0
[illegible] undet. [illegible]	5	1.0	1.2	10	14.0
[illegible]	4	0.8	[illegible]	8	17.0
Magelona [illegible] (P)	4	0.8	0.[illegible]	8	17.0
[illegible] (P)	4	0.8	[illegible]	8	17.0
[illegible] undet. (A)	3	0.6	0.5	6	21.5
[illegible] brasiliensis (A)	3	0.6	[illegible]	6	21.5
[illegible] smithi (D)	3	0.6	0.5	6	21.5
[illegible] undet. [illegible]	3	0.6	[illegible]	6	21.5
[illegible] (P)	3	0.6	0.4	6	21.5
[illegible] maculata (P)	3	0.6	0.5	6	21.5
[illegible] (C)	2	0.4	[illegible]	4	28.0
[illegible] (P)	2	0.4	[illegible]	4	28.0
Mellita quinquiesperforata (E)	2	0.4	[illegible]	4	28.0
[illegible] undet.	2	0.4	[illegible]	4	28.0
[illegible] sp. (P)	2	0.4	0.9	4	28.0
Lumbrineris [illegible] (P)	2	0.4	0.5	4	28.0
[illegible] (P)	2	0.4	0.9	4	28.0
[illegible] (D)	1	0.2	0.4	2	45.0
[illegible] parvulus (D)	1	0.2	0.4	2	45.0
Brachyura undet. (D)	1	0.2	0.4	2	45.0
[illegible]longus (D)	1	0.2	0.4	2	45.0
[illegible] websteri (D)	1	0.2	0.4	2	45.0
[illegible] granulata (P)	1	0.2	0.4	2	45.0
[illegible] parkeri (A)	1	0.2	0.4	2	45.0
[illegible] cypris (A)	1	0.2	0.4	2	45.0
Actiniaria undet.	1	0.2	0.4	2	45.0
[illegible] undet. [illegible]	1	0.2	0.4	2	45.0
[illegible] (P)	1	0.2	0.4	2	45.0
[illegible] sp. [illegible]	1	0.2	0.4	2	45.0
[illegible] (M)	1	0.2	0.4	2	45.0
[illegible] undet. [illegible]	1	0.2	0.4	2	45.0
[illegible] trilineata (M)	1	0.2	0.4	2	45.0
[illegible] (M)	1	0.2	0.4	2	45.0
[illegible] (P)	1	0.2	0.4	2	45.0
[illegible] (P)	1	0.2	0.4	2	45.0
[illegible] (P)	1	0.2	0.4	2	45.0
[illegible] sp. (P)	1	0.2	0.4	2	45.0
[illegible] (P)	1	0.2	0.4	2	[illegible]
[illegible]	1	0.2	0.4	2	[illegible]
[illegible]	1	0.2	0.4	2	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 17. [illegible] of major invertebrate species in grab collections [illegible]
Amphipoda; [illegible]; D = Decapoda; [illegible]
[illegible]; M = Mollusca; My = Mysidacea; [illegible]
[illegible]

DS15

Species	Total Number	Number [illegible] $\bar{X}$	SD	[illegible]	[illegible]
[illegible] (M)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (M)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nemertina (undet.)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (M)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	12	[illegible]
[illegible] (A)	[illegible]	[illegible]	[illegible]	12	14.5
[illegible]	[illegible]	1.2	[illegible]	12	14.5
[illegible] (P)	[illegible]	1.2	[illegible]	12	14.5
[illegible] (M)	[illegible]	[illegible]	[illegible]	[illegible]	17.0
[illegible] (A)	[illegible]	[illegible]	[illegible]	[illegible]	20.5
[illegible] brasiliensis (A)	[illegible]	[illegible]	[illegible]	[illegible]	20.5
[illegible] smithi (D)	[illegible]	0.8	[illegible]	8	20.5
[illegible] (M)	[illegible]	0.8	0.4	8	20.5
[illegible] (P)	[illegible]	0.8	0.4	8	20.5
[illegible] (P)	[illegible]	0.8	[illegible]	8	20.5
[illegible] (A)	[illegible]	[illegible]	0.9	6	30.5
[illegible] sp. (A)	[illegible]	[illegible]	0.9	6	30.5
[illegible] sp. (A) (D)	3	[illegible]	0.9	6	30.5
[illegible]	[illegible]	[illegible]	[illegible]	6	30.5
[illegible] (M)	[illegible]	[illegible]	0.9	6	30.5
[illegible] (M)	[illegible]	[illegible]	0.9	6	30.5
[illegible] (M)	3	[illegible]	0.5	6	30.5
[illegible] (M)	3	[illegible]	0.5	6	30.5
[illegible]	3	[illegible]	0.9	6	30.5
[illegible]	3	[illegible]	0.9	6	30.5
[illegible]	3	[illegible]	[illegible]	6	30.5
[illegible]	[illegible]	[illegible]	0.5	6	30.5
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30.5
[illegible]	3	[illegible]	[illegible]	[illegible]	30.5
[illegible] (A) (D)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] sp. (A) (M)	[illegible]	0.4	[illegible]	[illegible]	[illegible]
[illegible] (A)	[illegible]	0.4	[illegible]	[illegible]	[illegible]
[illegible]	2	[illegible]	[illegible]	[illegible]	[illegible]
Turbellaria (undet.)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (undet.) (A) (M)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (P)	[illegible]	[illegible]	0.9	[illegible]	[illegible]
[illegible] (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	0.2	[illegible]	2	[illegible]
[illegible]	[illegible]	0.2	[illegible]	2	[illegible]
[illegible]	[illegible]	0.2	[illegible]	2	[illegible]
[illegible] (D)	[illegible]	0.2	[illegible]	2	[illegible]
[illegible] (A)	[illegible]	0.2	[illegible]	2	[illegible]
[illegible] (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (A)	[illegible]	[illegible]	[illegible]	2	[illegible]
[illegible] (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (M)		[illegible]	[illegible]	[illegible]	[illegible]
[illegible] sp. (M)		[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
[illegible] sp. (M)		[illegible]	[illegible]	[illegible]	[illegible]

Table [illegible] cont.

Species	Total Number	Number %	Freq SP	Estimated Number TP	Rank by Number
[illegible] Mo	1	0.2	0.4	2	p3.5
[illegible] Mo	1	0.2	0.4	2	p3.5
[illegible] S	1	0.2	0.4	2	p3.5
[illegible]	1	0.2	0.4	2	p3.5
[illegible] P	1	0.2	0.4	2	p3.5
[illegible] (P)	1	0.2	0.4	2	p3.5
[illegible] (P)	1	0.2	0.4	2	p3.5
[illegible] P	1	0.2	0.4	2	p3.5
[illegible] S P	1	0.2	0.4	2	p3.5
[illegible] (P)	1	0.2	0.4	2	p3.5
[illegible] (P)	1	0.2	0.4	2	p3.5
[illegible] S P	1	0.2	0.4	2	p3.5
[illegible] (P)	1	0.2	0.4	2	p3.5
[illegible]	1	0.2	0.4	2	p3.5
[illegible] (P)	1	0.2	0.4	2	p3.5
[illegible]	1	0.2	0.4	2	p3.5
[illegible]	1	0.2	0.4	2	p3.5
[illegible]	1	0.2	0.4	2	p3.5
[illegible]	1	0.2	0.4	2	p3.5

Table [illegible]. Annelida [illegible] invertebrate species in grab [illegible] from [illegible] [illegible]
Br = Brachiopoda; C = Cnidaria; E = Echinoderm; I = Hydroid; [illegible]
E = Echinoid; I = Isopoda; M = Mollusca; Mb = Mysidacea; P = Polychaeta; [illegible]
T = Tanaidacea.

Species	DS16 Total Number	Number Mean	Number SD	Estimated Number per [illegible]	Rank by Number
Ampharetidae (A)	449	89.[illegible]	38.[illegible]	892	1.0
Aphelochaeta filiformis (S)	173	35.[illegible]	6.8	356	2.[illegible]
Nemidotes [illegible] (P)	128	25.6	12.[illegible]	256	3.0
Scolelepis sp. A (S)	121	24.2	14.9	242	4.0
Tomidibis carolinae (P)	115	23.0	11.5	230	5.0
Nemertea (indet.)	111	22.2	14.7	222	6.0
Paraleucothoe imbrina (P)	91	18.2	9.9	182	7.5
Sabellidae (indet.) B (P)	91	18.2	14.1	182	7.5
Prionospio (Prionospio) pinnata (P)	88	17.6	9.0	176	9.0
Ampeliscidae (indet.) A (I)	70	14.[illegible]	14.4	140	10.0
Nereiphylla [illegible] (P)	54	10.8	4.[illegible]	108	11.0
Phoxocephalidae (indet.) (P)	51	10.2	5.6	102	12.0
[illegible] (M)	48	9.6	6.2	96	13.0
Leptosynapta [illegible] (E)	39	7.8	3.8	78	14.0
[illegible] (indet.)	34	6.8	3.2	68	15.0
Glycera dagestani [illegible] (P)	32	6.4	4.7	64	16.0
Tellina [illegible] (M)	29	5.8	5.4	58	17.0
[illegible] (P)	26	5.2	3.6	52	18.0
Leptocheirus rhoax (T)	23	5.0	3.7	50	20.0
Glycera [illegible] (P)	25	5.0	2.7	50	20.0
[illegible] (P)	25	5.0	2.3	50	20.0
[illegible] floridanus (A)	24	4.8	3.6	48	22.0
[illegible] (P)	22	4.4	3.5	44	24.0
[illegible] (P)	22	4.4	4.4	44	24.0
[illegible] (P)	22	4.4	4.3	44	24.0
[illegible] sp. B (S)	21	4.2	1.3	42	26.0
Sipunculida (indet.)	20	4.0	2.3	40	27.0
[illegible] sp. (P)	19	3.8	1.9	38	28.0
[illegible] (M)	18	3.6	4.[illegible]	36	29.0
[illegible] pyramidata (B)	17	3.4	2.2	34	30.0
Terebellidae (indet.) B (P)	16	3.2	1.9	32	31.5
[illegible] (P)	16	3.2	3.[illegible]	32	31.5
[illegible] (D)	15	3.0	1.7	30	35.0
[illegible] sp. (A)	15	3.0	2.[illegible]	30	35.0
[illegible] (I)	15	3.0	2.3	30	35.0
[illegible] (P)	15	3.0	3.2	30	35.0
[illegible] (P)	15	3.0	4.[illegible]	30	35.0
[illegible] (M)	14	2.8	2.3	28	38.5
[illegible] (P)	14	2.8	3.[illegible]	28	38.5
[illegible] (I)	13	2.6	[illegible]	26	40.5
[illegible] (P)	13	2.6	[illegible]	26	40.5
[illegible] (P)	12	2.4	[illegible]	24	43.5
[illegible] (P)	12	2.4	[illegible]	24	43.5
[illegible] (P)	12	2.4	[illegible]	24	43.5
[illegible] (M)	11	2.2	[illegible]	22	45.5
[illegible] (A)	8	1.6	[illegible]	16	47.5
[illegible] (A)	8	1.6	[illegible]	16	50.5
[illegible] (P)	8	1.6	[illegible]	16	50.5
[illegible] (indet.)	7	1.4	[illegible]	14	53.5
[illegible] (indet.) A (M)	7	1.4	[illegible]	14	53.5
[illegible] (indet.)	7	1.4	[illegible]	14	53.5
[illegible] (M)	7	1.4	[illegible]	14	[illegible]
[illegible] (P)	7	1.4	[illegible]	14	[illegible]
[illegible] (P)	7	1.4	[illegible]	14	[illegible]
[illegible]	7	1.4	[illegible]	14	[illegible]
[illegible] (indet.) (B)	7	1.4	[illegible]	14	[illegible]
[illegible] (P)	7	1.4	[illegible]	14	[illegible]

Table [illegible] cont.

Species	Total Number	Number %	Weight %	Estimated Number	Rank by Number
[illegible] (P)	7	1.4	1.8	14	55.5
[illegible] (P)	7	1.4	1.8	14	55.5
[illegible] (P)	7	1.4	1.1	14	55.5
[illegible] (P)	7	1.4	1.9	14	55.5
[illegible] (P)	6	1.2	1.3	12	64.5
[illegible] (M)	6	1.2	3.3	12	64.5
[illegible] (A, M)	6	1.2	3.8	12	64.5
[illegible]	6	1.2	2.2	12	64.5
[illegible] (P)	6	1.2	1.3	12	64.5
[illegible] (P)	5	1.0	1.7	10	72.5
[illegible]	5	1.0	1.4	10	72.5
[illegible] (A)	5	1.0	1.7	10	72.5
[illegible] (indet.)	5	1.0	1.2	10	72.5
[illegible] (P)	5	1.0	1.0	10	72.5
[illegible] (indet.) (B)	5	1.0	[illegible]	10	72.5
[illegible] (P)	5	1.0	1.1	10	72.5
[illegible] (M)	5	1.0	1.0	10	72.5
[illegible]	5	1.0	1.2	10	72.5
[illegible] (P)	5	1.0	1.2	10	72.5
[illegible] (P)	5	1.0	1.7	10	72.5
[illegible]	4	0.8	1.3	8	82.5
[illegible] (indet.) (A)	4	0.8	2.4	8	82.5
[illegible] (A)	4	0.8	1.5	8	82.5
[illegible]	4	0.8	0.8	8	82.5
[illegible] (M)	4	0.8	0.8	8	82.5
[illegible] (indet.) (P)	4	0.8	1.1	8	82.5
[illegible] (indet.) (B)	4	0.8	1.5	8	82.5
[illegible] (P)	4	0.8	0.4	8	82.5
[illegible] (indet.) (A, P)	4	0.8	0.5	8	82.5
[illegible] (P)	4	0.8	1.3	8	82.5
[illegible] (indet.) (P)	3	0.6	1.3	6	94.5
[illegible] (indet.) (P)	3	0.6	0.9	6	94.5
[illegible] (indet.) (P)	3	0.6	0.5	6	94.5
[illegible] (M)	3	0.6	2.5	6	94.5
[illegible] (M)	3	0.6	1.3	6	94.5
[illegible] (M)		0.6	0.5	6	94.5
[illegible] (M)	3	0.6	0.9	6	94.5
[illegible] (P)	3	0.6	0.5	6	94.5
[illegible] (A, P)	3	0.6	0.9	6	94.5
[illegible] (P)	3	0.6	0.9	6	94.5
[illegible] (P)	3	0.6	0.9	6	94.5
[illegible] (P)	3	0.6	1.3	6	94.5
[illegible] (P)	3	0.6	0.9	6	94.5
[illegible] (P)	2	0.4	0.9	4	113.5
[illegible] (indet.) (A)	2	0.4	0.5	4	113.5
[illegible] (A)	2	0.4	0.5	4	113.5
[illegible] (M)	2	0.4	0.5	4	113.5
[illegible]	2	0.4	0.5	4	113.5
[illegible] (P)	2	0.4	0.5	4	113.5
[illegible] (indet.) (B, P)	2	0.4	0.9	4	113.5
[illegible] (M)	2	0.4	0.5	4	113.5
[illegible] (M)	2	0.4	0.5	4	113.5
[illegible] (M)	2	0.4	[illegible]	4	113.5
[illegible] (M)	2	0.4	0.5	4	113.5
[illegible] (M)	2	0.4	0.4	4	113.5
[illegible] (indet.)	2	0.4	0.5	4	113.5
[illegible] (M)	2	0.4	0.5	4	113.5
[illegible] (M)	2	0.4	0.4	4	113.5
[illegible] (M)	2	0.4	0.4	4	113.5

Table 4. (cont.)

Species	Total Number	Number/m² X̄	SD	Estimated Number m²	Rank by Number
[illegible] (A)	2	0.4	0.9	4	113.5
[illegible]	2	0.4	0.9	4	[illegible]
[illegible] (undet.) (A)	2	0.4	[illegible]	4	113.5
Syllis [illegible]	2	0.4	1.5	4	113.5
[illegible] (undet.)	2	0.4	0.9	4	[illegible]
[illegible] (F)	2	0.4	[illegible]	4	113.5
[illegible]	2	0.4	[illegible]	4	113.5
[illegible] (F)	2	0.4	[illegible]	4	113.5
Calanoidae (undet.) (D)	1	0.2	0.4	2	145.5
Cumacea (undet.) (F)	1	0.2	0.4	2	145.5
Trichobranchus brasiliensis (A)	1	0.2	0.4	2	145.5
[illegible] (A)	1	0.2	0.4	2	145.5
[illegible] (A)	1	0.2	0.4	2	145.5
Nereidae (undet.)	1	0.2	0.4	2	145.5
[illegible] (undet.)	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible] (undet.)	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible] (undet.)	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible] (undet.)	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible] (undet.)	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	145.5
[illegible]	1	0.2	0.4	2	[illegible]
[illegible]	1	0.2	0.4	2	[illegible]
[illegible]	1	0.2	0.4	2	[illegible]
[illegible]	1	[illegible]	[illegible]	2	[illegible]
[illegible]	1	[illegible]	[illegible]	2	[illegible]
[illegible]	1	[illegible]	[illegible]	2	[illegible]
[illegible]	1	[illegible]	[illegible]	2	[illegible]
[illegible]	1	[illegible]	[illegible]	2	145.5
[illegible]	1	[illegible]	[illegible]	2	[illegible]
[illegible]	1	0.2	0.4	2	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	2	[illegible]

Table 59. Abundance of macroinvertebrate species in grab collections from station DS17. (A = Amphipoda; C = Cumacea; Cc = Cephalochordata; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; I = Isopoda; M = Mollusca; My = Mysidacea; P = Polychaeta; S = Sipuncolida).

Species	DS17 Total Number	Number/0.1m² x̄	Number/0.1m² SD	Estimated Number/m²	Rank by Number
Tellina probrina (M)	29	5.8	1.8	58	1.0
Nephtys picta (P)	24	4.8	1.8	48	2.0
Protohaustorius nr. deichmannae (A)	23	4.6	2.9	46	3.5
Melita quinquiesperforata (E)	23	4.6	2.2	46	3.5
Trichophoxus epistomus (A)	21	4.2	6.0	42	5.5
Strigilla mirabilis (M)	21	4.2	4.9	42	5.5
Bathyporeia parkeri (A)	19	3.8	3.6	38	7.0
Magelona sp. (Day 73) (P)	18	3.6	5.4	36	8.0
Acanthohaustorius sp. (A)	16	3.2	2.0	32	9.0
Spiophanes bombyx (P)	10	2.0	1.0	20	10.5
Onuphis eremita (P)	10	2.0	1.6	20	10.5
Nonlandidea (undet.) A (E)	7	1.4	2.2	14	12.5
Ervilia concentrica (M)	7	1.4	0.5	14	12.5
Nemertina (indet.) A	6	1.2	1.8	12	15.0
Lepidasia bona (Ec)	6	1.2	1.3	12	15.0
Glycera oxycephala (P)	6	1.2	2.2	12	15.0
Oxyurostylis smithi (C)	5	1.0	1.2	10	17.0
Cirrh tropakis (A)	4	0.8	0.8	8	19.0
Aspidosiphon misakiensis (S)	4	0.8	1.1	8	19.0
Magelona papillicornis (P)	4	0.8	1.3	8	19.0
Pseudoplatyischnopus floridanus (A)	3	0.6	0.5	6	23.0
Tirobellaria (undet.)	3	0.6	0.9	6	23.0
Discoporella umbellata (Ec)	3	0.6	0.9	6	23.0
Tellina texana (M)	3	0.6	1.3	6	23.0
Scolelepis texana (P)	3	0.6	0.9	6	23.0
Alpunea pirsetti (D)	2	0.4	0.5	4	27.5
Nostrania sp. A (M)	2	0.4	0.5	4	27.5
Nereiada littorea (P)	2	0.4	0.5	4	27.5
Cirratulidae (undet.) B (P)	2	0.4	0.5	4	27.5
Branchiostoma caribaeum (Cc)	1	0.2	0.4	2	41.5
Pagurus longicarpus (D)	1	0.2	0.4	2	41.5
Leptopa webster (D)	1	0.2	0.4	2	41.5
Synchelidium americanum (A)	1	0.2	0.4	2	41.5
Amphipoda (undet.) A	1	0.2	0.4	2	41.5
Mesopsacrus sp. A (My)	1	0.2	0.4	2	41.5
Ampelisca verrilli (A)	1	0.2	0.4	2	41.5
Apanthura magnifica (I)	1	0.2	0.4	2	41.5
Nemertina (undet.) B	1	0.2	0.4	2	41.5
Nitidella nitida (M)	1	0.2	0.4	2	41.5
Anomia simplex (M)	1	0.2	0.4	2	41.5
Anachis obesa (M)	1	0.2	0.4	2	41.5
Nitia savana (M)	1	0.2	0.4	2	41.5
Aspidosiphon spinalis (S)	1	0.2	0.4	2	41.5
Magelona sp. A (P)	1	0.2	0.4	2	41.5
Tharyx marioni (P)	1	0.2	0.4	2	41.5
Tripolyspio pallix (P)	1	0.2	0.4	2	41.5
Axinothella mucosa (P)	1	0.2	0.4	2	41.5
Notomastus hemipodus (P)	1	0.2	0.4	2	41.5
Owenia fusiformis (P)	1	0.2	0.4	2	41.5
Orbiniella magna (P)	1	0.2	0.4	2	41.5
Ariciidae sp. A (P)	1	0.2	0.4	2	41.5
Oligochaeta (undet.)	1	0.2	0.4	2	41.5
Prionospio dayi (P)	1	0.2	0.4	2	41.5

Table [illegible]. Abundance of macroinvertebrate species in grab collections from station DS18. (A = Amphipoda; Br = Brachiopoda; C = Cumacea; Cc = Cephalochordata; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; I = Isopoda; M = Mollusca; P = Polychaeta; S = Sipunculida).

Species	DS18 Total Number	Number/0.1m² $\bar{X}$	Number/0.1m² SD	Estimated Number/m²	Rank by Number
Prionospio pinnata (P)	186	37.2	48.2	372	1.0
Grandidierella bahamensis (Cc)	89	17.8	23.4	178	2.0
Unciola burkenroadi (C)	52	10.4	10.1	104	3.0
Erichsonella floridanus (A)	41	8.2	7.3	82	4.0
Spiophanes bombyx (P)	35	7.0	8.6	70	5.0
Hemipodus roseus (P)	34	6.8	14.1	68	6.0
Olivella oxycoccala (P)	23	4.6	2.3	46	7.0
Polycirrus eximius (P)	18	3.6	7.5	36	8.0
Cyclaspis varians (C)	16	3.2	2.6	32	10.0
Crassinella lunulata (M)	16	3.2	3.0	32	10.0
Asphelosiphon spinalis (S)	16	3.2	3.8	32	10.0
Nemertina (undet.) A	14	2.8	2.4	28	12.0
Ervilia concentrica (M)	13	2.6	2.3	26	13.0
Aphelochaeta magnifica (P)	12	2.4	1.7	24	14.5
Lumbrineris latreilli (P)	12	2.4	2.9	24	14.5
Nereis succinea (P)	11	2.2	2.7	22	16.0
Acanthonaustorius sp. (A)	10	2.0	3.1	20	17.5
Magelona pitta (P)	10	2.0	2.0	20	17.5
Nematoda (undet.)	9	1.8	2.0	18	20.5
Axiothella mucosa (P)	9	1.8	1.9	18	20.5
Diopatra cuprea (P)	9	1.8	2.7	18	20.5
Eulalia sanguinea (P)	9	1.8	1.8	18	20.5
Pseudoplatyhamopus floridanus (A)	8	1.6	1.9	16	24.0
Tellina proparina (M)	8	1.6	1.5	16	24.0
Hydroides protulipula (P)	8	1.6	2.2	16	24.0
Protohaustorius sp. nr. Leichmannae (A)	7	1.4	2.6	14	27.5
Tiron tropakis (A)	7	1.4	0.9	14	27.5
Crepidula sp. (M)	7	1.4	2.1	14	27.5
Tharyx marioni (P)	7	1.4	2.6	14	27.5
Axinopsella smithi (C)	6	1.2	1.3	12	30.0
Batonareia parkeri (A)	5	1.0	1.0	10	33.5
Lilljeborgia sp. (A)	5	1.0	1.2	10	33.5
Erichthonius brasiliensis (A)	5	1.0	1.7	10	33.5
Ampelisca eremita (P)	5	1.0	2.2	10	33.5
Spio pettibonneae (P)	5	1.0	1.0	10	33.5
Phyllodoce irenae (P)	5	1.0	1.2	10	33.5
Crassinella martinicensis (M)	4	0.8	1.3	8	38.0
Serpulus vermicularis granulosa (P)	4	0.8	0.8	8	38.0
Ampelisca eremita (P)	4	0.8	0.8	8	38.0
Pagurus longicarpus (D)	3	0.6	0.9	6	41.5
Tomlilides [illegible] (P)	3	0.6	0.4	6	41.5
Cossuramerings rudolphi (P)	3	0.6	0.5	6	41.5
Cirrophorus lyra (P)	3	0.6	0.9	6	41.5
Heteromysis formosa (D)	2	0.4	0.5	4	50.0
Glasmopus lewis (A)	2	0.4	0.5	4	50.0
Tiralana polita (I)	2	0.4	0.5	4	50.0
Nemertina (undet.) B	2	0.4	0.5	4	50.0
Melita quinquesperforata (E)	2	0.4	0.9	4	50.0
Calyptraea centralis (M)	2	0.4	0.5	4	50.0
Asphelosiphon miskiensis (S)	2	0.4	0.9	4	50.0
Cirratulidae (undet.) B (P)	2	0.4	0.5	4	50.0
Cirrophorus furciformis (P)	2	0.4	0.9	4	50.0
Nephtys incisa (P)	2	0.4	0.5	4	50.0
Nephtys squamosa (P)	2	0.4	0.9	4	50.0
Armandia maculata (P)	2	0.4	0.5	4	50.0
Polydoraria californiensis (P)	2	0.4	0.9	4	50.0
Tellinoides [illegible] (M)	1	0.2	0.4	2	71.5
Brachyura (undet.) B (D)	1	0.2	0.4	2	71.5
Tanaidacea (undet.) (I)	1	0.2	0.4	2	71.5
Amphipoda (undet.) A	1	0.2	0.4	2	71.5

Table 20. Cont.

Species	Total Number	Number/0.1m² $\bar{x}$	Number/0.1m² SD	Estimated Number/m²	Rank by Number
	DS18				
Eurylice littoralis (I)	1	0.2	0.4	2	71.5
Magra williamsi (A)	1	0.2	0.4	2	71.5
Ampelisca verrilli (A)	1	0.2	0.4	2	71.5
Batea catharinensis (A)	1	0.2	0.4	2	71.5
Anchinus depressus (I)	1	0.2	0.4	2	71.5
Coropnium tuberculatum (A)	1	0.2	0.4	2	71.5
Holothuroidea (undet.) B (E)	1	0.2	0.4	2	71.5
Blottidia pyramidata (Br)	1	0.2	0.4	2	71.5
Discoporella umbellata (Ec)	1	0.2	0.4	2	71.5
Strigilla mirabilis (M)	1	0.2	0.4	2	71.5
Natica pusilla (M)	1	0.2	0.4	2	71.5
Tellina texana (M)	1	0.2	0.4	2	71.5
Semele bellastriata (M)	1	0.2	0.4	2	71.5
Semele nuculoides (M)	1	0.2	0.4	2	71.5
Mitrella lunata (M)	1	0.2	0.4	2	71.5
Nucula proxima (M)	1	0.2	0.4	2	71.5
Spisula solidissima (M)	1	0.2	0.4	2	71.5
Pelecypoda (undet.)	1	0.2	0.4	2	71.5
Hypera americana (P)	1	0.2	0.4	2	71.5
Magelona sp. (Dav 73) (P)	1	0.2	0.4	2	71.5
Sabellaria vulgaris (P)	1	0.2	0.4	2	71.5
Ancistrosyllis jonesi (P)	1	0.2	0.4	2	71.5
Owenia fusiformis (P)	1	0.2	0.4	2	71.5
Scolelepis texana (P)	1	0.2	0.4	2	71.5
Oligochaeta (undet.)	1	0.2	0.4	2	71.5
Chrysopetalidae (undet.) (P)	1	0.2	0.4	2	71.5

Table 51. Abundance of macroinvertebrate species in grab collections from station DS19. (A = Amphipoda; C = Cumacea; Cc = Cephalochordata; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; I = Isopoda; M = Mollusca; P = Polychaeta; S = Sipunculida).

DS19					
Species	Number	Number/0.1m² $\bar{X}$	Number/0.1m² SD	Estimated Number m⁻²	Rank by Number
Branchiostoma caribaeum (Cc)	37	7.4	13.3	74	1.0
Tellina probrina (M)	35	7.0	4.0	70	2.5
Onuphis eremita (P)	35	7.0	7.6	70	2.5
Spiophanes bombyx (P)	27	5.4	4.9	54	4.0
Acanthonaustorius sp. (A)	25	5.0	4.5	50	5.0
Strigilla mirabilis (M)	24	4.8	3.5	48	6.0
Spio pettiboneae (P)	21	4.2	7.7	42	7.0
Nematoda (undet.)	20	4.0	5.5	40	8.5
Crassinella lunulata (M)	20	4.0	5.7	40	8.5
Goniadides carolinae (P)	17	3.4	7.6	34	10.0
Discoporella umbellata (Ec)	16	3.2	2.4	32	11.5
Prionospio fallax (P)	16	3.2	7.2	32	11.5
Nephtys picta (P)	13	2.6	2.6	26	13.0
Trichophoxus floridanus (A)	12	2.4	2.5	24	15.0
Nemertina (undet.) (A)	12	2.4	0.9	24	15.0
Glycera oxycephala (P)	12	2.4	2.5	24	15.0
Lucinidae (undet.) (A, M)	11	2.2	2.8	22	17.0
Pagurus longicarpus (D)	10	2.0	4.5	20	18.5
Cyathura burbancki (I)	10	2.0	2.3	20	18.5
Batyporeia parkeri (A)	9	1.8	1.3	18	20.0
Protohaustorius nr. Reichmannae (A)	6	1.2	1.6	12	22.0
Ervilia concentrica (M)	6	1.2	1.1	12	22.0
Tharyx marioni (P)	6	1.2	2.7	12	22.0
Pseudoplatyishnopus floridianus (A)	5	1.0	1.0	10	24.0
Heterocrypta granulata (D)	4	0.8	1.8	8	25.5
Trichophoxus epistomus (A)	4	0.8	0.4	8	25.5
Brachyura (undet.) (A, D)	3	0.6	0.5	6	30.0
Oxyurostylis smithi (C)	3	0.6	0.9	6	30.0
Lumbrineris latreilli (P)	3	0.6	0.9	6	30.0
Owenia fusiformis (P)	3	0.6	1.3	6	30.0
Armandia maculata (P)	3	0.6	1.3	6	30.0
Prionospio dayi (P)	3	0.6	0.9	6	30.0
Sigambra bassi (P)	3	0.6	0.9	6	30.0
Liljeborgia sp. (A)	2	0.4	0.5	4	38.5
Cyclaspis varians (C)	2	0.4	0.5	4	38.5
Mellita quinquiesperforata (E)	2	0.4	0.9	4	38.5
Ophiophragmus sp. A (E)	2	0.4	0.5	4	38.5
Tupuladria doma (Ec)	2	0.4	0.9	4	38.5
Magelona sp. (Day 73) (P)	2	0.4	0.9	4	38.5
Scoloplos rubra (P)	2	0.4	0.5	4	38.5
Nereis succinea (P)	2	0.4	0.5	4	38.5
Chrysopetalidae (undet.) (P)	2	0.4	0.9	4	38.5
Spiophanes wiglevi (P)	2	0.4	0.9	4	38.5
Albunea paraloi (D)	1	0.2	0.4	2	54.0
Hepatus epheliticus (D)	1	0.2	0.4	2	54.0
Gembos unicornis (A)	1	0.2	0.4	2	54.0
Amphipoda (undet.) (A)	1	0.2	0.4	2	54.0
Hippomedon serratus (A)	1	0.2	0.4	2	54.0
Tiron tropakis (A)	1	0.2	0.4	2	54.0
Olivella savana (M)	1	0.2	0.4	2	54.0
Spisula solidissima (M)	1	0.2	0.4	2	54.0
Abra aequalis (M)	1	0.2	0.4	2	54.0
Sipunculus nudus (S)	1	0.2	0.4	2	54.0
Nereis acuminata (P)	1	0.2	0.4	2	54.0
Anaitrosyllis linesi (P)	1	0.2	0.4	2	54.0
Neanthes unisa (P)	1	0.2	0.4	2	54.0
Nereiphylla pulosa (P)	1	0.2	0.4	2	54.0
Spiophanetes castarum unilatus (P)	1	0.2	0.4	2	54.0
Prionospio magna (P)	1	0.2	0.4	2	54.0
Magelona capillifornis (P)	1	0.2	0.4	2	54.0
Sigalionis texana (P)	1	0.2	0.4	2	54.0
Diopatra cuprea floridensis (P)	1	0.2	0.4	2	54.0
Pilargis maculata (P)	1	0.2	0.4	2	54.0
Ophiuroidea (undet.) (E)	1	0.2	0.4	2	54.0

Table 31. Abundance of macroinvertebrate species in grab collections from station DS29. A = Amphipoda; Br = Brachiopoda; C = Cumacea; Ch = Chordata; D = Decapoda; E = Echinodermata; Ec = Echiuroidea; I = Isopoda; M = Mollusca; P = Polychaeta; S = Sipunculidea.

Species	Total Number	Number 0.1 m² $\bar{X}$	Number 0.1 m² SD	Estimated Number m²	Rank by Number
Tellina probrina (M)	103	20.6	13.2	206	1.0
Discoporella umbellata (Br)	33	6.6	5.0	66	2.5
Neptys picta (P)	33	6.6	2.4	66	2.5
Nematoda (undet.)	24	4.8	5.6	48	4.0
Spiophanes bombyx (P)	23	4.6	1.8	46	5.0
Acanthohaustorius sp. (A)	20	4.0	3.8	40	6.5
Trichophoxus epistomus (A)	20	4.0	3.5	40	6.5
Prionospio dayi (P)	18	3.6	1.1	36	8.0
Bathyporeia parkeri (A)	17	3.4	4.3	34	9.0
Strigilla mirabilis (M)	15	3.0	2.2	30	10.5
Glycera oxycephala (P)	15	3.0	2.3	30	10.5
Protohaustorius sp. cf. deichmannae (A)	14	2.8	2.8	28	12.0
Tellina texana (M)	13	2.6	1.1	26	13.0
Nemertina (undet.) A	12	2.4	0.9	24	14.0
Branchiostoma caribaeum (C)	11	2.2	2.7	22	15.0
Tiron tropakis (A)	10	2.0	1.4	20	17.0
Ervilia concentrica (M)	10	2.0	0.7	20	17.0
Magelona sp. (Day '73) (P)	10	2.0	1.0	20	17.0
Melita nitidulesperforata (E)	7	1.4	1.1	14	19.5
Ophiophragmus sp. A (E)	7	1.4	1.1	14	19.5
Pseudoplatyischnopus floridanus (A)	6	1.2	0.8	12	21.0
Oxyurostylis smithi (I)	5	1.0	1.4	10	22.5
Chaetopterus cremita (P)	5	1.0	1.2	10	22.5
Synchelidium americanum (A)	4	0.8	0.8	8	26.0
Turbellaria (undet.)	4	0.8	1.1	8	26.0
Natica pusilla (M)	4	0.8	0.4	8	26.0
Crassinella lunulata (M)	4	0.8	0.8	8	26.0
Nereis litorea (P)	4	0.8	0.8	8	26.0
Pagurus longicarpus (D)	3	0.6	0.9	6	32.5
Amphipoda (undet.) A	3	0.6	1.3	6	32.5
Asprilasiphon nisakiensis (S)	3	0.6	0.9	6	32.5
Aglaophamus verrilli (P)	3	0.6	1.3	6	32.5
Owenia fusiformis (P)	3	0.6	0.9	6	32.5
Magelona papillicornis (P)	3	0.6	0.5	6	32.5
Scolelepis texana (P)	3	0.6	0.9	6	32.5
Prionospio cristata (P)	3	0.6	0.9	6	32.5
Nemertes antennata (A)	2	0.4	0.9	4	42.0
Ostracoda (undet.)	2	0.4	0.5	4	42.0
Lucinidae (undet.) A, M)	2	0.4	0.5	4	42.0
Glycera sp. (Jar.) (P)	2	0.4	0.5	4	42.0
Terratulinae (undet.) B, P)	2	0.4	0.9	4	42.0
Neoptys incisa (P)	2	0.4	0.9	4	42.0
Nereis succinea (P)	2	0.4	0.9	4	42.0
Arbacia sp. A, P)	2	0.4	0.9	4	42.0
Paraonidae (undet.) (P)	2	0.4	0.5	4	42.0
Spio pettibonei (P)	2	0.4	0.9	4	42.0
Haploscoloplos foliosus (P)	2	0.4	0.9	4	42.0
Trichopeneus constrictus (D)	1	0.2	0.4	2	54.5
Brachyura (undet.) A (D)	1	0.2	0.4	2	54.5
Brachyura (undet.) B, D)	1	0.2	0.4	2	54.5
Lepidopa benedicti (D)	1	0.2	0.4	2	54.5
Ophiuroidea (undet.) (E)	1	0.2	0.4	2	54.5
Trichophoxus floridanus (A)	1	0.2	0.4	2	54.5
Rhepoxynius brasiliensis (A)	1	0.2	0.4	2	54.5
[illegible] sp. (A)	1	0.2	0.4	2	54.5
Turbonilla stimpsoni (M)	1	0.2	0.4	2	54.5
[illegible] (M)	1	0.2	0.4	2	54.5
[illegible] (undet.) B	1	0.2	0.4	2	54.5
[illegible] (Ec)	1	0.2	0.4	2	54.5
[illegible] (M)	1	0.2	0.4	2	54.5
[illegible] (M)	1	0.2	0.4	2	54.5
[illegible] (undet.) A, M)	1	0.2	0.4	2	54.5
[illegible] (undet.) (M)		0.2	0.4	2	54.5
[illegible] (undet.) (M)		0.2	0.4	2	54.5

Table [illegible]. (Cont.)

(052)

Species	Total Number	Number/0.1m² X	Number/0.1m² SD	Estimated Number/m²	Rank by Number
Mitrella lunata (M)	1	0.2	0.4	2	64.5
Thama macrophylla (M)	1	0.2	0.4	2	64.5
Terebra concava (M)	1	0.2	0.4	2	64.5
Unknown Taxon A	1	0.2	0.4	2	64.5
Tharyx marioni (P)	1	0.2	0.4	2	64.5
Eteone lactea (P)	1	0.2	0.4	2	64.5
Lumbrinereis laterilli (P)	1	0.2	0.4	2	64.5
Loimia medusa (P)	1	0.2	0.4	2	64.5
Aricidea suecica (P)	1	0.2	0.4	2	64.5
Anaphis nebulosa (P)	1	0.2	0.4	2	64.5
Spiochaetopterus costarum oculatis (P)	1	0.2	0.4	2	64.5
Diopatra cuprea (P)	1	0.2	0.4	2	64.5
Oligochaeta (indet.)	1	0.2	0.4	2	64.5
Nothrisus spiniferus (P)	1	0.2	0.4	2	64.5
Terebellidae (indet.) (P)	1	0.2	0.4	2	64.5
Sabellariidae (indet.) (P)	1	0.2	0.4	2	64.5

Table [illegible]. Abundance of macroinvertebrate species in grab collections from station [illegible]. (A = Amphipoda; I = Isopoda; D = Decapoda; E = Echinodermata; E[illegible] = Entoprocta; M = Mollusca; P = Polychaeta; Py = Pycnogonida; S = Sipunculidia).

Species	Total Number	Number ±	Limit SD	Estimated Number per	Rank by Number
Spio pettibonnae (P)	172	[illegible]	[illegible]	[illegible]	1.0
Neanthes succinea (P)	90	[illegible]	[illegible]	132	2.0
Diadumene cincta (E)	55	[illegible]	[illegible]	[illegible]	3.0
Protomedeia nr. fasciata (A)	49	[illegible]	[illegible]	68	4.0
Mellita quinquiesperforata (E)	23	[illegible]	[illegible]	[illegible]	5.0
Turridae (undet.) (M)	21	[illegible]	[illegible]	[illegible]	6.0
Tellina texana (M)	14	[illegible]	[illegible]	[illegible]	7.0
Ervilia concentrica (M)	12	[illegible]	[illegible]	20	8.0
Pseudoplatyischnopus floridanus (A)	11	[illegible]	[illegible]	22	10.5
Nemertina (undet.) (A)	11	[illegible]	[illegible]	22	10.5
Aspidosiphon misakiensis (S)	11	[illegible]	[illegible]	22	10.5
Magelona sp. (P)	11	[illegible]	[illegible]	22	10.5
Onuphis eremita (P)	10	[illegible]	[illegible]	[illegible]	11.5
Prionospio dayi (P)	10	[illegible]	[illegible]	[illegible]	13.0
Neanthes succinea (P)	8	[illegible]	[illegible]	[illegible]	16.0
Scionopes bomyx (P)	8	[illegible]	[illegible]	[illegible]	17.0
Phyllodoce arenae (P)	5	[illegible]	[illegible]	[illegible]	19.0
Strigilla mirabilis (M)	5	[illegible]	[illegible]	[illegible]	19.0
Tellina iridina (M)	5	[illegible]	[illegible]	[illegible]	19.0
Leptocheirus sp. A (A)	4	0.8	0.5	8	23.0
Erichsonella epistomus (A)	4	0.8	[illegible]	8	23.0
Barleeia rubella (M)	4	[illegible]	0.4	8	23.0
Anticlinum [illegible] (M)	4	[illegible]	0.8	8	23.0
Anticlinum [illegible] (S)	4	0.8	0.4	8	23.0
Tellina sp. (P)	3	0.6	0.9	6	29.5
Erichsonella [illegible] (A)	3	0.6	0.4	6	29.5
Strunia [illegible] (M)	3	0.6	0.9	6	29.5
Nucula [illegible] (M)	3	0.6	0.4	6	29.5
Tellina [illegible] (M)	3	0.6	0.5	6	29.5
Amphiodia [illegible] (E)	3	0.6	0.9	6	29.5
Limina [illegible] (M)	3	0.6	0.5	6	29.5
Lucinidae (undet.) (M)	3	0.6	0.5	6	29.5
Crassinella [illegible] (M)	3	0.6	0.5	6	29.5
Acanthohaustorius sp. (A)	2	0.4	0.5	4	37.5
Bulla sp. (M)	2	0.4	0.5	4	37.5
Neoleptocheirus [illegible] (A)	2	0.4	0.5	4	37.5
Anomalocardia [illegible] (M)	2	0.4	0.5	4	37.5
Nematoda (undet.)	2	0.4	0.5	4	37.5
Columbellidae (undet.) (M)	2	0.4	0.5	4	37.5
Mitrella [illegible] (M)	2	0.4	0.5	4	37.5
[illegible] (M)	1	0.2	0.4	2	51.0
Brachyura (undet.) (D)	1	0.2	0.4	2	51.0
Pagurus [illegible] (D)	1	0.2	0.4	2	51.0
Callianassidae sp. (A)	1	0.2	0.4	2	51.0
Ampelisca [illegible] (A)	1	0.2	0.4	2	51.0
Nemertina (undet.) (E)	1	0.2	0.4	2	51.0
Lepidozona [illegible] (M)	1	0.2	0.4	2	51.0
Crassinella [illegible] (M)	1	0.2	0.4	2	51.0
Turbonilla sp. 2 (M)	1	0.2	0.4	2	51.0
Polychaeta (undet.) (P)	1	0.2	0.4	2	51.0
Cirratulidae (P)	1	0.2	0.4	2	51.0
Sigalion [illegible] (P)	1	0.2	0.4	2	51.0
Euphrosyne [illegible] (P)	1	0.2	0.4	2	51.0
Armandia [illegible] (P)	1	0.2	0.4	2	51.0
Armandia [illegible] (P)	1	0.2	0.4	2	51.0
Glycinde [illegible] (P)	1	0.2	0.4	2	51.0
Armandia [illegible] (P)	1	0.2	0.4	2	51.0
[illegible] (P)	1	0.2	0.4	2	51.0
[illegible] (P)	1	0.2	0.4	2	51.0
[illegible] (P)	1	0.2	0.4	2	51.0

Table 94. Abundance of macroinvertebrate species in grab collections from station DS22. A = Amphipoda; C = Cumacea; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; M = Mollusca; P = Polychaeta; S = Stomatopoda.

DS22					
Species	Total Number	Number/0.1 m² $\bar{X}$	SD	Estimated Number/m²	Rank by Number
[illegible] (M)	[illegible]	12.0	[illegible]	120	1.0
[illegible] (P)	43	8.6	3.3	86	2.0
[illegible] minutilla (M)	28	5.6	3.4	56	3.0
[illegible] (indet.) A (M)	17	3.4	3.6	34	4.0
[illegible] parbert (A)	15	3.0	1.9	30	5.0
[illegible] oxycephala (P)	14	2.8	2.6	28	6.0
Trichophoxus epistomus (A)	12	2.4	2.8	24	8.0
Nemertina (indet.) A	12	2.4	1.9	24	8.0
[illegible] umbellata (Ec)	12	2.4	2.4	24	8.0
[illegible] sp. (A)	11	2.2	2.3	22	10.0
[illegible] brasiliensis (A)	10	2.0	3.6	20	11.0
[illegible] (P)	8	1.6	1.1	16	12.0
[illegible] tarbiense (P)	7	1.4	1.1	14	14.0
[illegible] floridanus floridanus (A)	7	1.4	1.5	14	14.0
[illegible] sp. A (P)	7	1.4	1.1	14	14.0
[illegible] (P)	5	1.0	0.7	10	17.0
[illegible] sp. B (M)	5	1.0	1.0	10	17.0
Magelona capillaroris (P)	5	1.0	1.0	10	17.0
[illegible] (M)	4	0.8	1.1	8	20.0
[illegible] (P)	4	0.8	0.8	8	20.0
[illegible] (P)	4	0.8	0.8	8	20.0
[illegible] (A)	3	0.6	2.9	6	23.5
[illegible] (P)	3	0.6	0.9	6	23.5
[illegible] brasiliensis (P)	3	0.6	1.3	6	23.5
[illegible] (P)	3	0.6	1.3	6	23.5
[illegible] (A)	2	0.4	0.5	4	30.5
[illegible] (indet.)	2	0.4	0.5	4	30.5
[illegible] (A)	2	0.4	0.9	4	30.5
[illegible] (indet.)	2	0.4	0.5	4	30.5
[illegible] (M)	2	0.4	0.9	4	30.5
[illegible] (P)	2	0.4	0.9	4	30.5
[illegible] (P)	2	0.4	0.9	4	30.5
[illegible] (P)	2	0.4	0.9	4	30.5
[illegible] (P)	2	0.4	0.9	4	30.5
[illegible] (D)	1	0.2	0.4	2	48.0
[illegible] (D)	1	0.2	0.4	2	48.0
[illegible] (D)	1	0.2	0.4	2	48.0
Brachyuran megalopa (D)	1	0.2	0.4	2	48.0
[illegible] americanum (A)	1	0.2	0.4	2	48.0
Batea catharinensis (A)	1	0.2	0.4	2	48.0
[illegible] (indet.) A (E)	1	0.2	0.4	2	48.0
[illegible] angulata (E)	1	0.2	0.4	2	48.0
[illegible] pusilla (M)	1	0.2	0.4	2	48.0
Corbonilla sp. A (M)	1	0.2	0.4	2	48.0
Mitrella lunata (M)	1	0.2	0.4	2	48.0
Dentalium eborneum (M)	1	0.2	0.4	2	48.0
Terebra concava (M)	1	0.2	0.4	2	48.0
Crassinella lunulata (M)	1	0.2	0.4	2	48.0
Aplodiscophon spinalis (S)	1	0.2	0.4	2	48.0
Squamulis modus (S)	1	0.2	0.4	2	48.0
[illegible] (P)	1	0.2	0.4	2	48.0
[illegible] (indet. B) (P)	1	0.2	0.4	2	48.0
[illegible] (P)	1	0.2	0.4	2	48.0
[illegible] (P)	1	0.2	0.4	2	48.0
[illegible] (P)	1	0.2	0.4	2	48.0
[illegible] (P)	1	0.2	0.4	2	48.0
[illegible] (P)	1	0.2	0.4	2	48.0
[illegible] (P)	1	0.2	0.4	2	48.0
[illegible] (P)	1	0.2	0.4	2	48.0
[illegible] (P)	1	0.2	0.4	2	48.0

Table 65. Abundance of macroinvertebrates [illegible]
Amphipoda; [illegible]
M = Mollusca; [illegible]

Species	Total Number	Number per m²		Estimated Number per m²	Rank by Number
Strigilla mirabilis (M)	[illegible]	[illegible]	1.5	42	[illegible]
Tellina fabrina	[illegible]	[illegible]	[illegible]	38	[illegible]
Lucinidae (undet.) (A) (M)	[illegible]	[illegible]	[illegible]	52	[illegible]
Nephtys picta (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pathyporeia parkeri (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Diopatrella umbellata (C)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Spiophanes bombyx (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nemertina (undet.) (A)	[illegible]	[illegible]	[illegible]	26	[illegible]
Trianophoxus epistomus (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mellita quinquiesperforata (E)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Acanthohaustorius sp. (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pseudoplatyonychus floridanus (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Glycera oxycephala (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Magelona rosea (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Prionospio lavi (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Protohaustorius nr. deichmannae (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Turbonilla sp. B (M)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ervilia concentrica (M)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Branchiostoma caribaeum (D)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Synchelidium americanum (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cyrtostylis smithi (C)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Oniscimanigmus sp. A (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Turridae (undet.) (M)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nephtys incisa (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Euphosis eremita (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Aricidea sp. B (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Albunea paretii (C)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Trichophoxus floridanus (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tiron tropakis (A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nematoda (undet.)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Olivella mutica (M)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tellina texana (M)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Acteocina candei (M)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pelecypoda (undet.) (M)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Glycera sp. (Gir.) (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Spiochaetopterus costarum costatis (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Owenia fusiformis (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Armandia maculata (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Scolelepis texana (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 20. Abundance of macroinvertebrate species in grab collections from station DS24. (A = Amphipoda; C = Cumacea; D = Decapoda; E = Echinodermata; Ec = Entoprocta; I = Isopoda; M = Mollusca; Ph = Phoronida; P = Polychaeta; Py = Pycnogonida; S = Sipunculida).

	DS24				
Species	Total Number	Number 0.1m² $\bar{X}$	SD	Estimated Number m²	Rank by Number
Nemotis [illegible] (P)	31	6.2	2.9	62	1.0
Protomystis [illegible] nr. [illegible] (A)	21	4.2	2.7	42	2.0
Ligurus longicirrus (D)	16	3.2	3.6	32	3.0
Tissoporella ambellata (Ec)	14	2.8	3.3	28	4.0
Tirritidae (undet.) (C) (M)	13	2.6	3.2	26	5.0
Acanthonaristorius millsi (A)	9	1.8	3.0	18	7.0
Pseudoplatyrishnopus floridanus (A)	9	1.8	1.5	18	7.0
Tryalia concentrica (M)	9	1.8	2.0	18	7.0
Mellita quinquesperforata (E)	8	1.6	2.6	16	10.5
Tritella mirabilis (M)	8	1.6	3.0	16	10.5
[illegible] pettiboneae (P)	8	1.6	3.6	16	10.5
Ophiophis lavi (P)	8	1.6	1.5	16	10.5
[illegible] tropakis (A)	5	1.0	1.2	10	13.5
Semertina (undet.) (A)	5	1.0	0.7	10	13.5
Atyporeia parkeri (A)	4	0.8	0.8	8	16.0
Tritella pusilla (M)	4	0.8	0.8	8	16.0
Tylera sp. (Gar.) (P)	4	0.8	1.8	8	16.0
Tyrides limicola (D)	3	0.6	0.5	6	20.5
Asphiosiphon spinalis (S)	3	0.6	0.5	6	20.5
Ampnis nebulosa (P)	3	0.6	0.9	6	20.5
Glycera sp. 3 (P)	3	0.6	1.3	6	20.5
Owenia fusiformis (P)	3	0.6	0.5	6	20.5
Onuphis eremita (P)	3	0.6	0.9	6	20.5
Lysianassa serratorbita (A)	2	0.4	0.5	4	32.5
Aphelochaeta paretti (D)	2	0.4	0.5	4	32.5
Amphipoda (undet.) (A)	2	0.4	0.5	4	32.5
Astrorhiza (undet.)	2	0.4	0.5	4	32.5
Leptosynapta smithi (E)	2	0.4	0.5	4	32.5
Amphiodia [illegible] petitianus (Py)	2	0.4	0.5	4	32.5
Turbellaria (undet.)	2	0.4	0.5	4	32.5
Ophiophragmus sp. A (E)	2	0.4	0.5	4	32.5
Tellina texana (M)	2	0.4	0.5	4	32.5
Cindaria trilineata (M)	2	0.4	0.9	4	32.5
Tivela floridana (M)	2	0.4	0.5	4	32.5
Dentalium eburneum (M)	2	0.4	0.9	4	32.5
Ptycne lactea (P)	2	0.4	0.5	4	32.5
Glycera oxycephala (P)	2	0.4	0.5	4	32.5
Nereis [illegible] (P)	2	0.4	0.5	4	32.5
Diopatra cuprea (P)	2	0.4	0.9	4	32.5
Eulalia [illegible] (P)	2	0.4	0.5	4	32.5
Terebellidae (undet.) (P)	2	0.4	0.5	4	32.5
Transversalis constricta (D)	1	0.2	0.4	2	57.5
Euvarimus [illegible] (P)	1	0.2	0.4	2	57.5
Acanthonaristorius sp. (A)	1	0.2	0.4	2	57.5
Synchelidium americanum (A)	1	0.2	0.4	2	57.5
Tritaeotoxus [illegible] (A)	1	0.2	0.4	2	57.5
Unciola inermis (A)	1	0.2	0.4	2	57.5
Mysidacea (undet.) (A)	1	0.2	0.4	2	57.5
Hippomedon serratus (A)	1	0.2	0.4	2	57.5
Harpiniopsis [illegible] (A)	1	0.2	0.4	2	57.5
Nemertinea (undet.) (A)	1	0.2	0.4	2	57.5
[illegible] (undet.) (A)	1	0.2	0.4	2	57.5
[illegible] (undet.)	1	0.2	0.4	2	57.5
[illegible] (A) (P)	1	0.2	0.4	2	57.5
[illegible] (undet.)	1	0.2	0.4	2	57.5
[illegible] (A)	1	0.2	0.4	2	57.5
[illegible] (M)	1	0.2	0.4	2	57.5
[illegible] (M)	1	0.2	0.4	2	57.5
[illegible] (P)	1	0.2	0.4	2	57.5
[illegible] (undet.)	1	0.2	0.4	2	57.5
[illegible] (undet.)	1	0.2	0.4	2	57.5
[illegible]	1	0.2	0.4	2	57.5

[illegible]

DS2-

Species	Total Number	Number [illegible] $\bar{X}$	SD	Estimated Number of	Rank by Number
[illegible] (A. M)	1	0.2	0.4	2	57.5
[illegible]	1	0.2	0.4	2	57.5
[illegible] (P)	1	0.2	0.4	2	57.5
[illegible] (P)	1	0.2	0.4	2	57.5
[illegible]	1	0.2	0.4	2	57.5
[illegible] (P)	1	0.2	0.4	2	57.5
[illegible] (P)	1	0.2	0.4	2	57.5
Arthrellia mucosa (P)	1	0.2	0.4	2	57.5
Parathelis sp. (P)	1	0.2	0.4	2	57.5
Schaphis amergeps (P)	1	0.2	0.4	2	57.5
Arthellia nutica (P)	1	0.2	0.4	2	57.5

[illegible]

Species	Total Number	Percent Total	Cumulative Percent	Rank by Number
[illegible] (P)	[illegible]	[illegible]	[illegible]	1.0
[illegible] (M)	[illegible]	[illegible]	[illegible]	2.5
[illegible] (A)	[illegible]	[illegible]	[illegible]	2.5
[illegible]	[illegible]	[illegible]	[illegible]	2.5
[illegible] (P)	[illegible]	[illegible]	[illegible]	5.0
[illegible] (P)	[illegible]	3.0	[illegible]	6.5
[illegible]	[illegible]	4.8	[illegible]	7.0
[illegible]	[illegible]	4.2	[illegible]	8.0
[illegible] (P)	[illegible]	2.5	[illegible]	9.0
[illegible] (A)	[illegible]	1.5	[illegible]	10.0
[illegible]	[illegible]	1.2	[illegible]	11.5
[illegible]	[illegible]	1.2	[illegible]	11.5
[illegible]	[illegible]	1.2	[illegible]	13.0
[illegible]	[illegible]	1.0	[illegible]	15.0
[illegible]	[illegible]	1.0	[illegible]	15.0
[illegible] (M)	[illegible]	1.0	[illegible]	15.0
[illegible] (P)	[illegible]	0.8	[illegible]	17.5
[illegible]	[illegible]	0.6	[illegible]	23.0
[illegible] americanum (A)	[illegible]	0.6	[illegible]	23.0
[illegible] smithi (M)	[illegible]	0.6	[illegible]	23.0
[illegible] petiolatus (P)	[illegible]	0.6	[illegible]	23.0
[illegible] sp. (A, E)	[illegible]	0.6	[illegible]	23.0
[illegible] tubifex (M)	[illegible]	0.6	[illegible]	23.0
[illegible] (indet.) (A, M)	[illegible]	0.6	[illegible]	23.0
[illegible] [illegible] (P)	[illegible]	0.6	[illegible]	23.0
[illegible] [illegible] (P)	[illegible]	0.5	[illegible]	27.0
[illegible] [illegible] (P)	[illegible]	0.6	[illegible]	23.0
[illegible] [illegible] (P)	[illegible]	0.6	[illegible]	23.0
[illegible] sp. (A)	[illegible]	0.4	[illegible]	36.5
[illegible] bigelowi (M)	[illegible]	0.4	[illegible]	36.5
[illegible] quinquesperforata (E)	[illegible]	0.4	[illegible]	36.5
[illegible] [illegible] (M)	[illegible]	0.4	[illegible]	36.5
[illegible] (indet.) (A, M)	[illegible]	0.4	[illegible]	36.5
[illegible] [illegible] (M)	[illegible]	0.4	[illegible]	36.5
[illegible] sp. (A, P)	[illegible]	0.4	[illegible]	36.5
[illegible] [illegible] (P)	[illegible]	0.4	[illegible]	36.5
[illegible] sp. (P)	[illegible]	0.4	[illegible]	36.5
[illegible] sp. (P)	[illegible]	0.4	[illegible]	36.5
[illegible] sp. (Par.) (P)	[illegible]	0.4	[illegible]	36.5
[illegible] [illegible] (P)	[illegible]	0.4	[illegible]	36.5
[illegible] [illegible] (P)	[illegible]	0.4	[illegible]	36.5
[illegible] [illegible] (P)	[illegible]	0.4	[illegible]	36.5
[illegible] [illegible] (P)	[illegible]	0.4	[illegible]	36.5
[illegible] (indet.)	[illegible]	0.4	[illegible]	36.5
[illegible] constrictus (P)	[illegible]	[illegible]	[illegible]	55.0
[illegible] [illegible] (A)	[illegible]	0.2	[illegible]	55.0
[illegible] floridanus (A)	[illegible]	0.2	[illegible]	55.0
[illegible] [illegible] (A)	[illegible]	0.2	[illegible]	55.0
[illegible] [illegible] (A)	[illegible]	0.2	[illegible]	55.0
[illegible] (indet.)	[illegible]	[illegible]	[illegible]	55.0
[illegible] (indet.) (A, E)	[illegible]	[illegible]	[illegible]	55.0
[illegible] [illegible] (M)	[illegible]	[illegible]	[illegible]	55.0
[illegible] sp. (P, M)	[illegible]	[illegible]	[illegible]	55.0
[illegible] [illegible] (P)	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] [illegible] (M)	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

Species	Total Number	Number Value X	Number Value SD	Estimated Number in	Rank by Number
[illegible] (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (P)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table [illegible]. Numbers of macroinvertebrate species in grab collections from station [illegible]. A = Amphipoda; C = Cumacea; G = Gastropoda; I = Isopoda; E = Polychaeta; B = Bivalvia; D = Decapoda; M = Mysidacea; P = Polyplacophora; S = Sipunculida.

Species	Total Number	Number %	[illegible] SD	Estimated Number m²	Rank of Number
[illegible]	45	19.0	14.8	140	1.[illegible]
[illegible] A	40	8.0	8.6	80	2.[illegible]
[illegible]	36	7.2	1.2	72	[illegible]
Nematoda indet.	34	6.8	5.8	68	[illegible]
[illegible]	27	5.4	3.2	54	5.5
[illegible]	27	5.4	3.3	54	5.5
Prionospio pallax	24	4.8	8.7	48	7.[illegible]
Nephtyoreia barnesi A	23	4.6	3.6	46	8.[illegible]
[illegible]	19	3.8	2.6	38	9.[illegible]
[illegible] A	14	2.8	2.2	28	10.[illegible]
[illegible]	12	2.4	2.[illegible]	24	11.[illegible]
[illegible]	10	2.[illegible]	1.4	20	12.[illegible]
[illegible]	9	1.8	2.[illegible]	18	13.[illegible]
[illegible]	8	1.6	1.[illegible]	16	14.[illegible]
[illegible]	8	1.6	3.3	16	14.[illegible]
[illegible] A	8	1.6	2.[illegible]	16	17.[illegible]
[illegible] A	7	1.4	1.2	14	18.[illegible]
Venerina indet. A	7	1.4	1.5	14	18.[illegible]
[illegible]	7	1.4	1.5	14	18.[illegible]
[illegible]	7	1.4	1.5	14	18.[illegible]
[illegible]	6	1.2	1.1	12	21.[illegible]
[illegible]	6	1.2	2.2	12	21.[illegible]
[illegible]	5	1.0	1.7	10	24.[illegible]
[illegible]	5	1.0	1.7	10	24.[illegible]
[illegible]	5	1.0	7.7	10	25.[illegible]
[illegible]	5	1.0	1.0	10	25.[illegible]
[illegible]	5	1.0	1.2	10	27.[illegible]
[illegible] A	5	1.0	1.0	10	28.[illegible]
[illegible]	4	0.8	0.8	8	29.[illegible]
[illegible]		0.6	0.5	6	30.[illegible]
[illegible]		0.6	0.9	6	30.[illegible]
[illegible] A		0.6	0.9	6	33.[illegible]
[illegible]		0.6	0.9	6	33.[illegible]
[illegible]		0.6	0.5	6	33.[illegible]
[illegible]		0.6	0.9	6	33.[illegible]
[illegible]		0.6	0.9	6	[illegible]
[illegible]		0.6	0.5	6	33.[illegible]
[illegible]		0.4	0.2	4	44.[illegible]
[illegible]		0.4	[illegible]	4	44.[illegible]
[illegible]		0.4	0.5	4	44.[illegible]
[illegible]		0.4	[illegible]	4	44.[illegible]
[illegible]		0.4	0.4	4	44.[illegible]
[illegible]		0.4	0.4	4	44.[illegible]
[illegible]		0.4	0.5	4	44.[illegible]
[illegible]		0.4	0.4	4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible] A		0.4	0.[illegible]	4	44.[illegible]
[illegible]		0.4	[illegible]	4	44.[illegible]
[illegible]		0.4	0.5	4	44.[illegible]
[illegible]		0.4	0.5	4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]
[illegible]		0.4		4	44.[illegible]

Table 68. (Cont.)

DS2b

Species	Total Number	Number/0.1m² $\bar{X}$	SD	Estimated Number/m²	Rank by Number
Ophiophragmus sp. A (E)	1	0.2	0.4	2	70.0
Semele bellastriata (M)	1	0.2	0.4	2	70.0
Turbonilla sp. B (M)	1	0.2	0.4	2	70.0
Macrocallista nimbosa (M)	1	0.2	0.4	2	70.0
Terebra concava (M)	1	0.2	0.4	2	70.0
Crassinella lunulata (M)	1	0.2	0.4	2	70.0
Aspidosiphon misakiensis (S)	1	0.2	0.4	2	70.0
Sipunculida (undet.) (S)	1	0.2	0.4	2	70.0
Aricidea suecica (P)	1	0.2	0.4	2	70.0
Aricidea cerruti (P)	1	0.2	0.4	2	70.0
Amphistrosyllis jonesi (P)	1	0.2	0.4	2	70.0
Hydroides protulicola (P)	1	0.2	0.4	2	70.0
Syllidae (undet.) A (P)	1	0.2	0.4	2	70.0
Terebellidae (undet.) A (P)	1	0.2	0.4	2	70.0
Syllis regulata carolinae (P)	1	0.2	0.4	2	70.0
Spiochaetopterus costarum oculatis (P)	1	0.2	0.4	2	70.0
Autolytus dentalius (P)	1	0.2	0.4	2	70.0
Pectinaria gouldii (P)	1	0.2	0.4	2	70.0
Scoloplos sp. (P)	1	0.2	0.4	2	70.0
Hesionidae (undet.) (P)	1	0.2	0.4	2	70.0
Mediomastus californiensis (P)	1	0.2	0.4	2	70.0
Phyllodoce irenae (P)	1	0.2	0.4	2	70.0
Polydora caeca (P)	1	0.2	0.4	2	70.0
Magelona rosea (P)	1	0.2	0.4	2	70.0
Ophistomerings rudolphi (P)	1	0.2	0.4	2	70.0
Glymenella torquata (P)	1	0.2	0.4	2	70.0
Prionospio cirrifera (P)	1	0.2	0.4	2	70.0

Table [illegible]. Abundance of macroinvertebrate species in grab collections at station DS27. A = Amphipoda; C = Cumacea; D = Decapoda; E = Echinoderma; H = Hirudinea; I = Isopoda; M = Mollusca; P = Polychaeta; S = Siphonculida.

Species	Total Number	Number 0.1m² X̄	Number 0.1m² SE	Estimated Number m²	Rank by Number
	1987				
Spio pettiboneae (P)	347	117.4	46.9	1174	1.0
Trichophoxus floridanus (A)	77	15.8	14.5	158	2.0
Branchiostoma caribaeum (C)	67	13.4	11.4	134	3.0
Spiophanes bombyx (P)	59	11.8	19.8	118	4.0
Nematoda (indet.)	43	8.6	6.8	86	5.0
Prionospio cristata (P)	23	4.6	5.2	46	6.0
Tiron tropalis (A)	21	4.0	4.5	40	7.0
Neanthes arenacea (P)	17	3.4	3.4	34	8.0
Leptocheirus sp. (A)	17	3.4	3.2	34	9.0
Ampelisca vadorum (P)	16	3.2	2.2	32	10.0
Nereidae (indet.)	16	3.2	2.4	32	10.5
Tellinoidea sp. (A)	14	2.8	3.4	28	12.5
Cirriformia tenuis (P)	14	2.8	3.9	28	12.5
Leptocheirus pinguis floridanus (A)	13	2.6	1.1	26	14.0
Armandia maculata (P)	12	2.4	2.8	24	15.0
Glycera papillata (P)	11	2.2	2.2	22	16.0
Tellina probina (M)	9	1.8	1.8	18	17.5
Euzonus mucronata (P)	9	1.8	1.3	18	17.5
Nereis longissima (P)	7	1.4	1.7	14	20.0
Acanthura ringitis (I)	7	1.4	1.7	14	20.0
Tomele nicolitis (M)	7	1.4	1.0	14	20.0
Erylia nucleatissima (M)	6	1.2	1.1	12	22.0
Micropodarke parkeri (A)	5	1.0	1.7	10	24.0
Protohaustorius sp. deichmannae (A)	5	1.0	1.0	10	24.0
Strigilla mirabilis (M)	5	1.0	1.7	10	24.0
Trinomaxus chistimus (A)	4	0.8	1.3	8	30.0
Ampelisca (indet.) (A)	4	0.8	1.3	8	30.0
Aquipectinus smithi (C)	4	0.8	1.1	8	30.0
Turbellaria (indet.)	4	0.8	1.8	8	30.0
Nemertina (indet.) (A)	4	0.8	0.8	8	30.0
Nemertina (indet.) (B)	4	0.8	0.8	8	30.0
Calyptraea centralis (M)	4	0.8	1.1	8	30.0
Astyanassa arenaria (M)	4	0.8	1.3	8	30.0
Nereis succinea (P)	4	0.8	1.8	8	30.0
Lembos intermis (A)	3	0.6	1.3	6	37.0
Cumbrinereis latreilli (P)	3	0.6	0.9	6	37.0
Aricidea pernati (P)	3	0.6	0.9	6	37.0
Ophelia neglecta (P)	3	0.6	0.4	6	37.0
Phyllodoce castanea (P)	3	0.6	1.3	6	37.0
Synchelidium americanum (A)	2	0.4	0.5	4	44.0
Eulimastis varians (P)	2	0.4	0.5	4	44.0
Brightonius brasiliensis (A)	2	0.4	0.9	4	44.0
Trassinella lunulata (M)	2	0.4	0.5	4	44.0
Streptosyllis lactea (P)	2	0.4	0.5	4	44.0
Syllis regulata parolinae (P)	2	0.4	0.9	4	44.0
Hesionidae (indet.) (A) (P)	2	0.4	0.7	4	44.0
Nemanthis roseus (P)	2	0.4	0.5	4	44.0
Chaetozone christmerinos (P)	2	0.4	0.5	4	44.0
Trichocorinus constrictus (P)	1	0.2	0.4	2	63.5
Nereis pelagica (P)	1	0.2	0.4	2	63.5
Polynoinae (indet.) (P)	1	0.2	0.4	2	63.5
Aspidosiphon (I)	1	0.2	0.4	2	63.5
Tanaidacea (indet.) (A)	1	0.2	0.4	2	63.5
Cirripedia (indet.)	1	0.2	0.4	2	63.5
Ampelisca verrilli (A)	1	0.2	0.4	2	63.5
Pectinaria gouldii (P)	1	0.2	0.4	2	63.5
Sphaerosyllis (P)	1	0.2	0.4	2	63.5
Nereis succinea [illegible] (P)	1	0.2	0.4	2	63.5
Polychaeta (indet.) (P)	1	0.2	0.4	2	63.5
Nemertina sp. (A) (B)	1	0.2	0.4	2	63.5
Lumbrineris [illegible] (P)	1	0.2	0.4	2	63.5

Table 69. (Cont.)

Species	Total Number	Number $\bar{x}$	s^2	Estimated Number $n\bar{x}$	Rank by Number
Semele bellastriata (M)	1	0.2	0.4	2	63.5
Crassinella martinicensis (M)	1	0.2	0.4	2	63.5
Pelecypoda (undet.) B	1	0.2	0.4	2	63.5
Magelona sp. A (P)	1	0.2	0.4	2	63.5
Syllidae (undet.) B (P)	1	0.2	0.4	2	63.5
Protodorvillea kefersteini (P)	1	0.2	0.4	2	63.5
Magelona sp. (Day 73) (P)	1	0.2	0.4	2	63.5
Cirratulidae (undet.) B (P)	1	0.2	0.4	2	63.5
Nephtys incisa (P)	1	0.2	0.4	2	63.5
Spiochaetopterus costarum oculatus (P)	1	0.2	0.4	2	63.5
Scoloplos sp. (P)	1	0.2	0.4	2	63.5
Diopatra cuprea (P)	1	0.2	0.4	2	63.5
Poecilochaetus sp. (P)	1	0.2	0.4	2	63.5
Aricidea sp. A (P)	1	0.2	0.4	2	63.5
Eunicidae (undet.) (P)	1	0.2	0.4	2	63.5
Sigambra bassi (P)	1	0.2	0.4	2	63.5
Chrysopetalidae (undet.) (P)	1	0.2	0.4	2	63.5

Table 10. Abundance [illegible] in grab collections [illegible] (DS28). [illegible] Amphipoda; [illegible] = [illegible]; A = Anomura; B = Brachyura; C = Cumacea; D = Decapoda; E = [illegible]; F = [illegible]; G = [illegible]; H = [illegible]; I = [illegible]; M = Mollusca; Mv = Mysidacea; P = Polychaeta; S = [illegible]

DS28					
Species	Total Number	Number/0.1m² x̄	Number/0.1m² SD	Estimated Number/ha	Rank by Number
Brachystomia [illegible]	157	31.4	16.3	314	1
Trichophoxus [illegible] (A)	62	12.4	2.2	124	2
Tiron tropakis (A)	14	2.8	2.5	28	[illegible]
Bathyporeia [illegible] (A)	[illegible]	2.6	[illegible]	26	4.5
Nephtys ciliata (P)	[illegible]	2.6	[illegible]	26	4.5
Natantia (indet.)	[illegible]	2.4	[illegible]	24	6.5
Pseudoplatyischnopus [illegible] (A)	[illegible]	2.4	[illegible]	24	6.5
Trichophoxus epistomus (A)	[illegible]	2.2	5.6	22	8.0
Acanthohaustorius sp. (A)	[illegible]	2.4	2.4	24	9.0
Nuphis eremita (P)	[illegible]	[illegible]	[illegible]	22	10.5
Lepulaira longi (E)	[illegible]	[illegible]	2.2	22	11.0
[illegible] (M)	[illegible]	[illegible]	[illegible]	20	12.0
[illegible] (S)	[illegible]	[illegible]	[illegible]	[illegible]	13.0
Nemertina (indet.) (A)	[illegible]	[illegible]	[illegible]	18	14.0
Protohaustorius cf. [illegible] (A)	[illegible]	[illegible]	[illegible]	16	16.0
Abarenicola magnifica	[illegible]	[illegible]	[illegible]	16	16.0
Strigilla mirabilis (Mv)	[illegible]	[illegible]	[illegible]	16	16.0
Nematoda (indet.)	[illegible]	[illegible]	0.6	12	18.0
Neomysis americana (Mv)	[illegible]	[illegible]	2.2	10	19.0
Exuroistylis smithi (P)	[illegible]	0.8	1.3	8	21.5
Ancinus depressus (P)	[illegible]	0.8	1.3	8	21.5
Scolopanes bombyx (P)	[illegible]	0.8	0.8	8	21.5
Spio pettiboneae (P)	[illegible]	0.8	0.8	8	21.5
Gilgeboria sp. (A)	3	0.6	0.5	6	26.5
Discoporella umbellata (B)	3	0.6	0.9	6	26.5
Mitrella [illegible] (M)	3	0.6	0.9	6	26.5
Erylla concentrica (M)	3	0.6	0.5	6	26.5
Tigonaeta (indet.)	3	0.6	0.9	6	26.5
Pionosyllis sp. (P)	3	0.6	0.9	6	26.5
Pagurus longicarpus (D)	2	0.4	0.5	4	33.0
Gammarus unicornis (A)	2	0.4	0.5	4	33.0
Cumacea (indet.) (F)	2	0.4	0.9	4	33.0
Mysidopsis bigelowi (Mv)	2	0.4	0.9	4	33.0
Mellita quinquiesperforata (E)	2	0.4	0.5	4	33.0
Ophiuroidea (indet.) (B, E)	2	0.4	0.5	4	33.0
Aricidea [illegible] (P)	2	0.4	0.5	4	33.0
Owenia stephensoni (P)	1	0.2	0.4	2	50.0
Eteone litoralis (P)	1	0.2	0.4	2	50.0
Erichthonius brasiliensis (A)	1	0.2	0.4	2	50.0
Stomatopoda (indet.)	1	0.2	0.4	2	50.0
Nylaspis [illegible] (C)	1	0.2	0.4	2	50.0
Oniscoraesmus sp. A (E)	1	0.2	0.4	2	50.0
Turbonilla sp. D (M)	1	0.2	0.4	2	[illegible]
Mitrella lunata (M)	1	0.2	0.4	2	[illegible]
Abra aequalis (M)	1	0.2	0.4	2	[illegible]
Terebra concava (M)	1	0.2	0.4	2	
Crassinella lunulata (M)	1	0.2	0.4	2	
Aspidosiphon spinalis (S)	1	0.2	0.4	2	
Goniadides carolinae (P)	1	0.2	0.4	2	
Aglaophamus verrilli (P)	1	0.2	0.4	2	
Aricidea suecica (P)	1	0.2	0.4	2	
Ancistrosyllis jonesi (P)	1	0.2	0.4	2	
Nephtys incisa (P)	1	0.2	0.4	2	50.0
Syllidae (indet.) A (P)	1	0.2	0.4	2	50.0
Terebellidae (indet.) A (P)	1	0.2	0.4	2	50.0
Sphaerodoropsis [illegible] (P)	1	0.2	0.4	2	50.0
Hesionidae (indet.) A (P)	1	0.2	0.4	2	50.0
Euclymeneis texana (P)	1	0.2	0.4	2	50.0
Sphaerosyllis [illegible] (P)	1	0.2	0.4	2	50.0
Pygospio [illegible] (P)	1	0.2	0.4	2	50.0
Chrysopetalinae (indet.) (P)	1	0.2	0.4	2	50.0
Syllis [illegible] (P)	1	0.2	0.4	2	50.0
Lumbrinerides [illegible] (P)	1	0.2	0.4	2	50.0

Table 71. Abundance of macroinvertebrate species in grab collections from station DS29. (A = Amphipoda; B = Brachiopoda; C = Cumacea; Cr = Cephalochordata; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; I = Isopoda; M = Mollusca; P = Polychaeta; S = Sipunculida; T = Tanaidacea).

DS29					
Species	Total Number	Number/0.1m² $\bar{x}$	Number/0.1m² SD	Estimated Number/m²	Rank by Number
Branchiostoma caribaeum (Cr)	266	53.2	37.1	532	1.0
Nematoda (undet.)	154	30.8	34.7	308	2.0
Trichophoxus floridanus (A)	78	15.6	9.0	156	3.0
Goniadides carolinae (P)	58	11.6	11.5	116	4.0
Spiophanes bombyx (P)	52	10.4	2.9	104	5.0
Bathyporeia parkeri (A)	38	7.6	4.2	76	6.5
Aspidosiphon spinalis (S)	38	7.6	8.1	76	6.5
Cyathura burbancki (I)	35	7.0	7.6	70	8.0
Pseudoplatyishnopus floridanus (A)	27	5.4	3.2	54	10.0
Tellina proporina (M)	27	5.4	3.3	54	10.0
Nephtys picta (P)	27	5.4	2.4	54	10.0
Oligochaeta (undet.)	24	4.8	5.4	48	12.0
Copularia fomi (Ec)	23	4.6	3.2	46	13.0
Aspidosiphon misakiensis (S)	20	4.0	2.0	40	14.0
Onuphis eremita (P)	19	3.8	2.5	38	15.0
Armandia maculata (P)	17	3.4	2.1	34	16.0
Tiron tropakis (A)	15	3.0	4.6	30	17.5
Strigilla mirabilis (M)	15	3.0	3.7	30	17.5
Acanthohaustorius sp. (A)	14	2.8	2.8	28	19.5
Ervilia concentrica (M)	14	2.8	2.6	28	19.5
Rudilemboides sp. (A)	12	2.4	2.1	24	21.5
Turbellaria (undet.)	12	2.4	1.9	24	21.5
Nemertina (undet.) (A)	11	2.2	1.1	22	23.0
Amphipoda (undet.) (A)	10	2.0	2.3	20	25.5
Apanthura magnifica (I)	10	2.0	1.4	20	25.5
Discoporella umbellata (Ec)	10	2.0	1.6	20	25.5
Amphistrophyllis jonesi (P)	10	2.0	2.5	20	25.5
Ostracoda (undet.)	9	1.8	1.6	18	28.5
Nipnera oxycephala (P)	9	1.8	1.9	18	28.5
Oxyurostylis smithi (C)	8	1.6	1.1	16	31.0
Hesionidae (undet.) (A) (P)	8	1.6	1.8	16	31.0
Prionospio cristata (P)	8	1.6	1.8	16	31.0
Trichophoxus epistomus (A)	7	1.4	1.1	14	34.5
Mirrohamorus lyriformis (P)	7	1.4	1.7	14	34.5
Nephtys incisa (P)	7	1.4	1.1	14	34.5
Arisilea serruti (P)	6	1.2	1.3	12	38.0
Liljeborgia sp. (A)	5	1.0	1.2	10	41.5
Sphaeroidea (undet.) B (E)	5	1.0	0.7	10	41.5
Semele nucoides (M)	5	1.0	1.4	10	41.5
Axiothella mucosa (P)	5	1.0	0.7	10	41.5
Syllis regulata carolinae (P)	5	1.0	2.2	10	41.5
Phyllodoce arenae (P)	5	1.0	1.7	10	41.5
Magelona rosea (P)	5	1.0	1.0	10	41.5
Thrysopetalidae (undet.) (P)	5	1.0	1.2	10	41.5
Isolda pulchella (P)	5	1.0	1.7	10	41.5
Synchelidium americanum (A)	4	0.8	1.3	8	48.5
Lumbrineris latreilli (P)	4	0.8	0.4	8	48.5
Onuphis nebulosa (P)	4	0.8	0.8	8	48.5
Spio pettiboneae (P)	4	0.8	1.8	8	48.5
Sigambra bassi (P)	4	0.8	0.4	8	48.5
Aonides mayiguetensis (P)	4	0.8	1.3	8	48.5
Sunamea (undet.) (P)	3	0.6	0.8	6	54.0
Melita quinquesperforata (I)	3	0.6	0.8	6	54.0
Owenia fusiformis (P)	3	0.6	0.4	6	54.0
Symbiris albini (P)	3	0.6	1.3	6	54.0
Sphaerosyllis radolphi (P)	2	0.4	0.5	4	61.5
Pagurus longicarpus (D)	2	0.4	0.5	4	61.5
Ampelisca verrilli (A)	2	0.4	0.5	4	61.5
Erichthonius brasiliensis (A)	2	0.4	0.4	4	61.5
Mysidella gracilis (Cr)	2	0.4	0.5	4	61.5
Tellina tenera (M)	2	0.4	0.5	4	61.5

[illegible] cont.

Species	Total Number	Number 0.1m² $\bar{x}$	Number 0.1m² SD	Estimated Number/m²	Rank by Number
[illegible] indet. (A, M)	2	0.4	0.5	4	63.0
Carropporus branchiatus (P)	2	0.4	0.5	4	63.0
Polycirrus eximius (P)	2	0.4	0.5	4	63.0
Prionospio cirrobranchiata (P)	2	0.4	0.5	4	63.0
Scoloplos sp. (P)	2	0.4	0.5	4	63.0
Caulleriella killariensis (P)	2	0.4	0.5	4	63.0
Prionospio lavi (P)	2	0.4	0.5	4	63.0
Pio[illegible] syllis sp. (P)	2	0.4	0.9	4	63.0
Tra[illegible]ypeneus constrictus (P)	1	0.2	0.4	2	88.5
Euc[illegible]amus praelongus (D)	1	0.2	0.4	2	88.5
Albunea paretii (D)	1	0.2	0.4	2	88.5
Ampelisca vadorum (A)	1	0.2	0.4	2	88.5
[illegible]erbarnia sp. (A)	1	0.2	0.4	2	88.5
[illegible]ropoda indet. (A)	1	0.2	0.4	2	88.5
Protohaustorius [illegible] (A)	1	0.2	0.4	2	88.5
[illegible] (P)	1	0.2	0.4	2	88.5
[illegible] (P)	1	0.2	0.4	2	88.5
[illegible] sp. (A)	1	0.2	0.4	2	88.5
[illegible] indet.	1	0.2	0.4	2	88.5
[illegible]	1	0.2	0.4	2	88.5
[illegible]	1	0.2	0.4	2	88.5
[illegible] sp. (M)	1	0.2	0.4	2	88.5
[illegible] indet. (M)	1	0.2	0.4	2	88.5
[illegible] (M)	1	0.2	0.4	2	88.5
[illegible] (M)	1	0.2	0.4	2	88.5
[illegible] indet.	1	0.2	0.4	2	88.5
[illegible]	1	0.2	0.4	2	88.5
[illegible]	1	0.2	0.4	2	88.5
[illegible]	1	0.2	0.4	2	88.5
[illegible] (P)	1	0.2	0.4	2	88.5
[illegible] (P)	1	0.2	0.4	2	88.5
[illegible] (P)	1	0.2	0.4	2	88.5
[illegible] (P)	1	0.2	0.4	2	88.5
[illegible] (P)	1	0.2	0.4	2	88.5
[illegible] indet.	1	0.2	0.4	2	88.5
Paraonis sp. (P)	1	0.2	0.4	2	88.5
Nereis [illegible] (P)	1	0.2	0.4	2	88.5
Neanthes [illegible] (P)	1	0.2	0.4	2	88.5
[illegible] (P)	1	0.2	0.4	2	88.5
Nageloma papillicornis (P)	1	0.2	0.4	2	88.5
Aricidea sp. A (P)	1	0.2	0.4	2	88.5
Hemipodus roseus (P)	1	0.2	0.4	2	88.5
Syllis hyalina (P)	1	0.2	0.4	2	88.5
Lumbrineriides [illegible] (P)	1	0.2	0.4	2	88.5
Polydontes lupinus (P)	1	0.2	0.4	2	88.5
Paranis gracilis (P)	1	0.2	0.4	2	88.5
Petitbrodus sordidus (P)	1	0.2	0.4	2	88.5
Malacoceros indicus (P)	1	0.2	0.4	2	88.5

Table [illegible]. Abundance of major invertebrate species in grab collections from station DS30. (A = Amphipoda; [illegible] = Bivalvia; Ce = Cephalochordata; Cn = Cnidaria; D = Decapoda; E = Echinodermata; Ec = Echiuroidea; I = Isopoda; M = Mollusca; P = Polychaeta; S = Sipunculida; T = Tanaidacea).

DS30				
Species	Total Number	Number 0.1m² $\bar{x}$	Number 0.1m² SE	Estimated Number T	Rank by Number
Aspidosiphon spinalis (S)	1013	202.6	89.5	[illegible]	1.0
Branchiostoma californiense (Ce)	399	79.8	27.5	[illegible]	2.0
Goniadides carolinae (P)	173	32.6	6.7	[illegible]	3.0
Syllis regularis carolinae (P)	138	27.6	16.9	276	4.0
Sipunculida (undet.)	102	20.4	14.8	204	5.0
Glycinde centralis (M)	101	20.2	10.5	202	6.0
Glyptonax smithii (D)	89	17.8	14.5	178	7.0
Chrysopetalidae (undet.) (P)	85	17.0	8.4	170	8.0
Prionospio cristata (P)	83	16.6	7.4	166	9.0
Limaldria loma (Ec)	[illegible]	15.4	2.9	154	[illegible]
Euzonus disar (P)	66	13.2	5.4	132	[illegible]
Terebellidae (undet. 2) (P)	65	13.0	5.2	130	[illegible]
Ilyon tropaeis (A)	63	12.6	7.3	126	[illegible]
Glycinde pumova (P)	55	11.0	5.0	110	14.0
Anopla sp. (A)	48	9.6	9.0	96	15.0
Tellinoxus [illegible] (A)	46	9.2	11.0	92	16.0
Nematoda (undet.)	45	9.0	4.1	90	17.0
Grassinella limicata (M)	39	7.8	3.0	78	18.0
Nemipodia rubens (P)	38	7.6	2.6	76	19.0
Pelecypoda (undet.) (M)	37	7.4	6.1	74	20.0
Pasminaria pilobata (P)	36	7.2	9.6	72	21.0
Centrinella rapax (T)	34	6.8	6.4	68	22.0
Polychaeta (undet.) (A, M)	33	6.6	3.0	66	23.0
Minuspio cirrifera (P)	32	6.4	6.9	64	24.5
Euzonoides protulopsis (P)	32	6.4	1.7	64	24.5
Phyllemoides sp. (A)	31	6.2	3.7	62	26.5
Eulalia sanguinea (P)	31	6.2	4.5	62	26.5
Oligochaeta (undet.)	30	6.0	2.2	60	28.0
Axiothella mucosa (P)	29	5.8	4.1	58	29.5
Prionospio dirobranchiata (P)	29	5.8	1.6	58	29.5
Opiliogia sp. A (S)	27	5.4	7.1	54	31.5
Nereis [illegible] (P)	27	5.4	1.8	54	31.5
Aspidosiphon misakiensis (S)	25	5.0	5.9	50	33.0
Nuculana [illegible] (M)	24	4.8	4.1	48	34.0
Euzonus [illegible] (P)	23	4.6	3.6	46	35.5
Lysilla [illegible] (P)	23	4.6	4.7	46	35.5
Opiliogia sp. B (S)	21	4.2	4.0	42	37.0
Ophiura [illegible] (E)	20	4.0	4.5	40	38.0
Glycinde sp. (A)	19	3.8	2.3	38	39.0
Lumbrineris [illegible] (A)	18	3.6	5.5	36	41.5
[illegible] sp. (A)	18	3.6	3.0	36	41.5
Euzonus [illegible] (P)	18	3.6	3.0	36	41.5
Lysilla [illegible] (P)	18	3.6	3.8	36	41.5
Nereis longiarpus (P)	17	3.4	3.4	34	44.5
Neotrimastus californiensis (P)	17	3.4	2.3	34	44.5
Isopoda (undet.) (A)	15	3.0	2.3	30	47.5
Nuculana [illegible] (M)	15	3.0	1.2	30	47.5
Lumbrineris [illegible] (P)	15	3.0	2.1	30	47.5
Nereiphylla [illegible] (P)	15	3.0	3.0	30	47.5
Diopatra [illegible] (P)	14	2.8	2.8	28	50.5
Polychaeta (undet. 3) (M)	14	2.8	1.5	28	50.5
Polychaeta (undet.) (P)	13	2.6	1.8	26	53.5
Nereis [illegible] (P)	13	2.6	2.1	26	53.5
[illegible] (P)	13	2.6	1.9	26	53.5
Terebellidae (undet. A) (P)	12	2.4	2.8	24	55.5
[illegible] (P)	12	2.4	2.4	24	55.5
Nuculana [illegible] (M)	11	2.2	2.2	22	59.5
Ampharetidae (undet.) (P)	11	2.2	2.2	22	59.5
[illegible] (P)	11	2.2	1.1	22	59.5
[illegible] (P)	11	2.2	1.1	22	59.5
[illegible] (P)	11	2.2	1.1	22	59.5
[illegible] (undet.) (P)	11	2.2	1.1	22	59.5
[illegible] (undet.) (P)	[illegible]	2.0	2.0	[illegible]	65.5
Amphipoda (undet.) (A)	[illegible]	2.0	1.1	[illegible]	65.5

Table 71. (Cont.)

Species	Total Number	Number/0.1m² $\bar{X}$	SD	Estimated Number/m²	Rank by Number
	DS30				
Semele bellistriata (M)	10	2.0	1.7	20	65.0
Gestridae (undet.) A (P)	10	2.0	1.4	20	65.0
Owenia fusiformis (P)	10	2.0	1.7	20	65.0
Trinoratella carinata (A)	9	1.8	1.5	18	69.5
Mazeline sp. (Day 73) (P)	9	1.8	1.3	18	69.5
Nephtys squamosa (P)	9	1.8	1.3	18	69.5
Chaetomeringos rudolphi (P)	9	1.8	4.3	18	69.5
Ampelisca vadorum (A)	8	1.6	1.1	16	72.5
Pista cristata (P)	8	1.6	2.1	16	72.5
Amphipoda (undet.) B	7	1.4	1.5	14	75.0
Grassinella martinicensis (M)	7	1.4	1.5	14	75.0
Pterolysippe longicirrata (P)	7	1.4	1.5	14	75.0
Amphiodia (undet.) A	6	1.2	1.3	12	79.0
Laevicardium pictum (M)	6	1.2	0.8	12	79.0
Terebellidae sp. (P)	6	1.2	2.2	12	79.0
Pilumnus sp. A (P)	6	1.2	1.8	12	79.0
Aonides mayaguezensis (P)	6	1.2	1.3	12	79.0
Glycinde bubula (P)	5	1.0	1.2	10	84.0
Amphiphragmus sp. A (E)	5	1.0	1.2	10	84.0
Semele nuculoides (M)	5	1.0	1.0	10	84.0
Chaetopleura apilulata (M)	5	1.0	2.2	10	84.0
Sabellidae (undet.) (P)	5	1.0	1.4	10	84.0
Aligneis fragosis (D)	4	0.8	1.1	8	94.5
Serpulidae sp. (A)	4	0.8	1.3	8	94.5
Axinostylis smithi (C)	4	0.8	1.1	8	94.5
Lithophaga variegatus (E)	4	0.8	0.8	8	94.5
Ophiuroidea (undet.) B (E)	4	0.8	0.8	8	94.5
Melanellidae (undet.) (M)	4	0.8	1.8	8	94.5
Anachis avara (M)	4	0.8	1.1	8	94.5
Ostrea equestris (M)	4	0.8	0.6	8	94.5
Abra aequalis (M)	4	0.8	0.8	8	94.5
Unknown Taxon B	4	0.8	1.3	8	94.5
Harmothoe sp. B (Day 73) (P)	4	0.8	0.8	8	94.5
Psammolyce stenidoporia (P)	4	0.8	0.4	8	94.5
Protodorvillea petersteini (P)	4	0.8	1.3	8	94.5
Arropharus uriformis (P)	4	0.8	1.1	8	94.5
Polydora sp. D (P)	4	0.8	0.8	8	94.5
Arabella mutina (P)	4	0.8	0.8	8	94.5
Maldanidae (undet.) (P)	3	0.6	0.9	6	108.0
Trichomene sp. A	3	0.6	0.9	6	108.0
Phoxocephalidae (undet.) B (E)	3	0.6	1.3	6	108.0
Diastylopsis dawsoni (E)	3	0.6	0.9	6	108.0
Tellina iridina (M)	3	0.6	0.9	6	108.0
Dermatopsis inflata (P)	3	0.6	0.9	6	108.0
Chaetozone setosa (P)	3	0.6	0.9	6	108.0
Glycinde solitaria (P)	3	0.6	0.9	6	108.0
Armandia maculata (P)	3	0.6	0.5	6	108.0
Leitoscoloplos robusta (P)	3	0.6	0.4	6	108.0
Protodorvillea kefersteini (P)	3	0.6	0.4	6	108.0
Lumbrineris tenuis (D)	2	0.4	0.9	4	123.0
Glycinde solitaria (A)	2	0.4	0.5	4	123.0
Ammotrypane sp. (D)	2	0.4	0.9	4	123.0
Neotrypaea californiensis floridanus (A)	2	0.4	0.5	4	123.0
Nereididae (undet.) (P)	2	0.4	0.4	4	123.0
Paraonidae (undet.) (P)	2	0.4	0.9	4	123.0
Ampharetidae (undet.) (P)	2	0.4	0.5	4	123.0
Nereididae (undet.) (P)	2	0.4	0.5	4	123.0
[illegible] (P)	2	0.4	0.5	4	123.0
[illegible] (P)	2	0.4	0.4	4	123.0
[illegible] (P)	2	0.4	0.5	4	123.0
[illegible] (P)	2	0.4	0.5	4	123.0
[illegible] (P)	2	0.4	0.5	4	123.0
[illegible] (P)	2	0.4	0.5	4	123.0
[illegible] (P)	2	0.4	0.5	4	123.0
[illegible] (P)	2	0.4	0.5	4	123.0
[illegible] (P)	2	0.4	0.4	4	123.0
[illegible] (P)	2	0.4	0.4	4	123.0
[illegible] sp.	2	0.4	0.5	4	123.0
[illegible]	2	0.4	0.5	4	123.0

Table 72. (Cont.)

Species	Total Number	Number/0.1m² X	SD	Estimated Number/m²	Percent Number
Ebalia carinosa (D)	1	0.2	0.4	2	154.0
Pinnixa sp. A (D)	1	0.2	0.4	2	154.0
Majidae (undet.) B (D)	1	0.2	0.4	2	154.0
Heterocrypta granulata (D)	1	0.2	0.4	2	154.0
Brachyura (undet.) (D)	1	0.2	0.4	2	154.0
Portunidae (undet.) (D)	1	0.2	0.4	2	154.0
Processa hemphilli (D)	1	0.2	0.4	2	154.0
Maera williamsi (A)	1	0.2	0.4	2	154.0
Cyclaspis varians (C)	1	0.2	0.4	2	154.0
Lembos smithi (A)	1	0.2	0.4	2	154.0
Amphipoda (undet.) G	1	0.2	0.4	2	154.0
Thiela serrata (A)	1	0.2	0.4	2	154.0
Podoceridae (undet.) (A)	1	0.2	0.4	2	154.0
Argissa sp. A	1	0.2	0.4	2	154.0
Annuroidea (undet.) C E	1	0.2	0.4	2	154.0
Natica pusilla (M)	1	0.2	0.4	2	154.0
Epitonium multistriatum (M)	1	0.2	0.4	2	154.0
Nuculana pectinata (M)	1	0.2	0.4	2	154.0
Polyplacophora (undet.) D (M)	1	0.2	0.4	2	154.0
Nudibranchia (undet.) C (M)	1	0.2	0.4	2	154.0
Anomia simplex (M)	1	0.2	0.4	2	154.0
Chione sp. (M)	1	0.2	0.4	2	154.0
Tellina sp. (M)	1	0.2	0.4	2	154.0
Tranchelia tubes (P)	1	0.2	0.4	2	154.0
Spirorbidae (undet.)	1	0.2	0.4	2	154.0
Sabella pennacina (P)	1	0.2	0.4	2	154.0
Serpulidae (undet.) A (P)	1	0.2	0.4	2	154.0
Pomatoceros americanus (P)	1	0.2	0.4	2	154.0
Marphysa sp. B (Lar. (P)	1	0.2	0.4	2	154.0
Nereiphylla sp. C (P)	1	0.2	0.4	2	154.0
Naineris quigarti (P)	1	0.2	0.4	2	154.0
Theron mariomi (P)	1	0.2	0.4	2	154.0
Streptosyllis pinnata (P)	1	0.2	0.4	2	154.0
Exogone lourei (P)	1	0.2	0.4	2	154.0
Brania wellfleetensis (P)	1	0.2	0.4	2	154.0
Syllides verrilli (P)	1	0.2	0.4	2	154.0
Antistrosyllis linesi (P)	1	0.2	0.4	2	154.0
Eumida sanguinea (P)	1	0.2	0.4	2	154.0
Trypanosyllis sp. (P)	1	0.2	0.4	2	154.0
Syllis gracilis (P)	1	0.2	0.4	2	154.0
Nereiphylla rubiginosa (P)	1	0.2	0.4	2	154.0
Magelona papillicornis (P)	1	0.2	0.4	2	154.0
Armandia maculata (P)	1	0.2	0.4	2	154.0
Polydora websteri (P)	1	0.2	0.4	2	154.0
Scolelepis squamata (P)	1	0.2	0.4	2	154.0

Table [illegible]. Abundance of macroinvertebrate species in grab collections from station [illegible] (A = Amphipoda; [illegible] = Bivalvia; [illegible] = Cephalochordata; D = Decapoda; E = Echinodermata; [illegible] = Echiuroidea; I = Isopoda; M = Mollusca; P = Polychaeta; S = Sipunculida; T = Tanaidacea).

Species	Total Number	Number/0.1m² $\bar{x}$	SD	Estimated Number m²	Rank by Number
		DS21			
Branchiostoma caribaeum (C)	311	77.8	32.8	778	1.0
Aspidosiphon spinalis (S)	224	56.0	23.1	560	2.0
Sipunculida (undet.	60	15.0	8.8	150	3.0
Trichophoxus floridinus (A)	45	11.2	5.2	112	4.0
Calyptraea centralis (M)	28	7.0	6.9	70	5.0
Glyptoplax smithii (D)	23	5.8	4.3	58	6.5
Goniadides carolinae (P)	23	5.8	2.2	58	6.5
Polyplacophora (undet.) A (M)	22	5.5	3.3	55	8.0
Syllis regulata carolinae (P)	17	4.2	1.0	42	9.0
Eurydice littoralis (I)	16	4.0	4.0	40	10.0
Isopoda (undet.) A	15	3.8	1.7	38	11.5
Tiron tropakis (A)	15	3.8	3.0	38	11.5
Nematoda (undet.)	14	3.5	2.6	35	13.0
Tapulaedria loma (Ec)	11	2.8	3.1	28	14.5
Crassinella lunulata (M)	11	2.8	3.2	28	14.5
Wolfingia sp. A (S)	10	2.5	2.4	25	16.0
Nephtys picta (P)	9	2.2	1.7	22	17.0
Chama macerophylla (M)	8	2.0	0.8	20	18.5
Abra aequalis (M)	8	2.0	1.4	20	18.5
Pelecypoda (undet.) [illegible]	7	1.8	1.5	18	20.0
Ostracoda (undet.	6	1.5	0.6	15	22.0
Semele nuculoides (M)	6	1.5	0.6	15	22.0
Ervilia concentrica (M)	6	1.5	1.3	15	22.0
Nigrans longicarpus (D)	5	1.2	1.0	12	26.0
Wolfsohorgia sp. A (S)	5	1.2	1.5	12	26.0
Chaetopleura apiculata (M)	5	1.2	1.0	12	26.0
Wolfingia sp. B (S)	5	1.2	1.0	12	26.0
Hemipodus roseus (P)	5	1.2	1.0	12	26.0
Amphipoda (undet.) A	4	1.0	1.4	10	31.0
Leptochelia rapax (T)	4	1.0	1.2	10	31.0
Lampylaspis sp. (D)	4	1.0	1.4	10	31.0
Semele bellastriata (M)	4	1.0	1.4	10	31.0
Sigalion arenicola (P)	4	1.0	1.4	10	31.0
Pinnixa retinens (D)	3	0.8	1.0	8	36.5
Arene sp. (M)	3	0.8	1.0	8	36.5
Aspidosiphon misakiensis (S)	3	0.8	1.5	8	36.5
Amphis nebulosa (P)	3	0.8	1.0	8	36.5
Apyraxides protulicola (P)	3	0.8	0.5	8	36.5
Exogone hispar (P)	3	0.8	1.0	8	36.5
Synchelidium americanum (A)	2	0.5	0.6	5	48.0
Lembos unifornis (A)	2	0.5	1.0	5	48.0
Maera carolineana (A)	2	0.5	0.6	5	48.0
Cymadusa filia smithi (A)	2	0.5	1.0	5	48.0
Pseudoplatyishnopus floridanus (A)	2	0.5	0.6	5	48.0
Leptognatha laeca (T)	2	0.5	1.0	5	48.0
Apanthura magnifica (I)	2	0.5	0.6	5	48.0
Anthuroidea (undet.) B (I)	2	0.5	0.6	5	48.0
Tellina texana (M)	2	0.5	0.6	5	48.0
Corbula barrettiana (M)	2	0.5	1.0	5	48.0
Mitrella lunata (M)	2	0.5	0.6	5	48.0
Ilyanassa sp. (M)	2	0.5	0.6	5	48.0
Pseudeurytroe ambigua (P)	2	0.5	1.0	5	48.0
Mastobranchus sanilis (P)	2	0.5	0.6	5	48.0
Nereis [illegible] (P)	2	0.5	0.6	5	48.0
[illegible] (P)	2	0.5	0.6		48.0
Phyllodocidae (undet.) (P)	2	0.5	0.6	5	48.0
[illegible] (P)	2	0.5	0.5	5	48.0
[illegible] (P)	1	0.2		2	70.0
[illegible] (P)	1	0.2		2	70.0
[illegible] (P)	1	0.2	0.5	2	70.0
[illegible]	1	0.2	0.5	2	70.0
[illegible]	1	0.2	0.5	2	70.0

[illegible]

[illegible]	Total Number	Number/0.1m² X	Number/0.1m² SD	Estimated Number/m²	Rank by Number
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
Melanellidae indet. (M)	1	0.2	0.5	2	76.0
Alcyonella pectinata (M)	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
Virgiriella [illegible] (M)	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0
[illegible]	1	0.2	0.5	2	76.0

Table [illegible]. Abundance of macroinvertebrate species in grab samples from station DS12. (A = Amphipoda; Br = Brachiopoda; C = Cumacea; Ce = Cephalochordata; D = Decapoda; E = Echinodermata; Ec = Echiurida; I = Isopoda; M = Mollusca; Mc = Miscellaneous; P = Polychaeta; S = Sipunculida; T = Tanaidacea).

Species	Total Number	Number/0.1m² x̄	Number/0.1m² SD	Estimated Number m²	Rank by Number
	DS12				
Oxydromus parilanum (P)	486	47.2	26.1	972	1.0
Aspidosiphon spinalis (S)	59	11.8	6.6	118	[illegible]
Drilonereis filiformis (A)	57	11.4	4.7	114	3.0
Hemipodus roseus (P)	44	9.8	5.4	88	[illegible]
Nereiphylla castanea (P)	35	7.0	4.1	70	5.0
Tapeladrilus doma (P)	32	6.4	1.8	64	6.5
Syllis regulata carolinae (P)	32	6.4	2.7	64	6.5
Acanthomustrilis milleri (A)	24	4.8	4.0	48	8.0
Nematoda (undet.)	23	4.6	3.8	46	9.0
Armandides carolinae (P)	22	4.4	1.5	44	10.0
Polydorus extensus (P)	20	4.0	3.4	40	11.0
Tharyx virgo (P)	18	3.6	3.3	36	12.0
Glycinides pomonx (P)	17	3.4	1.7	34	13.5
Ph. roseus crassata (P)	17	3.4	2.1	34	13.5
Aonides taxaniensis (P)	15	3.0	1.6	30	15.0
Amphipoda (undet.) (A)	14	2.8	3.1	28	17.0
Neomysis americana (Mc)	14	2.8	5.7	28	17.0
Owenia sp. B (P)	14	2.8	1.6	28	17.0
Chrysopetalidae (undet.) (P)	13	2.6	1.8	26	19.0
Destomia elongata (P)	12	2.4	2.3	24	20.0
Cirratulidae sanguinea (P)	11	2.2	2.8	22	21.0
Pionosyllis sp. (P)	10	2.0	1.2	20	22.0
Pinnixa retinens (D)	9	1.8	1.8	18	24.5
Tiron tropakis (A)	9	1.8	1.5	18	24.5
Minuspio cirrifera (P)	9	1.8	1.2	18	24.5
Mucronis neglosa (P)	9	1.8	1.5	18	24.5
Pseudoplatyshnopus floridanus (A)	8	1.6	2.3	16	28.5
Tubiptriea centrilis (M)	8	1.6	1.3	16	28.5
Axiothella mucosa (P)	8	1.6	2.2	16	28.5
Paramphinome (undet.) A (P)	8	1.6	2.1	16	28.5
Leptosynapta inhaerens (E)	7	1.4	1.5	14	31.5
Lumbrinerides acuta (P)	7	1.4	1.7	14	31.5
Nemertina (undet.) (Mc)	6	1.2	0.8	12	34.0
Ampelisca concentrica (A)	6	1.2	0.8	12	34.0
Sphaerosyllis hystrix (P)	6	1.2	2.7	12	34.0
Ostracoda (undet.)	5	1.0	1.2	10	38.0
Polydoridae (undet.) (P)	5	1.0	1.2	10	38.0
Owenia sp. 2 (P)	5	1.0	1.4	10	38.0
Tanaidacea (undet.) (T)	5	1.0	1.4	10	38.0
Schistomeringos rudolphi (P)	5	1.0	1.0	10	38.0
Leptosynapta inhaerens (E)	4	0.8	1.1	8	43.0
Nemertina (undet.) B (Mc)	4	0.8	1.3	8	43.0
Strigilla mirabilis (M)	4	0.8	1.1	8	43.0
Tellina tropana (M)	4	0.8	1.1	8	43.0
Crassinella martinicensis (M)	4	0.8	0.9	8	43.0
Brachyuroidea (undet.) (D)	3	0.6	0.9	6	46.5
Spionidae (undet.) 3 (P)	3	0.6	0.5	6	46.5
Sonchidae (undet.) (P)	2	0.4	0.9	4	52.5
Aster scupta granulata (P)	2	0.4	0.5	4	52.5
Guillemondia sp. (A)	2	0.4	0.9	4	52.5
Liljeborgia sp. (A)	2	0.4	0.9	4	52.5
Spinther magnifica (D)	2	0.4	0.9	4	52.5
Turbellaria (undet.)	2	0.4	0.9	4	52.5
Tetramerus variegatus (T)	2	0.4	0.9	4	52.5
Tanaitis inusa (T)	2	0.4	0.9	4	52.5
Anthozoa (undet.) (C)	1	0.2	0.5	2	[illegible]
Cumacea (undet.) (C)	1	0.2	0.4	2	[illegible]
Aspidosiphon muelleri (S)	1	0.2	0.4	2	[illegible]

Table 4. (Cont.)

Species	Total Number	Number 0.1m² X̄	Number 0.1m² SD	Estimated Number m²	Rank by Number
Ilyanassa smithii (P)	1	0.2	0.4	2	73.5
Littorinidae (undet.) (P)	1	0.2	0.4	2	73.5
Hydrobia nemphilii (P)	1	0.2	0.4	2	73.5
Haliaspis varians (P)	1	0.2	0.4	2	73.5
Cerithiopsis serrata (M)	1	0.2	0.4	2	73.5
Pyramidellidae smithii (P)	1	0.2	0.4	2	73.5
Odostomia stenops (P)	1	0.2	0.4	2	73.5
Odostomia aurantiaca (P)	1	0.2	0.4	2	73.5
Turbonilla pyramidata (Br)	1	0.2	0.4	2	73.5
Acteocina candei (M)	1	0.2	0.4	2	73.5
Retusinellidae (undet.) A (M)	1	0.2	0.4	2	73.5
Marginella prenotata (M)	1	0.2	0.4	2	73.5
Bulla tuberculata (M)	1	0.2	0.4	2	73.5
Cymatella lanceolata (P)	1	0.2	0.4	2	73.5
Tricolia sp. (P)	1	0.2	0.4	2	73.5
Vermicularia vermicularis granulosa (P)	1	0.2	0.4	2	73.5
Cingulina cirifera (P)	1	0.2	0.4	2	73.5
Nudibranchia sp. (Br) (P) (M)	1	0.2	0.4	2	73.5
Acanthopleura lirtella (P)	1	0.2	0.4	2	73.5
Terebellidae (undet.) B (P)	1	0.2	0.4	2	73.5
Terebellinae (undet.) B (P)	1	0.2	0.4	2	73.5
Nereis fusiformis (P)	1	0.2	0.4	2	73.5
Nereis succinea (P)	1	0.2	0.4	2	73.5
Nereis acuta (P)	1	0.2	0.4	2	73.5
Nereis dumerilii (P)	1	0.2	0.4	2	73.5
Neanthes succinea (P)	1	0.2	0.4	2	73.5
Nereidae (undet.) (P)	1	0.2	0.4	2	73.5
Glycinde armata (P)	1	0.2	0.4	2	73.5
Glycinde armigera (P)	1	0.2	0.4	2	73.5
Glycinde (P)	1	0.2	0.4	2	73.5
Glycinde (P)	1	0.2	0.4	2	73.5

[illegible]

Species	Total Number	Number %	[illegible] %	Estimated Number of	[illegible] Number
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	132	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] indet. P	47	14.4	12.9	194	3.7
[illegible] indet.	63	18.9	[illegible]	187	[illegible]
[illegible]	95	13.6	[illegible]	139	5.3
[illegible]	93	13.9	5.2	139	5.3
[illegible]	81	12.2	5.3	122	[illegible]
[illegible]	81	12.2	5.5	122	5.3
[illegible]	81	12.2	[illegible]	122	8.3
[illegible]	54	13.5	8.5	135	13.5
[illegible]	54	10.8	4.9	135	17.5
[illegible]	52	13.4	7.1	134	12.1
[illegible]	52	13.2	5.3	132	13.3
[illegible]	50	10.7	4.4	[illegible]	14.3
[illegible] indet. A M	44	8.8	[illegible]	[illegible]	15.1
[illegible]	39	7.8	[illegible]	[illegible]	15.3
[illegible] indet.	32	6.4	5.3	64	17.0
[illegible] indet. M	21	4.2	4.2	42	15.0
[illegible] sp. A	20	4.0	4.0	[illegible]	14.3
[illegible]	18	3.4	2.0	18	20.5
[illegible]	14	3.8	3.8	38	22.5
[illegible]	18	3.6	3.6	36	22.5
[illegible]	14	3.6	3.2	36	22.5
[illegible] sp. B	14	3.4	4.7	34	24.1
[illegible] indet.	16	3.2	1.6	32	28.6
[illegible]	16	3.2	2.1	32	29.1
[illegible]	16	3.2	2.3	32	29.3
[illegible]	14	2.8	2.8	28	28.6
[illegible]	13	2.6	3.3	26	30.3
[illegible]	13	2.6	2.6	26	30.3
[illegible]	13	2.6	3.4	26	31.1
[illegible] indet.	12	2.4	4.1	24	33.3
[illegible]	12	2.4	2.1	24	33.3
[illegible] indet.	12	2.4	4.5	24	33.3
[illegible] sp. B	11	2.2	2.8	22	35.8
[illegible]	11	2.2	2.4	22	35.8
[illegible] indet. A	11	2.2	1.7	22	37.5
[illegible]	11	2.2	2.2	22	37.5
[illegible] indet.	[illegible]	1.8	1.8	18	[illegible]
[illegible]	4	1.8	[illegible]	18	[illegible]
[illegible]	4	1.8	1.8	18	[illegible]
[illegible]	4	1.8	1.8	18	[illegible]
[illegible]	4	1.8	1.8	18	[illegible]
[illegible]	4	1.4	1.4	14	[illegible]
[illegible]	4	1.4	1.4	14	[illegible]
[illegible]	4	1.4	1.4	14	[illegible]
[illegible]	4	1.4	1.4	14	[illegible]
[illegible]	3	1.2	1.2	12	[illegible]
[illegible]	3	1.2	1.2	12	[illegible]
[illegible]	3	1.2	1.2	12	[illegible]
[illegible]	3	1.2	1.2	12	[illegible]
[illegible]	3	1.2	1.2	12	[illegible]
[illegible]	3	1.2	1.2	12	[illegible]
[illegible] indet. A M	3	1.2	1.2	12	[illegible]
[illegible]	3	1.2	1.2	12	[illegible]
[illegible]	3	1.2	1.2	12	[illegible]
[illegible]	3	1.2	1.2	12	[illegible]

Table 75. (Cont.)

Species	Total Number	Number/0.1m² $\bar{X}$	SD	Estimated Number/m²	Rank by Number
	PS33				
Photis sp. (A)	4	0.8	1.3	8	62.0
Discoporella umbellata (E)	4	0.8	0.8	8	62.0
Ophelia denticulata (P)	4	0.8	0.8	8	62.0
Eulalia macroceros (P)	4	0.8	1.8	8	62.0
Aricidea pernuti (P)	4	0.8	1.1	8	62.0
Terebellidae (undet.) A (P)	4	0.8	1.1	8	62.0
Amphare te americana (P)	4	0.8	0.4	8	62.0
Podochela sidneyi (D)	3	0.6	0.9	6	69.5
Corbula barrattiana (M)	3	0.6	0.5	6	69.5
Polyplacophora (undet.) B (M)	3	0.6	0.5	6	69.5
Glycera papillosa (P)	3	0.6	1.3	6	69.5
Syllis gracilis (P)	3	0.6	0.5	6	69.5
Phyllodoce longipes (P)	3	0.6	1.3	6	69.5
Syllis cornuta (P)	3	0.6	0.5	6	69.5
Aonides paraguezensis (P)	3	0.6	0.9	6	69.5
Apseudidae (undet.) B (C)	2	0.4	0.9	4	83.0
Oxyurostylis smithi (C)	2	0.4	0.9	4	83.0
Aphrothura magnifica (I)	2	0.4	0.5	4	83.0
Ophiuroidea (undet.) B (E)	2	0.4	0.5	4	83.0
Crassinella martinicensis (M)	2	0.4	0.5	4	83.0
Pelecypoda (undet.) G	2	0.4	0.9	4	83.0
Hyalina vellei (M)	2	0.4	0.5	4	83.0
Anthis avara (M)	2	0.4	0.9	4	83.0
Chaetopleura apiculata (M)	2	0.4	0.9	4	83.0
Laevicardium pictum (M)	2	0.4	0.5	4	83.0
Asphidosiphon misaelensis (S)	2	0.4	0.5	4	83.0
Harmothoe sp. B (Day) (P)	2	0.4	0.9	4	83.0
Terebellidae (undet.) C (P)	2	0.4	0.9	4	83.0
Phyllodocidae (undet.) A (P)	2	0.4	0.5	4	83.0
Hydroides protulicola (P)	2	0.4	0.9	4	83.0
Antalytus dentalius (P)	2	0.4	0.5	4	83.0
Lepidonotus sublevis (P)	2	0.4	0.5	4	83.0
Lysidice ninetta (P)	2	0.4	0.5	4	83.0
Eulalia sanguinea (P)	2	0.4	0.9	4	83.0
Sicyonia typica (D)	1	0.2	0.4	2	106.0
Palaemoninae (undet.) (D)	1	0.2	0.4	2	106.0
Leucosiidae (undet.) (D)	1	0.2	0.4	2	106.0
Ampelisca vadorum (A)	1	0.2	0.4	2	106.0
Trichophoxus floridanus (A)	1	0.2	0.4	2	106.0
Amphipoda (undet.) F	1	0.2	0.4	2	106.0
Tanaidea (undet.) B	1	0.2	0.4	2	106.0
Ampelisca verrilli (A)	1	0.2	0.4	2	106.0
Gammos webster (A)	1	0.2	0.4	2	106.0
Nemertina (undet.) C	1	0.2	0.4	2	106.0
Ophiuroidea (undet.) F (E)	1	0.2	0.4	2	106.0
Amphiura punctulata (E)	1	0.2	0.4	2	106.0
Tellina proxima (M)	1	0.2	0.4	2	106.0
Tivela mercenaria (M)	1	0.2	0.4	2	106.0
Arene sp. (M)	1	0.2	0.4	2	106.0
Turbinidae (undet.) A (M)	1	0.2	0.4	2	106.0
Dentalium eburneum (M)	1	0.2	0.4	2	106.0
Argopecten gibbus (M)	1	0.2	0.4	2	106.0
Chama macerophylla (M)	1	0.2	0.4	2	106.0
Nudibranchia (undet.) B (M)	1	0.2	0.4	2	106.0
Glycera sphyrabranchia (P)	1	0.2	0.4	2	106.0
Pomatoceros americanus (P)	1	0.2	0.4	2	106.0
Sabellaria sp. B (P)	1	0.2	0.4	2	106.0
Nereis virens (P)	1	0.2	0.4	2	106.0
Lumbrinerides fauta (P)	1	0.2	0.4	2	106.0
Sabellaria vulgaris (P)	1	0.2	0.4	2	106.0
Eulalia tuora (P)	1	0.2	0.4	2	106.0

Table 7b. Abundance of macroinvertebrate species in grab collections from station DS34. (A = Amphipoda; C = Cumacea; Ce = Cephalochordata; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; I = Isopoda; M = Mollusca; My = Mysidacea; P = Polychaeta; S = Sipunculida; St = Stomatopoda; T = Tanaidacea).

DS34					
Species	Total Number	Number/0.1m² $\bar{x}$	SD	Estimated Number/m²	Rank by Number
Branchiostoma caribaeum (Ce)	631	126.2	73.4	1262	1.0
Syllis regularis carolinae (P)	79	15.8	7.6	158	2.0
Tiron tropakis (A)	78	15.6	4.7	156	3.0
Cuspidaria foma (Ec)	45	9.0	11.0	90	4.5
Prionospio cristata (P)	45	9.0	6.9	90	4.5
Nematoda (undet.)	33	6.6	7.2	66	6.5
Chrysopetalidae (undet.) (P)	33	6.6	4.3	66	6.5
Aspidosiphon spinalis (S)	32	6.4	5.3	64	8.0
Spiophanes carolinae (P)	29	5.8	4.5	58	9.5
Tharyx marioni (P)	29	5.8	4.3	58	9.5
Polyplacophora (undet.) A (M)	27	5.4	5.9	54	11.0
Hemipodus roseus (P)	26	5.2	3.1	52	12.0
Rudilemboides sp. (A)	25	5.0	3.9	50	13.5
Trichophoxus floridanus (A)	25	5.0	5.7	50	13.5
Nephtys incisa (P)	21	4.2	1.6	42	15.0
Oligochaeta (undet.)	19	3.8	3.1	38	16.0
Calyptraea centralis (M)	18	3.6	1.9	36	17.0
Eurydice littoralis (I)	16	3.2	3.6	32	18.0
Exogone dispar (P)	15	3.0	2.2	30	19.0
Aricidea pernuti (P)	13	2.6	1.3	26	20.0
Armandia maculata (P)	11	2.2	2.9	22	21.0
Spiophanes bombyx (P)	9	1.8	2.9	18	22.5
Aonides mayriquezensis (P)	9	1.8	2.7	18	22.5
Pinnixa retinens (D)	8	1.6	2.3	16	25.0
Apanthura magnilobata (I)	8	1.6	1.1	16	25.0
Minuspio cirrifera (P)	8	1.6	2.2	16	25.0
Glycinplax smithii (D)	7	1.4	1.1	14	28.0
Leptosynapta rigax (E)	7	1.4	1.5	14	28.0
Nereis succinea (P)	7	1.4	2.1	14	28.0
Crassinella lunulata (M)	6	1.2	1.1	12	31.0
Dipolydora sp. (P)	6	1.2	2.2	12	31.0
Diopatrus eximius (P)	6	1.2	0.8	12	31.0
Tanaidacea (undet.) (D)	5	1.0	1.7	10	35.0
Pagurus longicarpus (D)	5	1.0	1.7	10	35.0
Distoporella imbellata (Ec)	5	1.0	1.2	10	35.0
Terebellidae (undet.) B (P)	5	1.0	2.2	10	35.0
Sigalion arenicola (P)	5	1.0	0.7	10	35.0
Lilleporella sp. (A)	4	0.8	1.3	8	40.0
Microdeutopus sp. (A)	4	0.8	0.8	8	40.0
Cymetrina (undet.) (A)	4	0.8	0.8	8	40.0
Piraripsyllis longibranchia (P)	4	0.8	0.8	8	40.0
Cumbrinereides acuta (P)	4	0.8	1.8	8	40.0
Ostracoda (undet.)	3	0.6	0.9	6	46.5
Cylichna varians (M)	3	0.6	0.5	6	46.5
Cylichna proxima (M)	3	0.6	0.9	6	46.5
Crassinella martinicensis (M)	3	0.6	1.3	6	46.5
Polydora sp. B (P)	3	0.6	1.3	6	46.5
Marphysa sp. B Gar. (P)	3	0.6	0.5	6	46.5
Axiothella mucosa (P)	3	0.6	0.9	6	46.5
Spiophanes kudenovi (P)	3	0.6	1.3	6	46.5
Amphipoda (undet.) (A)	2	0.4	0.5	4	57.0
Gammaropsis sp. (A)	2	0.4	0.5	4	57.0
Ericthonius sp. (A)	2	0.4	0.5	4	57.0
Xenoistylis smithi (D)	2	0.4	0.5	4	57.0
Polychaeta (undet.) (P)	2	0.4	0.5	4	57.0
Polycirrus (undet.) (P)	2	0.4	0.5	4	57.
Glycera papillosa (P)	2	0.4	0.5	4	57.
Nephtys bucera (P)	2	0.4	0.4	4	57.0
Pseudopolydora kempi (P)	2	0.4	0.5	4	57.0
Terebellidae (undet.) A (P)	2	0.4	0.4	4	57.0
Nereis dorsalis (P)	2	0.4	0.5	4	57.0
Eunoa antennata (P)	2	0.4	0.5	4	57.0
Iphitoe carri (P)	2	0.4	0.5	4	57.0

Table 7b. (Cont.)

Species	Total Number	Number/0.1m² x̄	Number/0.1m² SD	Estimated Number/m²	Rank by Number
		DS34			
Aretes merriamis (P)	1	0.2	0.4	2	80.0
Nitinitia (undet.) (P)	1	0.2	0.4	2	80.0
Latreutes parvulus (D)	1	0.2	0.4	2	80.0
Pinnixa tenera (P)	1	0.2	0.4	2	80.0
Processa hemphilli (D)	1	0.2	0.4	2	80.0
Synalpheus americanus (A)	1	0.2	0.4	2	80.0
Lysianassa sp. A (Mv)	1	0.2	0.4	2	80.0
Amphipoda (undet.) F	1	0.2	0.4	2	80.0
Acanthohaustorius millsi (A)	1	0.2	0.4	2	80.0
Nannosquilla sp. (St)	1	0.2	0.4	2	80.0
Batea catharinensis (A)	1	0.2	0.4	2	80.0
Leptognathia caeca (T)	1	0.2	0.4	2	80.0
Ptilanthura tricorina (I)	1	0.2	0.4	2	80.0
Nemertina (undet.) B	1	0.2	0.4	2	80.0
Litechinus variegatus (E)	1	0.2	0.4	2	80.0
Armele bellastriata (M)	1	0.2	0.4	2	80.0
Brutila concentrica (M)	1	0.2	0.4	2	80.0
Arene sp. (M)	1	0.2	0.4	2	80.0
Besionura elongata (P)	1	0.2	0.4	2	80.0
Serpulidae (undet.) (P)	1	0.2	0.4	2	80.0
Eteone vermgera (P)	1	0.2	0.4	2	80.0
Scolibregma inflatum (P)	1	0.2	0.4	2	80.0
Scoloplos fragi (P)	1	0.2	0.4	2	80.0
Notomastus latericeus (P)	1	0.2	0.4	2	80.0
Owenia nebulosi (P)	1	0.2	0.4	2	80.0
Laonice cirrata (P)	1	0.2	0.4	2	80.0
Notomastus hemipodus (P)	1	0.2	0.4	2	80.0
Hydroides protulicola (P)	1	0.2	0.4	2	80.0
Owenia fusiformis (P)	1	0.2	0.4	2	80.0
Neoamastus californiensis (P)	1	0.2	0.4	2	80.0
Ampharete americana (P)	1	0.2	0.4	2	80.0
Thelepus arenae (P)	1	0.2	0.4	2	80.0
Pectinaria sp. (P)	1	0.2	0.4	2	80.0

Table 77. Abundance of macroinvertebrate species in grab collections from station DS35. (A = Amphipoda; C = Cumacea; Cc = Cephalochordata; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; I = Isopoda; M = Mollusca; My = Mysidacea; P = Polychaeta; S = Sipunculida; T = Tanaidacea).

DS35					
Species	Total Number	Number/0.1m² $\bar{X}$	Number/0.1m² SD	Estimated Number/m²	Rank by Number
Branchiostoma caribaeum (Cc)	469	93.8	49.8	938	1.0
Tiron tropakis (A)	65	13.0	12.2	130	2.0
Prionospio cristata (P)	63	12.6	7.2	126	3.0
Hemipodus roseus (P)	61	12.2	8.3	122	4.0
Syllis regulata carolinae (P)	60	12.0	3.4	120	5.0
Chrysopetalidae (undet.) (P)	54	10.8	9.1	108	6.0
Calyptraea centralis (M)	52	10.4	9.3	104	7.0
Glyptoplax smithii (D)	49	9.8	11.0	98	8.0
Aspidosiphon spinalis (S)	48	9.6	5.6	96	9.0
Goniadides carolinae (P)	47	9.4	3.3	94	10.0
Termilopsis annulata (P)	39	7.8	9.4	78	11.0
Nematoda (undet.)	35	7.0	5.6	70	12.0
Polyplacophora (undet.) A (M)	32	6.4	3.8	64	13.0
Trichophoxus floridanus (A)	25	5.0	7.0	50	14.5
Tolfingia sp. A (S)	25	5.0	9.0	50	14.5
Spiophanes bombyx (P)	24	4.8	4.0	48	16.0
Polyplacophora (undet.) B (M)	22	4.4	1.7	44	17.0
Eulalia sanguinea (P)	21	4.2	4.4	42	18.0
Exogone dispar (P)	20	4.0	4.2	40	19.0
Lupuladria doma (Ec)	19	3.8	2.4	38	20.0
Photis sp. (A)	17	3.4	6.0	34	21.5
Axiothella mucosa (P)	17	3.4	2.1	34	21.5
Hesionura elongata (P)	15	3.0	3.2	30	23.5
Polycirrus eximius (P)	15	3.0	1.6	30	23.5
Minuspio cirrifera (P)	14	2.8	1.9	28	25.0
Eurydice littoralis (I)	13	2.6	2.1	26	26.5
Onuphis nebulosa (P)	13	2.6	0.9	26	26.5
Cirratulidae (undet.) B (P)	12	2.4	2.3	24	28.0
Pinnixa retinens (D)	11	2.2	1.6	22	29.5
Travisia parva (P)	11	2.2	2.3	22	29.5
Crassinella lunulata (M)	10	2.0	1.9	20	31.0
Maera carolinana (A)	9	1.8	1.6	18	33.5
Apanthura magnifica (I)	9	1.8	1.9	18	33.5
Turbellaria (undet.)	9	1.8	2.4	18	33.5
Marphysa sp. B (Jar.) (P)	9	1.8	1.8	18	33.5
Isopoda (undet.) A	8	1.6	1.8	16	37.5
Leptognatha caeca (T)	8	1.6	1.3	16	37.5
Owenia squamosa (P)	8	1.6	1.8	16	37.5
Oligochaeta (undet.)	8	1.6	1.6	16	37.5
Monetiadidae (undet.) (D)	7	1.4	1.1	14	42.5
Ostracoda (undet.)	7	1.4	1.3	14	42.5
Trypanosyllis sp. (P)	7	1.4	2.1	14	42.5
Notomastus lateralis (P)	7	1.4	1.1	14	42.5
Neanthes succinea (P)	7	1.4	1.2	14	42.5
Sphaerosyllis rudolphi (P)	7	1.4	1.7	14	42.5
Liljeborgia sp. (A)	6	1.2	1.3	12	48.5
Lambos smithi (A)	6	1.2	2.7	12	48.5
Iron aequalis (M)	6	1.2	1.9	12	48.5
Eulalia matrocepis (P)	6	1.2	1.5	12	48.5
Phyllodocidae (undet.) A (P)	6	1.2	2.2	12	48.5
Pagurus longicarpus (D)	5	1.0	1.7	10	54.5
Tryblia lanterna (M)	5	1.0	1.0	10	54.5
Mysidacea (undet.) (My)	5	1.0	1.4	10	54.5
Nereis (Neanthes) succinea (P)	5	1.0	1.2	10	54.5
Nereididae (undet.) A (P)	5	1.0	1.4	10	54.5
Nereis pelagica (P)	5	1.0	1.2	10	54.5
Nereis (Neanthes) (P)	5	1.0	1.0	10	54.5
Crassinella martinicensis (M)	4	0.8	1.3	8	61.5
Nereididae (undet.) (P)	4	0.8	1.3	8	61.5
Nereis succinea (P)	4	0.8	0.8	8	61.5
Leptosynapta inhaerens (E)	4	0.8	0.8	8	61.5
Nereis virens (P)	4	0.8	1.3	8	61.5
Nereis (Neanthes) succinea (P)	4	0.8	1.1	8	61.5
Lumbrineris tenuis (P)	4	0.8	1.3	8	61.5

Table 77. (Cont.).

Species	Total Number	Number/0.1m² $\bar{X}$	Number/0.1m² SD	Estimated Number/m²	Rank by Number
DS35					
Cyclaspis varians (C)	3	0.6	0.9	6	70.5
Campylaspis sp. (C)	3	0.6	0.9	6	70.5
Oxyurostylis smithi (C)	3	0.6	0.9	6	70.5
Neomysis americana (Mv)	3	0.6	1.3	6	70.5
Lytechinus variegatus (E)	3	0.6	1.3	6	70.5
Discoporella umbellata (Bo)	3	0.6	0.5	6	70.5
Hyalina velliei (M)	3	0.6	0.9	6	70.5
Mitrella lunata (M)	3	0.6	0.9	6	70.5
Sipunculida (undet.)	3	0.6	0.9	6	70.5
Aricidea cerruti (P)	3	0.6	0.9	6	70.5
Terebellidae (undet.) A (P)	3	0.6	1.3	6	70.5
Sigalion arenicola (P)	3	0.6	0.9	6	70.5
Rudilemboides sp. (A)	2	0.4	0.5	4	82.5
Amphipoda (undet.) A	2	0.4	0.5	4	82.5
Gastrosaccus sp. A (Mv)	2	0.4	0.9	4	82.5
Neomysis americana floridanus (A)	2	0.4	0.5	4	82.5
Ophiuroidea (undet.) (E)	2	0.4	0.5	4	82.5
Nitidella nobilis (M)	2	0.4	0.5	4	82.5
Melanellidae (undet.) (M)	2	0.4	0.5	4	82.5
Gastropoda (undet.) A (M)	2	0.4	0.5	4	82.5
Chama macerophylla (M)	2	0.4	0.5	4	82.5
Ninoe leptognatha (P)	2	0.4	0.9	4	82.5
Nereis grubei (P)	2	0.4	0.5	4	82.5
Podarke pescara	2	0.4	0.4	4	82.5
Leptochela serratorrita (D)	1	0.2	0.4	2	113.0
Latreutes parvulus (D)	1	0.2	0.4	2	113.0
Podochela sidneyi (D)	1	0.2	0.4	2	113.0
Heteropagurus granulata (D)	1	0.2	0.4	2	113.0
Portunidae (undet.) (D)	1	0.2	0.4	2	113.0
Synchelidium americanum (A)	1	0.2	0.4	2	113.0
Bathyporeia parkeri (A)	1	0.2	0.4	2	113.0
Leucon(a) incerta (A)	1	0.2	0.4	2	113.0
Carinoepitea carinata (A)	1	0.2	0.4	2	113.0
Eurytemora carpax (C)	1	0.2	0.4	2	113.0
Xanthidae (undet.) A (C)	1	0.2	0.4	2	113.0
Squilla mantis (C)	1	0.2	0.4	2	113.0
Ampelisca agassizi (A)	1	0.2	0.4	2	113.0
Harpiniopsis fossa (A)	1	0.2	0.4	2	113.0
Anthilia serrata (A)	1	0.2	0.4	2	113.0
Nemertina (undet.) A	1	0.2	0.4	2	113.0
Nemertina (undet.) B	1	0.2	0.4	2	113.0
Ophiuroidea (undet.) A (E)	1	0.2	0.4	2	113.0
Ophiuroidea (undet.) B (E)	1	0.2	0.4	2	113.0
Nuculana profunda (M)	1	0.2	0.4	2	113.0
Nuculana [illegible] (M)	1	0.2	0.4	2	113.0
Nuculana [illegible] (M)	1	0.2	0.4	2	113.0
Nuculana [illegible] (M)	1	0.2	0.4	2	113.0
Turridae (undet.) B (M)	1	0.2	0.4	2	113.0
Turbonilla [illegible] (M)	1	0.2	0.4	2	113.0
Tagelus sp. (M)	1	0.2	0.4	2	113.0
Polycladophora (undet.) (M)	1	0.2	0.4	2	113.0
Polychaeta (undet.) (P)	1	0.2	0.4	2	113.0
Glycinde [illegible] (P)	1	0.2	0.4	2	113.0
Dentalium eburneum (M)	1	0.2	0.4	2	113.0
Laevum sp. (M)	1	0.2	0.4	2	113.0
Psammodrilus [illegible] (P)	1	0.2	0.4	2	113.0
Euphanisilis [illegible] (P)	1	0.2	0.4	2	113.0
Pista [illegible] remota (P)	1	0.2	0.4	2	113.0
Sillis [illegible] (P)	1	0.2	0.4	2	113.0
Marenzeria sp. A (P)	1	0.2	0.4	2	113.0
Ampharetidae (undet.)	1	0.2	0.4	2	113.0

Table 77. (Cont.).

DS35

Species	Total Number	Number/0.1m² $\bar{x}$	SD	Estimated Number/m²	Rank by Number
Tharyx marioni (P)	1	0.2	0.4	2	113.0
Pirrophoros lyriformis (P)	1	0.2	0.4	2	113.0
Ancistrosyllis jonesi (P)	1	0.2	0.4	2	113.0
Glycera oxycephala (P)	1	0.2	0.4	2	113.0
Eunice websteri (P)	1	0.2	0.4	2	113.0
Terebellidae (undet.) 3 (P)	1	0.2	0.4	2	113.0
Nereis succinea (P)	1	0.2	0.4	2	113.0
Eteone heteropoda (P)	1	0.2	0.4	2	113.0
Poecilochaetus sp. (P)	1	0.2	0.4	2	113.0
Lysidice ninetta (P)	1	0.2	0.4	2	113.0
Phyllodoce arenae (P)	1	0.2	0.4	2	113.0
Aonides mayaguezensis (P)	1	0.2	0.4	2	113.0

Table 78. Abundance of macroinvertebrate species in grab collections from station DS3b. (A = Amphipoda; C = Cumacea; Cc = Cephalocharidata; D = Decapoda; Ec = Echinodermata; I = Isopoda; M = Mollusca; My = Mysidacea; P = Polychaeta; S = Sipunculida).

DS3b					
Species	Total Number	Number 0.1m² $\bar{x}$	Number 0.1m² SD	Estimated Number m²	Rank by Number
Branchiostoma lanceolatum (Cc)	353	70.6	50.4	706	1.0
Cuspidaria lima (Ec)	162	32.4	58.1	324	2.0
Trichophoxus floridanus (A)	58	11.6	7.3	116	3.0
Spiophanes bombyx (P)	37	7.4	3.3	74	4.0
Acanthohaustorius sp. (A)	25	5.0	10.1	50	5.0
Axiothella mucosa (P)	24	4.8	4.2	48	6.0
Armandia maculata (P)	20	4.0	3.5	40	7.0
Nemertina (undet.) A	19	3.8	2.5	38	8.0
Nematoda (undet.)	18	3.6	2.1	36	9.5
Nephtys incisa (P)	18	3.6	3.0	36	9.5
Chrysopetalidae (undet.) (P)	16	3.2	2.8	32	11.0
Glycera oxycephala (P)	15	3.0	2.4	30	12.5
Nephtys picta (P)	15	3.0	2.3	30	12.5
Onuphis eremita (P)	12	2.4	2.1	24	14.0
Apanthura magnifica (I)	10	2.0	1.4	20	15.0
Trinophoxus epistomus (A)	8	1.6	3.0	16	17.0
Protohaustorius nr. deichmannae (A)	8	1.6	2.5	16	17.0
Aspidosiphon spinalis (S)	8	1.6	1.1	16	17.0
Syllis regulata carolinae (P)	7	1.4	1.7	14	19.5
Prionospio cristata (P)	7	1.4	3.1	14	19.5
Bathyporeia parkeri (A)	6	1.2	2.2	12	21.5
Pseudeurythoe ambigua (P)	6	1.2	1.6	12	21.5
Prionospio fallax (P)	5	1.0	1.7	10	23.5
Phyllodoce irenae (P)	5	1.0	1.4	10	23.5
Pinnixa retinens (D)	4	0.8	0.8	8	29.5
Rudilemboides sp. (A)	4	0.8	1.6	8	29.5
Gastrosacus sp. A (My)	4	0.8	1.3	8	29.5
Ampelisca verrilli (A)	4	0.8	1.3	8	29.5
Tiron triaxis (A)	4	0.8	1.3	8	29.5
Polyplacophora (undet.) A (M)	4	0.8	1.3	8	29.5
Cirratulidae (undet.) B (P)	4	0.8	0.8	8	29.5
Aricidea jerruti (P)	4	0.8	1.3	8	29.5
Prionospio cirrobranchiata (P)	4	0.8	1.3	8	29.5
Magelona rosea (P)	4	0.8	1.3	8	29.5
Acanthohaustorius millsi (A)	3	0.6	1.3	6	36.0
Holothuroidea (undet.) B	3	0.6	0.5	6	36.0
Oligochaeta (undet.)	3	0.6	1.3	6	36.0
Trachypeneus constrictus (D)	2	0.4	0.9	4	46.0
Diopatra sp. (A)	2	0.4	0.5	4	46.0
Jerboarmia sp. (A)	2	0.4	0.9	4	46.0
Photis sp. (A)	2	0.4	0.9	4	46.0
Neomysis americana (My)	2	0.4	0.9	4	46.0
Ervilia concentrica (M)	2	0.4	0.5	4	46.0
Crassinella lunulata (M)	2	0.4	0.5	4	46.0
Aspidosiphon misakiensis (S)	2	0.4	0.9	4	46.0
Nonidides carolinae (P)	2	0.4	0.9	4	46.0
Limbrineris lattreilli (P)	2	0.4	0.5	4	46.0
Maeraclymene gonatis (P)	2	0.4	0.9	4	46.0
Terebellidae (undet.) A (P)	2	0.4	0.5	4	46.0
Owenia fusiformis (P)	2	0.4	0.9	4	46.0
Glycinella torquata (P)	2	0.4	0.9	4	46.0
Pionosyllis sp. (P)	2	0.4	0.9	4	46.0
Isolda pulchella (P)	2	0.4	0.9	4	46.0
Lembos unicornis (A)	2	0.4	0.9	4	46.0
Sigalionidae (undet.) (P)	1	0.2	0.4	2	53.0
Unciolinae (undet.) B	1	0.2	0.4	2	53.0
Dyslinoe stephensoni (P)	1	0.2	0.4	2	53.0
Glycinde smithsoni (P)	1	0.2	0.4	2	53.0
Pectinariidae (undet.) (P)	1	0.2	0.4	2	53.0
Pectinaria hyperborea (P)	1	0.2	0.4	2	53.0
Ampharetidae (undet.) (P)	1	0.2	0.4	2	53.0

Table 73. (Cont.)

Species	Total Number	Number/0.1m² $\bar{x}$	Number/0.1m² SD	Estimated Number/m²	Rank by Number
	DS36				
Cyclaspis varians (C)	1	0.2	0.4	2	68.0
Oxyurostylis smithi (C)	1	0.2	0.4	2	68.0
Cyathura burbancki (I)	1	0.2	0.4	2	68.0
Pseudoplatyishnopus floridanus (A)	1	0.2	0.4	2	68.0
Actiniaria (undet.)	1	0.2	0.4	2	68.0
Ophiuroidea (undet.)	1	0.2	0.4	2	68.0
Discoporella umbellata (Ec)	1	0.2	0.4	2	68.0
Olivella mutica (M)	1	0.2	0.4	2	68.0
Tellina probrina (M)	1	0.2	0.4	2	68.0
Calyptraea centralis (M)	1	0.2	0.4	2	68.0
Chione sp. (M)	1	0.2	0.4	2	68.0
Sipunculus nudus (S)	1	0.2	0.4	2	68.0
Nereis acuminata (P)	1	0.2	0.4	2	68.0
Loimia medusa (P)	1	0.2	0.4	2	68.0
Polycirrus eximius (P)	1	0.2	0.4	2	68.0
Dispio uncinata (P)	1	0.2	0.4	2	68.0
Nereis succinea (P)	1	0.2	0.4	2	68.0
Drilonereis magna (P)	1	0.2	0.4	2	68.0
Exogone dispar (P)	1	0.2	0.4	2	68.0
Magelona phyllisae (P)	1	0.2	0.4	2	68.0
Magelona papillicornis (P)	1	0.2	0.4	2	68.0
Eunice vittata (P)	1	0.2	0.4	2	68.0

Table 79. Abundance of macroinvertebrate species in grab collections from station DS37. (A = Amphipoda; C = Cumacea; Cc = Cephalochordata; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; I = Isopoda; M = Mollusca; My = Mysidacea; P = Polychaeta; S = Sipunculida; St = Stomatopoda; T = Tanaidacea).

	DS37				
Species	Total Number	Number/0.1m² $\bar{x}$	SD	Estimated Number m²	Rank by Number
Branchiostoma caribaeum (Cc)	195	39.0	19.6	390	1.0
Trichophoxus floridanus (A)	112	22.4	9.5	224	2.0
Cupuladria doma (Ec)	66	13.2	7.5	132	3.0
Aspidosiphon spinalis (S)	24	4.8	5.0	48	4.0
Syllis regulata carolinae (P)	23	4.6	1.9	46	5.5
Oligochaeta (undet.)	23	4.6	3.8	46	5.5
Goniadides carolinae (P)	22	4.4	2.5	44	7.0
Spiophanes bombyx (P)	17	3.4	3.4	34	8.0
Armandia maculata (P)	15	3.0	1.6	30	9.0
Prionospio cristata (P)	14	2.8	2.9	28	10.0
Chrysopetalidae (undet.) (P)	13	2.6	2.7	26	11.0
Eulalia sanguinea (P)	11	2.2	2.6	22	12.0
Erylia concentrica (M)	9	1.8	2.9	18	13.5
Vermiliopsis annulata (P)	9	1.8	1.3	18	13.5
Spio pettiboneae (P)	8	1.6	1.8	16	15.0
Lilljeborgia sp. (A)	7	1.4	2.2	14	17.5
Apanthura magnifica (I)	7	1.4	1.3	14	17.5
Nemertina (undet.) A	7	1.4	0.6	14	17.5
Nephtys picta (P)	7	1.4	1.1	14	17.5
Glyptoplax smithii (D)	6	1.2	1.3	12	21.5
Calyptraea centralis (M)	6	1.2	1.6	12	21.5
Glycera oxycephala (P)	6	1.2	1.6	12	21.5
Aonides mayaguezensis (P)	6	1.2	1.1	12	21.5
Nereidae (undet.) (P)	5	1.0	1.7	10	24.0
Turbellaria (undet.)	4	0.8	0.8	8	30.0
Nemertina (undet.) B	4	0.8	0.8	8	30.0
Protodorvillea kefersteini (P)	4	0.8	0.4	8	30.0
Cirratulidae (undet.) B (P)	4	0.8	1.3	8	30.0
Aricidea suecica (P)	4	0.8	0.8	8	30.0
Nephtys incisa (P)	4	0.8	0.4	8	30.0
Onuphis nebulosa (P)	4	0.8	0.8	8	30.0
Axiothella mucosa (P)	4	0.8	0.8	8	30.0
Hydroides protulicola (P)	4	0.8	0.8	8	30.0
Polydora sp. B (P)	4	0.8	1.3	8	30.0
Pholoe minuta (P)	4	0.8	0.8	8	30.0
Lembos uniformis (A)	3	0.6	0.9	6	42.5
Amphipoda (undet.) A	3	0.6	0.9	6	42.5
Eurydice littoralis (I)	3	0.6	0.9	6	42.5
Ostracoda (undet.) A	3	0.6	1.3	6	42.5
Gastrosaccus sp. B (My)	3	0.6	0.9	6	42.5
Ophiuroidea (undet.) E (E)	3	0.6	0.9	6	42.5
Pomelo cuticoides (M)	3	0.6	0.9	6	42.5
Sipunculida (undet.)	3	0.6	0.9	6	42.5
Onuphis lenticulata (P)	3	0.6	0.6	6	42.5
Terebellidae (undet.) A (P)	3	0.6	0.9	6	42.5
Prionospio pinnata (P)	3	0.6	0.9	6	42.5
Euzylis lumbrigera (P)	3	0.6	0.5	6	42.5
Exogone dispar (P)	3	0.6	0.9	6	42.5
Ampharetidae (undet.) (P)	3	0.6	0.9	6	42.5
Magra carolineana (A)	2	0.4	0.5	4	56.0
Tanaidacea sp. (T)	2	0.4	0.5	4	56.0
Cantharidae (undet.) (M)	2	0.4	0.5	4	56.0
Nemertina (undet.)	2	0.4	0.5	4	56.0
Culiana [illegible] (M)	2	0.4	0.4	4	56.0
Turritidae (undet.) B (M)	2	0.4	0.5	4	56.0
[illegible] (M)	2	0.4	0.5	4	56.0
[illegible] (P)	2	0.4	0.5	4	56.0
[illegible] (P)	2	0.4	0.5	4	56.0
[illegible] (P)	2	0.4	0.7	4	56.0
[illegible] (P)	2	0.4	0.5	4	56.0
[illegible] (P)	2	0.4	0.5	4	56.0
[illegible] (P)	2	0.4	0.5	4	56.0

Table 79. (Cont.)

Species	Total Number	Number/0.1m² $\bar{x}$	SD	Estimated Number/m²	Rank by Number
		DS37			
Pagurus longicarpus (D)	1	0.2	0.4	2	77.0
Ovalipes stephensoni (D)	1	0.2	0.4	2	77.0
Processa hemphilli (D)	1	0.2	0.4	2	77.0
Synchelidium americanum (A)	1	0.2	0.4	2	77.0
Bathyporeia parkeri (A	1	0.2	0.4	2	77.0
Rudilemboides sp. (A)	1	0.2	0.4	2	77.0
Carinobatea carinata (A)	1	0.2	0.4	2	77.0
Microdeutopus sp. (A)	1	0.2	0.4	2	77.0
Leptochelia rapax (T)	1	0.2	0.4	2	77.0
Nannosquilla sp. (St)	1	0.2	0.4	2	77.0
Oxyurostylis smithi (C)	1	0.2	0.4	2	77.0
Pseudoplatyishnopus floridanus (A)	1	0.2	0.4	2	77.0
Melita quinquiesperforata (E)	1	0.2	0.4	2	77.0
Ophiophragmus sp. A (E)	1	0.2	0.4	2	77.0
Polyplacophora (undet.) A (M)	1	0.2	0.4	2	77.0
Crepidula sp. (M)	1	0.2	0.4	2	77.0
Anachis avara (M)	1	0.2	0.4	2	77.0
Mitrella lunata (M)	1	0.2	0.4	2	77.0
Abra aequalis (M)	1	0.2	0.4	2	77.0
Golfingia sp. B (S)	1	0.2	0.4	2	77.0
Trypanosyllis sp. (P)	1	0.2	0.4	2	77.0
Pomatoceros americanus (P)	1	0.2	0.4	2	77.0
Paraplionosyllis longicirrata (P)	1	0.2	0.4	2	77.0
Tharyx marioni (P)	1	0.2	0.4	2	77.0
Aricidea pettiti (P)	1	0.2	0.4	2	77.0
Polycirrus eximius (P)	1	0.2	0.4	2	77.0
Hesionidae (undet.) A (P)	1	0.2	0.4	2	77.0
Nereis succinea (P)	1	0.2	0.4	2	77.0
Phyllodocidae (undet.) (P)	1	0.2	0.4	2	77.0

Table 80. Abundance of macroinvertebrate species in grab collections from station DS36. (A = Amphipoda; Br = Brachiopoda; C = Cumacea; Cc = Cephalochordata; Cn = Cnidaria; D = Decapoda; E = Echinodermata; Ec = Ectoprocta; I = Isopoda; M = Mollusca; My = Mysidacea; P = Polychaeta; S = Sipunculida; T = Tanaidacea).

DS36					
Species	Total Number	Number 0.1m² $\bar{x}$	Number 0.1m² SD	Estimated Number m⁻²	Rank by Number
Euniceidae gilchrista (P)	146	29.2	12.7	292	1.0
Goniadides carolinae (P)	133	26.6	9.4	266	2.0
Chrysopetalidae (undet.) (P)	132	26.4	5.4	264	3.0
Syllis regulata carolinae (P)	73	14.6	6.1	146	4.0
Oligochaeta (undet.)	65	13.0	7.3	130	5.0
Aspidosiphon spinalis (S)	53	10.6	4.0	106	6.0
Pelecypoda (undet.)	50	10.0	5.4	100	7.0
Jasmineira bilobata (P)	45	9.0	5.3	90	8.0
Branchiostoma caribaeum (Cc)	44	8.8	4.5	88	9.0
Pagurus longicirrus (D)	35	7.0	4.2	70	10.0
Exogone lizae (P)	30	6.0	2.5	60	11.0
Polyplacophora (undet.) (A) (M)	29	5.8	4.0	58	12.0
Lumbrineris latreilli (P)	28	5.6	3.6	56	13.0
Nuculambolites sp. (A)	27	5.4	3.0	54	14.0
Ampelisca vadorum (A)	25	5.0	4.8	50	15.0
Lembos unicornis (A)	24	4.8	3.0	48	18.0
Glottidia pyramidata (Br)	24	4.8	2.2	48	18.0
Nematoda (undet.)	24	4.8	3.8	48	18.0
Synelmis albini (P)	24	4.8	2.6	48	18.0
Prionospio pinnata (P)	24	4.8	1.9	48	18.0
Photis sp. (A)	23	4.6	1.8	46	21.0
Polyplacophora (undet.) (B) (M)	22	4.4	3.0	44	22.5
Polycirrus eximius (P)	22	4.4	3.9	44	22.5
Ampharete americana (P)	20	4.0	3.1	40	24.0
Naineris dirrata (P)	19	3.8	1.9	38	25.5
Euzonus sanguinea (P)	19	3.8	3.6	38	25.5
Tiron tropakis (A)	18	3.6	1.8	36	27.5
Melinnexis californiensis (P)	18	3.6	2.3	36	27.5
Onuphis nebulosa (P)	17	3.4	1.8	34	29.0
Paraprionospilis longicirrata (P)	16	3.2	1.6	32	30.5
Cirratulidae (undet.) (B) (P)	16	3.2	1.6	32	30.5
Tomopteridae (undet.) (P)	15	3.0	3.7	30	33.0
Microdeutopus sp. (A)	15	3.0	3.9	30	33.0
Hermilionopsis annulata (P)	15	3.0	3.3	30	33.0
Hypoymeris pectinata (M)	14	2.8	1.8	28	35.5
Phyllodoce longipes (P)	14	2.8	1.8	28	35.5
Ilyura tesselata (P)	13	2.6	2.4	26	37.5
Axiothella mucosa (P)	13	2.6	1.3	26	37.5
Isopoda (undet.) (A)	12	2.4	1.8	24	40.5
Crassinella lunulata (M)	12	2.4	1.8	24	40.5
Mediomastus ambiseta (P)	12	2.4	2.1	24	40.5
Nereis succinea (P)	12	2.4	1.6	24	40.5
Glycinde solitaria (P)	11	2.2	1.3	22	43.5
Anadara ovalis (M)	11	2.2	1.5	22	43.5
Sabella pavonina (P)	10	2.0	2.0	20	45.0
Alpheus normanni (D)	9	1.8	1.8	18	48.5
Onuphis fideicula (P)	9	1.8	1.1	18	48.5
Spionidae (undet.) (B) (P)	9	1.8	2.6	18	48.5
Spiophanes bombyx (P)	9	1.8	1.9	18	48.5
Hemipodus roseus (P)	9	1.8	1.8	18	48.5
Phyllodoce arenae (P)	9	1.8	2.3	18	48.5
Nereis grayana (P)	9	1.8	1.5	18	48.5
Ameridrilus (undet.) (P)	8	1.6	1.1	16	53.5
Nephtyscilla anilocheiris (P)	8	1.6	1.1	16	53.5
Tritia obsoleta (M)	8	1.6	1.1	16	53.5
Pseudomalus texanus (P)	8	1.6	1.1	16	53.5
Polydora (undet.) (P)	8	1.6	1.1	16	53.5
Polydora sp. (P)	8	1.6	1.1	16	53.5
Leptocheirus williams (A)	7	1.4	1.1	14	57.5
Nuculidae (M) (B)	7	1.4	1.1	14	57.5
Neanthes succinea (P)	7	1.4	1.1	14	57.5
Podarke (undet.)	7	1.4	1.1	14	57.5

Table 80. (Cont.)

Species	Total Number	Number/0.1m² X̄	SD	Estimated Number m²	Rank by Number
	DS 38				
Sigenia typica (D)	6	1.2	0.6	12	65.0
Discoporella umbellata (Bc)	6	1.2	1.8	12	65.0
Semele bellastriata (M)	6	1.2	0.8	12	65.0
Sipunculida (undet.)	6	1.2	0.6	12	65.0
Harmothoe sp. B (Dav) (P)	6	1.2	1.1	12	65.0
Amphipoda (undet.) A	5	1.0	1.0	10	74.0
Apanthura magnifica (I	5	1.0	1.0	10	74.0
Nemertina (undet.) A	5	1.0	1.0	10	74.0
Holothuroidea (undet.) A (E)	5	1.0	0.7	10	74.0
Corbula barrattiana (M)	5	1.0	1.2	10	74.0
Sipunculus nudus (S)	5	1.0	1.2	10	74.0
Megalomma sp. A (P)	5	1.0	0.7	10	74.0
Pisione remota (P)	5	1.0	0.7	10	74.0
Syllis ferrugina (P)	5	1.0	1.2	10	74.0
Nephtys incisa (P)	5	1.0	1.4	10	74.0
Terebellidae (undet.) A (P)	5	1.0	1.2	10	74.0
Nephtys pista (P)	5	1.0	1.2	10	74.0
Schistomeringos rudolphi (P)	5	1.0	0.7	10	74.0
Latreutes parvulus (D)	4	0.8	1.8	8	85.5
Spelaeopmorus pontifer (D)	4	0.8	0.8	8	85.5
Maera grossimana (A)	4	0.8	0.8	8	85.5
Nemertina (undet.) B	4	0.8	0.8	8	85.5
Anaitis avara (M)	4	0.8	0.8	8	85.5
Microspio pigmentata (P)	4	0.8	1.8	8	85.5
Eunicidae (undet.) A (P)	4	0.8	0.8	8	85.5
Lumbrineris medusa (P)	4	0.8	1.1	8	85.5
Nereidae (undet.) (P)	4	0.8	0.8	8	85.5
Pionosyllis sp. (P)	4	0.8	0.4	8	85.5
Pionosyllis retinens (D)	3	0.6	0.9	6	97.5
Virgiana polita (D)	3	0.6	0.5	6	97.5
Ostracoda (undet.)	3	0.6	0.5	6	97.5
Chama gallenoides (M)	3	0.6	0.5	6	97.5
Lima pellucida (M)	3	0.6	0.9	6	97.5
Nolinella sp. A (S)	3	0.6	1.3	6	97.5
Spiophanes bombyx (P)	3	0.6	0.5	6	97.5
Cumulopariensis paradoxa (P)	3	0.6	0.9	6	97.5
Terebellides sebersteini (P)	3	0.6	0.9	6	97.5
Magelona sp. (Dav 73) (P)	3	0.6	0.9	6	97.5
Tubellaria vulgaris (P)	3	0.6	0.9	6	97.5
Nemertina gentilus (P)	3	0.6	0.9	6	97.5
Nereis diversicolor (P)	3	0.6	0.5	6	97.5
Nereis pelagica (P)	3	0.6	0.9	6	97.5
Mysidae (undet.) (D)	2	0.4	0.8	4	115.5
Ischnomera sp. A (A)	2	0.4	0.5	4	115.5
Tritaeta gibbosa (A)	2	0.4	0.5	4	115.5
Ischnomera [illegible] (I	2	0.4	0.9	4	115.5
Cumacea (undet.) H	2	0.4	0.9	4	115.5
Ampelisca gorgiana (A	2	0.4	0.5	4	115.5
Ampelisca vadorum (A	2	0.4	0.5	4	115.5
Lyra [illegible] (E	2	0.4	0.5	4	115.5
Calyptraea centralis (M	2	0.4	0.9	4	115.5
Margarites [illegible] (M)	2	0.4	0.5	4	115.5
[illegible] (M)	2	0.4	0.5	4	115.5
[illegible] 3	2	0.4	0.9	4	115.5
[illegible] (P	2	0.4	0.5	4	115.5
[illegible] (P	2	0.4	0.4	4	115.5
[illegible] A (P)	2	0.4	0.5	4	115.5
[illegible]	2	0.4	0.7	4	115.5
[illegible] (P	2	0.4	0.4	4	115.5
[illegible] (P	2	0.4	0.5	4	115.5
[illegible]	2	0.4	0.7	4	115.5
[illegible] (P	2	0.4	0.4	4	115.5
[illegible]	2	0.4	0.5	4	115.5
[illegible]	2	0.4	0.4	4	115.5

Table [illegible] (Cont.)

Species	Total Number	Number/0.1 m² X̄	SD	Estimated Number/m²	Rank by Number
Pilumnidae (undet.) A (D)	1	0.2	0.4	2	150.0
Axiomate sverermanni (D)	1	0.2	0.4	2	150.0
Pelia mutica (D)	1	0.2	0.4	2	150.0
Maldanidae (undet.) B (D)	1	0.2	0.4	2	150.0
Tellimyssa atlantica (D)	1	0.2	0.4	2	150.0
Glycinde levis (A)	1	0.2	0.4	2	150.0
Trichobranchus floridanus (A)	1	0.2	0.4	2	150.0
Tubifex (undet.) E	1	0.2	0.4	2	150.0
Eurydice littoralis (I)	1	0.2	0.4	2	150.0
Mesanthura sp. (I)	1	0.2	0.4	2	150.0
Leptocholia rapax (I)	1	0.2	0.4	2	150.0
Lestrigonus sp. B (My)	1	0.2	0.4	2	150.0
Metamysis tormosa (My)	1	0.2	0.4	2	150.0
Gammus smithi (A)	1	0.2	0.4	2	150.0
Ceratocephalus carthaginensis (A)	1	0.2	0.4	2	150.0
Leptocheirus pinguis (T)	1	0.2	0.4	2	150.0
Antiplatyrhynchus (undet.) (Ch)	1	0.2	0.4	2	150.0
Tricellaria (undet.)	1	0.2	0.4	2	150.0
Bonisteria angulata (E)	1	0.2	0.4	2	150.0
Arbacia punctulata (E)	1	0.2	0.4	2	150.0
Strongylocentrotus droebachiensis (E)	1	0.2	0.4	2	150.0
Nitella pusilla (M)	1	0.2	0.4	2	150.0
Cottonium multistriatum (M)	1	0.2	0.4	2	150.0
Cerithium pulchellum (M)	1	0.2	0.4	2	150.0
Polychaeta (undet.) I	1	0.2	0.4	2	150.0
Chaetopterus pinnatus (M)	1	0.2	0.4	2	150.0
Nereis proxima (M)	1	0.2	0.4	2	150.0
Eulalia mononeura (P)	1	0.2	0.4	2	150.0
Eupanthalis kinbergi (P)	1	0.2	0.4	2	150.0
Serpulidae (undet.) A (P)	1	0.2	0.4	2	150.0
Hydroides capillosa (P)	1	0.2	0.4	2	150.0
Metavermilia multicristata (P)	1	0.2	0.4	2	150.0
Hydroides sphaerabranchia (P)	1	0.2	0.4	2	150.0
Megalomma sp. B (P)	1	0.2	0.4	2	150.0
Lumbrineris impatiens (P)	1	0.2	0.4	2	150.0
Ophelia oxycephala (P)	1	0.2	0.4	2	150.0
Notomastus profundus (P)	1	0.2	0.4	2	150.0
Euzonus sebsteri (P)	1	0.2	0.4	2	150.0
Owenia sp. B (P)	1	0.2	0.4	2	150.0
Nestanidae (undet.) A (P)	1	0.2	0.4	2	150.0
Neridina celidum (P)	1	0.2	0.4	2	150.0
Polycirrus arenicolus (P)	1	0.2	0.4	2	150.0
Eusyllis lineolata (P)	1	0.2	0.4	2	150.0
Nereis sp. (P)	1	0.2	0.4	2	150.0
Armandia tenuis (P)	1	0.2	0.4	2	150.0
Streptosyllis sp. (P)	1	0.2	0.4	2	150.0
Isolda pulchella (P)	1	0.2	0.4	2	150.0

Table [illegible]1. Abundance of macroinvertebrate species in grab collections from station DS39. A = Amphipoda; [illegible] = [illegible]; C = Cephalochordata; D = Decapoda; E = Echinodermata; Ec = [illegible]; I = Isopoda; M = Mollusca; P = Polychaeta; S = Sipunculida; T = Tanaidacea.

DS39					
Species	Total Number	Number 0.1m²* $\bar{X}$	SD	Estimated Number m⁻²	Rank by Number
[illegible] caribaeum (D)	1027			2054	1.0
[illegible] (A)	99			198	2.0
Aspidosiphon [illegible] (S)	92			184	3.0
[illegible] undet. (A, M)	56			112	4.0
Chrysopetalidae undet. (P)	49			98	5.0
[illegible] (P)	47			94	6.0
Nematoda undet.	44			88	7.0
[illegible] (P)	38			76	8.0
Syllis [illegible] (P)	36			72	9.0
[illegible] (P)	34			68	10.5
[illegible] (P)	34			68	10.5
[illegible] (I)	33			66	12.0
[illegible]idae undet. (S, P)	32			64	13.0
[illegible] (T)	30			60	14.0
[illegible] (A)	29			58	15.0
[illegible] (D)	26			52	16.0
[illegible]	24			48	17.0
Ampelisca [illegible] (A)	23			46	18.5
[illegible]	23			46	18.5
[illegible] (P)	21			42	20.0
[illegible]idae undet. (D)	19			38	21.5
[illegible] undet. (E, M)	19			38	21.5
[illegible] (P)	18			36	23.5
[illegible] (P)	18			36	23.5
[illegible]	17			34	25.5
[illegible]	17			34	25.5
[illegible] (P)	16			32	27.0
[illegible] (P)	13			26	28.5
[illegible] undet.	13			26	28.5
[illegible]	12			24	30.0
[illegible] (A, S)	11			22	31.0
[illegible] (A)	10			20	32.0
[illegible] (A)	9			18	33.0
[illegible] (P)	[illegible]			[illegible]	34.0
[illegible] (A)	[illegible]			14	[illegible]
[illegible]	[illegible]			14	[illegible]
[illegible] (P)	[illegible]			14	[illegible]
[illegible]	[illegible]			12	[illegible]
[illegible]	[illegible]			12	[illegible]
[illegible] (P)	[illegible]			[illegible]	[illegible]
[illegible] undet.	[illegible]			10	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible] undet.	[illegible]			[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible] (M)	[illegible]			[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible] (A)	[illegible]			[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible]	[illegible]			[illegible]	[illegible]
[illegible]				[illegible]	[illegible]
[illegible] undet.				[illegible]	[illegible]
[illegible]				[illegible]	[illegible]
[illegible]				[illegible]	[illegible]
[illegible]				[illegible]	[illegible]
[illegible]				[illegible]	[illegible]
[illegible]				[illegible]	[illegible]

Table 81. (Cont.)

Species	Total Number	Number/0.1 m^2 $\bar{X}$	SD	Estimated Number/m^2	Rank by Number
	DS39				
Dentalium dalamus (M)	2			4	99.5
Siphonulus nudus (S)	2			4	99.5
Trypanosyllis sp. (P)	2			4	99.5
Syllis ferrugina (P)	2			4	99.5
Glycera papillosa (P)	2			4	99.5
Notomastus lateriveus (P)	2			4	99.5
Terebellidae (undet.) B (P)	2			4	99.5
Glycera dibranchiata (P)	2			4	99.5
Nereidae (undet.) (P)	2			4	99.5
Eulalia sanguinea (P)	2			4	99.5
Phyllodoce arenae (P)	2			4	99.5
Alpheus formosus (D)	1			2	90.5
Ebalia cariosa (D)	1			2	90.5
Heteropsynta granulata (D)	1			2	90.5
Portunidae (undet.) (D)	1			2	90.5
Cirolana polita (I)	1			2	90.5
Trichophoxus floridanus (A)	1			2	90.5
Mera caroliniana (A)	1			2	90.5
Leptocheirus inserta (A)	1			2	90.5
Tanaidea (undet.) H	1			2	90.5
Turbellaria (undet.)	1			2	90.5
Nemertinoidea (undet.) B (E)	1			2	90.5
Semele nuculoides (M)	1			2	90.5
Columbellidae (undet.) A (M)	1			2	90.5
Turridae (undet.) A (M)	1			2	90.5
Turridae (undet.) B (M)	1			2	90.5
Hydrolina wellei (M)	1			2	90.5
Marginellidae (undet.) A (M)	1			2	90.5
Nudibranchia (undet.) C (M)	1			2	90.5
Ensis directus (M)	1			2	90.5
Lima pellucida (M)	1			2	90.5
Crassinella lunulata (M)	1			2	90.5
Golfingia sp. B (S)	1			2	90.5
Psammolyce ctenidophora (P)	1			2	90.5
Terebellidae (undet.) C (P)	1			2	90.5
Phyllodocidae (undet.) A (P)	1			2	90.5
Ionidia grunnea (P)	1			2	90.5
Eunice websteri (P)	1			2	90.5
Spiophanes bombyx (P)	1			2	90.5
Owenia fusiformis (P)	1			2	90.5
Ampharetidae (undet.) (P)	1			2	90.5
Lysilla nivetta (P)	1			2	90.5
Petaloproctus socialis (P)	1			2	90.5

*Replicate grabs were combined; no mean or standard deviation available.

Table 41. Abundance of macroinvertebrate species in grab collections from station DS40. (A = Amphipoda; C = Cumacea; Cc = Cephalochordata; D = Decapoda; E = Echinodermata; Ec = Echiurida; I = Isopoda; M = Mollusca; My = Mysidacea; P = Polychaeta; Py = Pycnogonida; S = Sipunculida; T = Tanaidacea).

	DS40			
Species	Total Number	Number/0.1m² $\bar{x}$ SD*	Estimated Number/m²	Rank by Number
Brania clarkae (P)	1394		2788	1.0
Aspidosiphon spinalis (S)	339		678	2.0
Nematoda (undet.)	111		222	3.0
Polydoropsis (undet.) A (P)	101		202	4.0
Polydoropsis (undet.) B (P)	79		158	5.0
Golfingia sp. B (S)	74		148	6.0
Euphilomedes litoralis (I)	68		136	7.0
Nuculoma smithii (P)	60		120	8.0
Bivalvia (undet.)	55		110	9.0
Sipunculida (undet.)	54		108	10.5
Tomtadides carolinae (P)	54		108	10.5
Leptognathia sieva (I)	50		100	12.0
Mistone comata (P)	47		94	14.0
Terebellidae (undet.) B (P)	47		94	14.0
Euniice vittata (P)	47		94	14.0
Tiron tropakis (A)	42		84	17.0
Syllis regularis carolinae (P)	42		84	17.0
Hemipodus roseus (P)	42		84	17.0
Golfingia sp. A (S)	40		80	19.0
Pholoe minuta (P)	39		78	20.0
Chrysopetalidae (undet.) (P)	34		68	21.0
Exogone dispar (P)	27		54	22.0
Photis sp. (A)	25		50	24.0
Axiothella mucosa (P)	25		50	24.0
Oligochaeta (undet.)	25		50	24.0
Microdeutopus sp. (A)	20		40	26.0
Maera carolineana (A)	19		38	27.0
Lembos unicornis (A)	18		36	28.5
Notomastus lobatus (P)	18		36	28.5
Unciola serrata (A)	17		34	30.5
Onuphis nebulosa (P)	17		34	30.5
Alpheus normanni (D)	16		32	32.0
Pagurus longicarpus (D)	15		30	34.0
Nephtys squamosa (P)	15		30	34.0
Travisia parva (P)	15		30	34.0
Syllis gracilis (P)	13		26	36.0
Terebellidae (undet.) A (P)	12		24	37.0
Nephtys incisa (P)	11		22	38.0
Oneneiidae (undet.) (D)	10		20	41.5
Ampelisca vadorum (A)	10		20	41.5
Ampelisca sp. (A)	10		20	41.5
Harmothoe sp. B (Day) (P)	10		20	41.5
Prionospilea seferstedtii (P)	10		20	41.5
Laonice cirrata (P)	10		20	41.5
Apanthura magnifica (I)	9		18	45.0
Carinobatea carinata (A)	8		16	46.5
Armandia maculata (P)	8		16	46.5
Trichoproxus floridanus (A)	7		14	49.5
Margarella gunnbjoerna (M)	7		14	49.5
Spiophanes bombyx (P)	7		14	49.5
Fabula quilchena (P)	7		14	49.5
Sigambra tentaculata (P)	6		12	54.5
Glycera sp. (A)	6		12	54.5
Phoxocephalus stenops (A)	6		12	54.5
Turbonilla interrupta (M)	6		12	54.5
Dyopedos reticulata (M)	6		12	54.5
Phyllodoce arenae (P)	6		12	54.5
Tanaidae (undet.) (T)	5		10	59.5
Isopoda (undet.) (I)	5		10	59.5

Table 32. (Cont.)

Species	DS40 Total Number	Number 0.1m^2* $\bar{X}$	SD	Estimated Number/m^2	Rank by Number
Tanystylum orbiculare (P)	5			10	60.0
Crassinella lunulata (M)	5			10	60.0
Glycera sphyrabranchia (P)	5			10	60.0
Amphipoda (undet. A)	4			8	65.5
Amphipoda (undet.) F	4			8	65.5
Calyptraea centralis (M)	4			8	65.5
Dentalium calamus (M)	4			8	65.5
Gastropoda (undet.) B	4			8	65.5
Ophelia denticulata (P)	4			8	65.5
Pinnixa retinens (P)	3			6	73.0
Tanaidacea (undet.) B	3			6	73.0
Cerastoderma marinum (M)	3			6	73.0
Nemertina (undet. A)	3			6	73.0
Nassarius obsoletus (M)	3			6	73.0
Crassinella martinicensis (M)	3			6	73.0
Marginella littleharbor (M)	3			6	73.0
Gastropoda (undet. A)	3			6	73.0
Nereis irrorata (P)	3			6	73.0
Tritoniaeneus constrictus (M)	2			4	85.5
Brachyura (undet.) (P)	2			4	85.5
Portunidae (undet.) (P)	2			4	85.5
Leptochelia rapax (P)	2			4	85.5
Lembos smithi (A)	2			4	85.5
Amphipoda (undet.) (A)	2			4	85.5
Amphipoda (undet.) (H)	2			4	85.5
Ophiuroidea (undet.) (B) (E)	2			4	85.5
Anachis avara (M)	2			4	85.5
Abra aequalis (M)	2			4	85.5
Glycera tessellata (P)	2			4	85.5
Psammolyce penibranchia (P)	2			4	85.5
Platynereis dumerilii (P)	2			4	85.5
Lysidice ninetta (P)	2			4	85.5
Eulalia sanguinea (P)	2			4	85.5
Petaloproctus socialis (P)	2			4	85.5
Cateutes parvulus (D)	1			2	111.5
Heteromyota granulata (D)	1			2	111.5
Drilessa hemphilli (D)	1			2	111.5
Chromidia inerta (A)	1			2	111.5
Tanaidacea (undet. B)	1			2	111.5
Mysidacea (undet. A)	1			2	111.5
Heteromysis formosa (M)	1			2	111.5
Tanaidacea (undet. B)	1			2	111.5
Pseudomesanthesium floridanus (A)	1			2	111.5
Nemertina (undet. C)	1			2	111.5
Asteroidea (undet.) (B) (E)	1			2	111.5
Ophiothrix angulata (E)	1			2	111.5
Nereis pelagica (M)	1			2	111.5
Tellina texana (M)	1			2	111.5
Anomia trigonopsis (M)	1			2	111.5
Pelecypoda (undet. A)	1			2	111.5
Tellina welleri (M)	1			2	111.5
Mysella sp. (M)	1			2	111.5
Marginellidae (undet. A) (M)	1			2	111.5
Cerithiidae (undet.) B (M)	1			2	111.5
Polinices duplicatus (undet. B) (M)	1			2	111.5
Cerithium muticum (M)	1			2	111.5
Ilyanassa obsoleta (M)	1			2	111.5
Odostomia mississippiensis (M)	1			2	111.5
Glycinde sp. (P)	1			2	111.5

Table 32. Cont.

Species	Total Number	Number 0.1m^2* $\bar{x}$	SD	Estimated Number m^{-2}	Rank by Number
	DS40				
Trypanosyllis sp. (P)	1			2	111.5
Serpulus vermicularis granulosa (P)	1			2	111.5
Loniada teres (P)	1			2	111.5
Sphaerosyllis pirifera (P)	1			2	111.5
Pherusa sp. (P)	1			2	111.5
Scoloplos rubra (P)	1			2	111.5
Hydroides protulicola (P)	1			2	111.5
Polydora sp. B (P)	1			2	111.5
Owenia fusiformis (P)	1			2	111.5
Arabella iricolor (P)	1			2	111.5
Nereidae (undet.) (P)	1			2	111.5

*Replicate grabs were combined; no mean or standard deviation available.

Table 83. Number of individuals and number of species for each of the major invertebrate taxa of infaunal organisms from the ocean disposal area study site.

Taxon	Number of Individuals	% of Total	Cumul. %
Polychaeta	12,713	37.47	37.47
Cephalochordata	6,633	19.55	57.02
Amphipoda	3,406	10.04	67.06
Pelecypoda	2,369	6.98	74.04
Sipunculida	1,768	5.21	79.25
Ectoprocta	1,329	3.92	83.17
Nematoda	1,142	3.36	86.53
Decapoda	1,052	3.10	89.63
Isopoda	590	1.74	91.37
Gastropoda	535	1.58	92.95
Polyplacophora	451	1.33	94.28
Echinodermata	405	1.19	95.47
Rhynchocoela	366	1.08	96.55
Oligochaeta	296	0.87	97.42
Tanaidacea	203	0.60	98.02
Cumacea	195	0.57	98.59
Ostracoda	119	0.35	98.94
Mysidacea	111	0.33	99.27
Unknown Taxa	66	0.19	99.46
Brachiopoda	63	0.18	99.64
Turbellaria	59	0.17	99.81
Scaphapoda	21	0.06	99.87
Anthozoa	16	0.05	99.92
Pycnogonida	14	0.04	99.96
Stomatopoda	6	0.02	99.98
Phoronida	2	<0.01	
Hemichordata	1	<0.01	
Echiurida	1	<0.01	100.00

Taxon	Number of Species	% of Total	Cumul. %
Polychaeta	211	42.80	42.80
Pelecypoda	53	10.75	53.55
Decapoda	49	9.94	63.49
Gastropoda	49	9.94	73.43
Amphipoda	43	8.72	82.15
Echinodermata	20	4.06	86.21
Isopoda	12	2.43	88.64
Cumacea	7	1.42	90.06
Mysidacea	7	1.42	91.48
Sipunculida	6	1.22	92.70
Polyplacophora	5	1.01	93.71
Stomatopoda	4	0.81	94.52
Tanaidacea	4	0.81	95.33
Rhynchocoela	3	0.61	95.94
Scaphapoda	3	0.61	96.55
Anthozoa	2	0.40	96.95
Ectoprocta	2	0.40	97.35
Pycnogonida	2	0.40	97.75
Unknown Taxa	2	0.40	98.15
Brachiopoda	1	0.20	98.35
Cephalochordata	1	0.20	98.55
Echiurida	1	0.20	98.75
Hemichordata	1	0.20	98.95
Nematoda	1	0.20	99.15
Oligochaeta	1	0.20	99.35
Ostracoda	1	0.20	99.55
Phoronida	1	0.20	99.75
Turbellaria	1	0.20	99.95

Table 84. Species diversity and species density information for grab samples collected in and adjacent to the Offshore Disposal Area during August, 1978.

Station	Diversity (H')	Evenness (J')	Richness (SR)	Number of Individuals/0.5 m^2	Number of Species
DS01	3.96	0.83	5.62	102	27
DS02	3.48	0.70	5.68	234	32
DS03	3.70	0.69	7.13	273	41
DS04	4.34	0.75	8.99	407	55
DS05	4.66	0.79	9.03	550	58
DS06	5.50	0.79	17.69	1,108	125
DS07	4.81	0.70	16.83	1,107	119
DS08	5.40	0.80	16.24	643	106
DS09	5.18	0.83	12.13	447	75
DS10	3.66	0.74	5.52	230	31
DS11*	3.86	0.73	6.99	264	40
DS12*	4.63	0.77	10.43	419	64
DS13*	5.98	0.81	22.00	1,978	168
DS14*	4.78	0.82	10.02	296	58
DS15	5.17	0.82	13.10	416	80
DS16	5.53	0.75	20.86	2,593	165
DS17	4.78	0.84	9.06	310	53
DS18	4.83	0.75	12.69	812	86
DS19*	5.09	0.85	10.38	475	65
DS20*	5.04	0.80	12.75	531	81
DS21*	4.20	0.71	9.39	596	61
DS22*	4.74	0.80	10.09	347	60
DS23	4.30	0.81	6.77	274	39
DS24	5.34	0.86	12.93	262	73
DS25	4.60	0.76	10.43	462	65
DS26	5.13	0.79	13.94	551	89
DS27*	3.46	0.55	10.90	1,169	78
DS28*	4.31	0.72	9.84	546	63
DS29*	4.95	0.73	14.85	1,253	107
DS30*	5.23	0.70	21.00	3,966	175
DS31**	4.11	0.63	13.55	1,031	95
DS[illegible]	4.20	0.65	12.42	1,197	89
DS[illegible]	3.98	0.58	14.79	2,919	119
DS[illegible]	4.02	0.61	13.04	1,459	96
DS[illegible]	5.11	0.72	18.30	1,690	137
DS[illegible]	3.97	0.62	12.06	974	84
DS37	4.64	0.71	13.57	759	91
DS38	6.13	0.82	22.90	1,830	173
DS39	3.91	0.58	13.67	2,169	106
DS40	4.20	0.60	15.73	3,420	129

* stations located in disposal area
** number of individuals in 0.4 m^2

Table 85. Geochemical analysis of sediments from the Charleston Harbor Ocean Disposal Area (expressed as percent by weight, dry basis).

	DS01	DS04	DS08	DS09	DS11	DS12	DS13	DS14	DS16
Volatile Solids	1.48	2.34	2.17	1.65	0.86	1.16	1.27	1.69	1.45
Total Organic Carbon	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
C.O.D.	0.10	0.86	0.30	0.26	0.27	0.33	0.16	0.24	0.36
Nitrogen Kjeldahl	<0.10	0.02	0.02	0.02	0.01	<0.01	<0.01	0.02	0.01
Ammonia Nitrogen as NH_3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite Nitrogen as NO_2	0.00002	<0.00001	0.00001	0.00002	0.00001	0.00002	0.00002	0.00002	0.00002
Nitrate Nitrogen as NO_3	0.00006	0.00019	0.00009	0.00006	0.00009	0.00004	0.00008	0.00006	0.00004
Oil and Grease	0.008	0.010	0.007	<0.01	0.022	0.003	0.013	0.012	0.002
Lead	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.00019
Zinc	0.0028	0.0016	0.0010	0.0012	0.0014	0.0008	0.0013	0.0012	0.0010
Mercury	0.000020	0.000036	0.000022	0.000007	0.000020	0.000015	0.00019	0.000014	0.000042
Soluble Phosphorus as PO_4	0.00014	0.00001	0.00006	0.00004	0.00005	0.00012	0.00013	0.00005	0.00005
Total Phosphorus as PO_4	0.56	0.35	0.20	1.38	0.23	0.19	0.21	0.07	0.21
Iron	0.38	0.68	0.63	0.36	0.32	0.34	0.33	0.33	0.54
Cadmium	0.00003	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	<0.00001	0.00001	<0.00001
Arsenic	0.00017	0.00024	0.00040	0.00055	0.00015	0.00018	0.00040	0.00014	0.00070
Chromium	0.0027	0.0038	0.0031	0.0021	0.0031	0.0027	0.0022	0.0027	0.0022
Nickel	0.00008	0.00021	<0.00005	0.00008	0.00006	0.00010	0.00018	0.00018	0.00003
Copper	0.0016	0.0027	0.0018	0.0018	0.0018	0.0016	0.0024	0.0016	0.0016
Beryllium	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Selenium	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002	<0.00002	<0.00002
Vanadium	<0.00005	0.00030	0.00010	<0.00005	0.00037	0.00005	0.00010	0.00037	0.00020

Table 8b. (Cont.)

	DS17	DS19	DS20	DS21	DS22	DS24	DS25	DS27	DS28
Volatile Solids	1.26	1.74	1.48	1.47	0.88	1.70	1.44	1.74	0.70
Total Organic Carbon	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0
C.O.D.	0.41	0.31	0.33	0.28	0.17	0.26	0.22	0.20	0.15
Nitrogen Kjeldahl	<0.01	0.01	0.01	<0.01	<0.01	0.01	0.01	<0.01	<0.01
Ammonia Nitrogen as NH_3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite Nitrogen as NO_2	0.00002	0.00002	0.00001	0.00002	0.00001	0.00001	0.00002	0.00002	0.00001
Nitrate Nitrogen as NO_3	0.00006	0.00008	0.00015	0.00002	0.00009	0.00008	0.00005	0.00005	0.00009
Oil and Grease	0.010	0.008	0.014	0.007	0.010	0.003	0.010	0.009	0.007
Lead	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc	0.0014	0.0015	0.0016	0.0015	0.0008	0.0012	0.0010	0.0015	0.0006
Mercury	0.000037	0.000030	0.000017	0.000012	0.000021	0.000022	0.000029	0.000018	0.000013
Soluble Phosphorus as PO_4	0.00006	0.00005	0.00002	0.00007	0.00005	0.00006	0.00006	<0.00001	0.00003
Total Phosphorus as PO_4	0.56	1.06	0.64	0.16	0.19	0.13	0.12	0.77	0.25
Iron	0.34	0.27	0.31	0.32	0.22	0.31	0.31	0.20	0.19
Cadmium	0.00003	0.00004	0.00002	0.00001	<0.00001	<0.00001	<0.00001	0.00003	<0.00001
Arsenic	0.00020	0.00014	0.00029	0.00015	0.00011	0.00020	0.00017	0.00013	0.00014
Chromium	0.0007	0.0027	0.0022	0.0022	0.0017	0.0022	0.0022	0.0022	0.0020
Nickel	0.00018	0.00073	0.00021	0.00023	<0.00005	0.00016	0.00006	0.00018	<0.00005
Copper	0.0016	0.0008	0.0012	0.0022	0.0008	0.0012	0.0010	0.0010	0.0010
Beryllium	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Selenium	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Vanadium	0.00020	0.00030	0.00020	0.00010	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

Table No. (Cont.)

	DS29	DS30	DS32	DS33	DS36	DS40
Volatile Solids	1.30	1.55	0.89	1.95	1.15	1.70
Total Organic Carbon	<1.0	<1.0	<1.0	1.0	<1.0	<1.0
C.O.D.	0.22	0.26	0.14	0.32	0.20	0.36
Nitrogen Ejeldahl	0.01	0.01	<0.01	0.02	0.01	0.02
Ammonia Nitrogen as NH_3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite Nitrogen as NO_2	0.00002	0.00001	0.00001	0.00002	0.00001	0.00002
Nitrate Nitrogen as NO_3	0.00008	0.00011	0.00010	0.00007	0.00011	0.000013
Oil and Grease	0.011	0.007	<0.001	0.012	0.007	0.008
Lead	<0.00005	0.00006	<0.00005	0.00025	<0.00005	<0.00005
Zinc	0.0008	0.0016	0.0006	0.0008	0.0007	0.0008
Mercury	0.000015	0.000021	0.000006	0.000043	0.000015	0.000018
Soluble Phosphorus as PO_4	0.00008	0.00008	0.00010	0.00007	0.00001	0.00022
Total Phosphorus as PO_4	0.22	0.25	1.17	0.19	0.16	0.15
Iron	0.19	0.20	0.12	0.41	0.19	0.18
Cadmium	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Arsenic	0.00018	0.00020	0.00012	0.00100	0.00029	0.00018
Chromium	0.0022	0.0022	0.0017	0.0031	0.0022	0.0017
Nickel	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Copper	0.0012	0.0014	0.0012	0.0010	0.0012	0.0018
Beryllium	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Selenium	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Vanadium	<0.00005	<0.00005	<0.00005	0.00020	<0.00005	<0.00005

Table [illegible]. Bulk and component composition and grain size distributions for Charleston Entrance Channel samples.

QUARTZ GRAIN SIZE DISTRIBUTIONS

Station	Composition (weight %) Quartz Sand	$CaCO_3$ Shell	Silt	Clay	Percent Gravel	Rock Fragments	Total Distribution Mean φ	Total Distribution SD (φ units)	Total Distribution Skew[1]	Total Distribution Kurtosis[2]	Component 1 Mean φ	Component 1 SD (φ units)	Component 1 % of Sample	Component 2 Mean φ	Component 2 SD (φ units)	Component 2 % of Sample	Component 3 Mean φ	Component 3 SD (φ units)	Component 3 % of Sample
[illegible]	[illegible]	[illegible]					2.16	.515	.511	1.886	2.36	.25	59%	1.88	.62	41%			
[illegible]	[illegible]	[illegible]					2.33	.482	.160	2.997	2.45	.31	78%	1.89	.65	22%			
[illegible]	[illegible]	[illegible]					2.16	.677	.701	2.605	2.42	.36	74%	1.43	.80	26%			
[illegible]	[illegible]	[illegible]					0.88	1.343	0.037	0.894	0.56	.49	50%	2.59	.35	30%	0.85	.62	20%
[illegible]	[illegible]	[illegible]					2.33	.598	-.694	2.554	2.52	.23	68%	2.05	.51	30%	2.94	.07	2%
[illegible]	[illegible]	[illegible]					2.33	.464	-.724	3.481	2.60	.15	85%	2.90	.10	15%	2.20	.30	30%
[illegible]	[illegible]	[illegible]					2.23	1.061	.729	1.705	2.82	.35	53%	1.00	.90	30%	2.83	.003	17%
[illegible]	[illegible]	[illegible]					2.56	.814	-1.049	5.233	2.72	.35	45%	2.65	.09	31%	1.47	1.04	24%
[illegible]	[illegible]	[illegible]		[illegible]			2.68	.433	-.750	6.430	2.64	.44	67%	2.81	.11	33%			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			2.98	.478	-1.529	18.219	3.05	.36	68%	2.97	.03	32%			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			3.41	.399	-1.566	22.766	3.53	.21	84%	2.87	.14	16%			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			3.53	.335	-1.079	13.665	3.54	.20	88	2.85	.11	12%			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			3.36	.403	-1.026	12.420	3.54	.20	81%	2.85	.12	19%			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			3.06	.401	.233	3.559	3.09	.40	83	2.84	.03	17			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			2.33	.377	.763	8.309	2.40	.15	53	2.27	.46	[illegible]			
[illegible]	[illegible]	[illegible]					2.28	.602	1.071	10.384	2.39	.33	80%	1.90	.95	[illegible]			
[illegible]	[illegible]	[illegible]			[illegible]		2.52	.566	-.878	9.012	2.52	.30	75%	2.10	.83	25%			
[illegible]	[illegible]	[illegible]				2	2.09	.663	-.380	.941	2.45	.36	50%	1.75	.66	50%			
[illegible]	[illegible]	[illegible]				39	2.62	.567	-.813	6.027	2.84	.59	68	2.88	.12	32			
[illegible]	[illegible]	[illegible]					2.91	.702	-.520	2.588	1.89	.71	70%	2.24	.26	30			
[illegible]	[illegible]	[illegible]				17	2.42	.763	-1.010	9.515	2.53	.72	65%	2.38	.16	35			

[1] Skewness is a measure of distribution, skewness indicates a coarse tail, fskewness a fine tail
[2] Kurtosis is a measure of peakedness
[3] Coefficient of variation = standard deviation

TABLE 87. Membership of the six (6) unique textural groups identified in the Charleston Entrance Channel as determined on quartz phi-normal components.

GROUP 1:	GROUP 2:	GROUP 3:
Mean = 2.41 ± .12 Ø	Mean = 1.95 ± .18 Ø	Mean = 1.79 ± .59 Ø
S.D. = 0.30 ± .04 Ø units	S.D. = 0.60 ± .10 Ø units	S.D. = 0.84 ± .09 Ø units
EC01-1	EC01-2	EC03-2
EC02-1	EC02-2	EC07-2
EC03-1	EC05-2	EC16-2
EC04-1	EC15-2	EC17-2
EC05-1	EC18-2	EC21-1
EC06-3	EC20-1	
EC16-1		
EC17-1		
EC18-1		
EC20-2		

GROUP 4:	GROUP 5:	GROUP 6:
Mean = 2.78 ± .19 Ø	Mean = 3.09 ± .37 Ø	Mean = -0.14 ± .99 Ø
S.D. = 0.10 ± 0.5 Ø units	S.D. = 0.34 ± .13 Ø units	S.D. = 0.55 ± .09 Ø units
EC05-3	EC07-1	EC04-1
EC06-1	EC08-1	EC04-3
EC06-2	EC09-1	
EC07-3	EC10-1	
EC08-2	EC11-1	
EC09-2	EC12-1	
EC10-2	EC13-1	
EC11-2	EC14-1	
EC12-2	EC19-1	
EC13-2		
EC14-2		
EC15-1		
EC19-2		
EC21-2		

Table 88. Goodness-of-fit tests for the three (3) major unique textural groups identified from the quartz phi-normal components of Charleston Entrance channel bottom sediments. The null hypothesis being tested is that of equal distribution over the 3 zones.

GROUP 1: $\chi^2 = 2.84$, 2 D.F.

	EXPECTED	OBSERVED
Zone 1 (Jetties)	3.04	4
Zone 2 ("Canyon")	2.17	0
Zone 3 (Shelf)	4.78	6

GROUP 4: $\chi^2 = 1.71$, 2 D.F.

	EXPECTED	OBSERVED
Zone 1 (Jetties)	4.26	3
Zone 2 ("Canyon")	3.04	5
Zone 3 (Shelf)	6.70	6

GROUP 5: $\chi^2 = 6.21$*, 2 D.F.

	EXPECTED	OBSERVED
Zone 1 (Jetties)	2.74	1
Zone 2 ("Canyon")	1.96	5
Zone 3 (Shelf)	4.30	3

*Reject the null hypothesis of equal distribution at the 90% confidence level.

[illegible] Spearman's rank order rate-by-distribution correlations for [illegible] [illegible] [illegible]

[illegible] DISTRIBUTIONS

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
					Total Distribution				Component 1			Component 2			Component 3		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Mean $\bar{x}$	SD (x units)	[illegible]	[illegible] %	Mean $\bar{x}$	SD (x units)	% of Sample	Mean $\bar{x}$	SD (x units)	% of Sample	Mean $\bar{x}$	SD (x units)	% of Sample
[illegible]	[illegible]				[illegible]	.413	[illegible]	8.590	[illegible]	.19	[illegible]	2.69	.69	40%			
[illegible]	[illegible]		[illegible]	[illegible]	2.53	.326	.338	[illegible]	2.85	.47	61%	2.82	.13	39%			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.01	[illegible]	.139	6.027	3.06	.55	63%	3.00	.0068*	37%			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.384	5.389	2.59	.88	[illegible]	2.95	.25	60%	3.25	.31	[illegible]
[illegible]	[illegible]	[illegible]			[illegible]	.676	[illegible]	[illegible]	1.91	.64	74%	2.30	.15	26%			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.94	1.138	.384	.388	.43	.63	77%	2.90	.57	23%			
[illegible]																	
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	.960	[illegible]	.190	2.76	.58	56%	0.90	.72	24%	2.99	.0086*	19%
[illegible]	[illegible]	[illegible]			[illegible]	.641	.332	2.086	1.94	.53	76%	2.33	.22	24%			
[illegible]	[illegible]	[illegible]			[illegible]	.528	.395	1.083	1.93	.59	54%	2.40	.25	46%			
[illegible]	[illegible]	[illegible]			[illegible]	.379	.393	[illegible]	2.47	.41	52%	2.72	.19	48%			
[illegible]	[illegible]	[illegible]			2.69	.481	1.032	12.176	2.76	.18	71%	2.36	.53	29%	0.81	[illegible]	9%
[illegible]	[illegible]	[illegible]			1.09	1.303	.1[illegible]	1.071	0.69	.62	62%	2.94	.29	29%			
[illegible]	[illegible]	[illegible]			2.60	.486	.793	8.722	2.69	.19	62%	2.47	.36	38%			
[illegible]	[illegible]	[illegible]			[illegible]	.509	.008	0.156	2.14	.50	58%	2.44	.43	42%			
[illegible]	[illegible]	[illegible]			1.20	.924	.020	.637	.60	.64	57%	1.94	.57	43%			
[illegible]	[illegible]	[illegible]			[illegible]	.526	-.592	4.659	2.71	.22	60%	2.25	.60	40%			
[illegible]	[illegible]	[illegible]			[illegible]	.910	.564	0.657	2.69	.25	53%	1.58	.97	47%			
[illegible]		[illegible]			[illegible]	.470	-.501	2.923	2.24	.66	60%	2.69	.20	40%			
[illegible]	[illegible]	[illegible]			[illegible]	.678	.907	4.354	2.76	.32	62%	1.96	.80	38%			
[illegible]	[illegible]	[illegible]			[illegible]	.478	-1.220	11.697	[illegible]	.23	71%	2.35	.63	29%			
[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	-.325	3.116	2.58	.24	51%	2.21	.44	49%			
[illegible]	[illegible]	[illegible]			[illegible]	.377	.402	[illegible]	2.27	.37	54%	2.59	.22	46%			
[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	2.31	.51	58%	2.77	.14	42%			
[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	.330	8.607	2.61	.29	87%	2.03	.06	13%			
[illegible]	[illegible]	[illegible]			[illegible]	.549	.137	.867	2.41	.37	51%	1.00	.53	49%			
[illegible]	[illegible]	[illegible]			[illegible]	.32	.253	2.603	2.54	.33	73%	1.83	.67	27%			
[illegible]	[illegible]	[illegible]			[illegible]	.411	.413	1.720	1.92	[illegible]	63%	2.32	.22	37%			
[illegible]	[illegible]	[illegible]			1.93	.670	.306	[illegible]	2.34	.43	52%	1.61	.66	48%			
[illegible]	[illegible]	[illegible]			1.32	.787	.351	.380	1.60	.80	69%	2.34	.28	31%			
[illegible]	[illegible]	[illegible]			1.39	.262	.003	.757	1.06	.59	73%	2.30	.29	27%			
	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	.20	.55	78%	2.26	.35	22%			
[illegible]	[illegible]	[illegible]			1.19	.967	.190	.065	1.30	.59	54%	0.03	.29	27%	2.58	.36	19%
[illegible]	[illegible]	[illegible]			1.73	.278	.332	.388	2.12	.47	61%	1.16	.80	39%			
[illegible]	[illegible]	[illegible]			[illegible]	.067	.327	.400	3.35	.77	87%	2.39	.30	13%			
[illegible]	[illegible]	[illegible]			2.10	.395	-.418	1.503	2.31	.30	56%	1.84	.53	44%			
[illegible]		[illegible]			1.59	.609	.196	0.069	1.59	.63	84%	2.38	.23	16%			
[illegible]	[illegible]	[illegible]			.76	1.12	.31[illegible]	.133	0.1[illegible]	.74	82%	2.08	.66	18%			
[illegible]																	
[illegible]		[illegible]			1.1	.932	.059	-.684	.76	.73	73%	2.23	.36	27%			

[illegible] [illegible] [illegible] indicates a coarse tail, [illegible] a fine tail.
[illegible] sample size
* [illegible] standard deviation.

[illegible]

[illegible]

| [illegible] | | |

AD-A152 031 BENTHIC AND SEDIMENTOLOGIC STUDIES ON THE CHARLESTON HARBOR OCEAN DISPOSA..(U) SOUTH CAROLINA WILDLIFE AND MARINE RESOURCES DEPT CHARLESTON M.. AUG 79 3/3

UNCLASSIFIED DACW60-78-C-0026 F/G 8/8 NL

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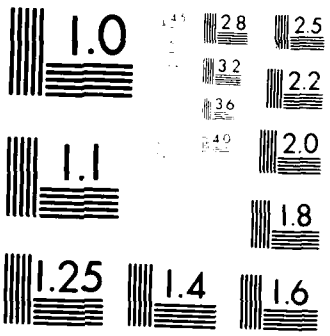

MICROCOPY RESOLUTION TEST CHART

[illegible] Characteristics of bottom bed forms and sediment composition at [illegible] Beach, Dixie County, Florida

Station	Flat	RIPPLE MARKS Symmetric Height	Wavelength	Crest Orientation	Comments	SEDIMENT COMPOSITION Ripple Mark Crests Grain Wt.*	Shell Wt.	Ripple Mark Troughs Grain Wt.	Shell Wt.
[illegible] (Oct. 26, 1978)		4.5 cm	14 cm	Asymmetric, pointing to North		86 82 82	14 13 [illegible]	98 86 [illegible]	1 13 [illegible]
[illegible] (Oct. 27, 1978)		2.5 cm	15 cm	[illegible]	Astrangia danae, Leptogorgia setacea, Balanus spp., hydroids, echinoderms.	66 76 75	35 24 25	75 58 67	[illegible] 42 38
[illegible] (Oct. 27, 1978)					No visibility ripple mark present but could not be measured.	56 28	44 [illegible]	63	37
[illegible] (Oct. 25, 1978)		3 cm	26 cm	SW/NE		93 93 93	7 7 7	93 93 93	7 7 7
[illegible] (Oct. 27, 1978)		4 cm	20 cm	WNW/ESE	Shells on bottom: Dinocardium robustum, Ensis sp. and various other mollusks.	90 90 90	10 10 10	90 90 90	10 10 10
DS15 (Oct. 27, 1978)		6 cm	20 cm	WNW/ESE	Shells on bottom: Dinocardium robustum, Ensis sp. and various other mollusks.	93 93 93	7 7 7	93 92 91	7 8 9
DS18 (Oct. 27, 1978)		3.5 cm	19 cm	WNW/ESE		87 89 89	13 11 11	88 86 90	12 12 10
DS20 (Oct. 27, 1978)		6 cm	35 cm	W/E	Shells on bottom: Oliva sp., Mulinia sp. Calcarenite rock fragments present.	87 89 89	25 30 18	74 72 83	[illegible] 30 16 [illegible]
DS22 (Oct. 27, 1978)		3.5 cm	14 cm	WNW/ESE		86 80 87	14 [illegible]	83 85 79	17 15 21
DS27 (Oct. 26, 1978)		4.5 cm	33 cm	SW/NE	Titanideum framenfeldii, Leptogorgia setacea, various bryozoa, echinoderms, Astrangia danae.	80 77 77	[illegible]	71 67 57	29 33 43
DS29 (Oct. 27, 1978)		4.0 cm	17 cm	N/S	Titanideum framenfeldii, Balanus spp., Calcarenite rock fragments present.	79 80 79	21 20 21	79 78 79	21 22 21
DS31 (Oct. 26, 1978)		8.5 cm	41 cm	W/E		76 72 67	24 28 33	70 57 69	30 43 31
[illegible] (Oct. 26, 1978)		8.5 cm	56 cm	S/S		84 83 83	16 17 18	57 57 54	43 43 46
DS37 (Oct. 26, 1978)		2.8 cm	21 cm	NNE/SSW		91 89 91	9 11 9	90 91 92	10 9 8
DS39 (Aug. 21, 1978)	X					25 33 30	75 67 70	44 43 44	56 57 56

BLE 42. Membership of six (6) unique textural groups identified in the Charleston Harbor Offshore Disposal Study Area as determined on quartz phi-normal components. These six (6) groups account for 70% of the total quartz phi-normal components.

GROUP 1: Mean = 1.01 ± .13 Ø
S.D. = .55 ± .09 Ø units
No. = 23

DS-20-A1	DS-39-E1
DS-20-C1	DS-39-F1
DS-22-A1	
DS-22-B1	
DS-22-C1	
DS-22-D1	
DS-22-E1	
DS-22-F1	
DS-31-A1	
DS-31-B1	
DS-31-C1	
DS-31-E1	
DS-31-F1	
DS04-1	
DS26-2	
DS31-1	
DS33-1	
DS-39-A1	
DS-39-B1	
DS-39-C1	
DS-39-D1	

GROUP 5: Mean = 2.00 ± .08 Ø
S.D. = .56 ± .09 Ø units
No. = 41

DS-05-B2	DS-27-C1
DS-05-C2	DS-27-E2
DS-05-D2	DS-29-A2
DS-11-A2	DS-29-B2
DS-11-B2	DS-29-C2
DS-13-B2	DS-29-F2
DS-13-D2	DS-31-A2
DS-13-E2	DS-31-B2
DS-13-F2	DS-31-C2
DS-15-A2	DS05-1
DS-15-B2	DS09-1
DS-15-C2	DS10-1
DS-15-D2	DS15-1
DS-15-E2	DS16-2
DS-15-F2	DS20-2
DS-18-A2	DS25-2
DS-18-B2	DS28-1
DS-18-D2	DS34-1
DS-18-E2	DS36-2
DS-18-F2	DS38-2
DS-27-A2	

GROUP 6: Mean = 2.35 ± .11 Ø
S.D. = .53 ± .07 Ø units
No. = 20

DS-02-A1
DS-02-B1
DS-92-C1
DS-02-D1
DS-02-E1
DS-02-F1
DS-11-C2
DS-11-D2
DS-11-E2
DS-11-F2
DS-13-A1
DS-29-D2
DS12-2
DS14-2
DS17-2
DS19-1
DS21-2
DS22-2
DS24-1
DS29-1

GROUP 8: Mean = 2.31 ± .06 Ø
S.D. = .28 ± .06 Ø units
No. = 42

DS-02-A2	DS-27-E1
DS-02-B2	DS-27-F2
DS-02-E2	DS-31-D2
DS-13-D1	DS-31-E2
DS-13-A1	DS-31-F2
DS-13-B1	DS05-2
DS-13-C1	DS09-2
DS-13-D1	DS10-2
DS-13-E1	DS23-1
DS-13-F1	DS28-2
DS-14-B1	DS30-2
DS-20-A2	DS31-2
DS-20-B2	DS32-2
DS-20-C2	DS33-2
DS-20-D2	DS36-1
DS-20-E2	DS37-2
DS-20-F2	DS-39-B2
DS-27-A1	DS-39-D2
DS-27-B2	DS-39-E2
DS-27-C2	DS-39-F2
DS-27-D2	DS40-2

GROUP 9: Mean = 2.50 ± .06 Ø
S.D. = .34 ± .04 Ø units
No. = 26

DS-13-B1	DS26-1
DS-13-F1	DS27-1
DS-18-A1	DS33-3
DS-18-C1	DS-39-A2
DS-18-D1	DS-39-C2
DS-18-E1	
DS-18-F1	
DS-22-A2	
DS-22-B2	
DS-22-C2	
DS-22-D2	
DS-29-A1	
DS-29-B1	
DS-37-A1	
DS-37-B1	
DS-37-C1	
DS-37-D1	
DS-37-E1	
DS-37-F1	
DS11-1	
DS15-2	

GROUP 10: Mean = 2.67 ± .05 Ø
S.D. = .26 ± .05 Ø units
No. = 26

DS-11-A1	DS20-1
DS-11-B1	DS21-1
DS-11-C1	DS22-1
DS-11-D1	DS23-2
DS-11-E1	DS25-1
DS-11-F1	
DS-13-D1	
DS-13-E1	
DS-22-E2	
DS-22-F2	
DS-29-C1	
DS-29-D1	
DS-29-E1	
DS-29-F1	
DS01-1	
DS11-2	
DS12-1	
DS14-1	
DS17-1	
DS18-1	
DS19-2	

Table 93. Goodness-of-fit tests for the six (6) major unique textural groups identified from the quartz phi-normal components of Charleston Harbor Offshore Disposal Study Area bottom sediments. The null hypothesis being tested is that of equal distribution Inside of and Outside of the Charleston Harbor Offshore Disposal Area proper.

GROUP 1: $\chi^2 = .10$, 1 D.F.

	EXPECTED	OBSERVED
Inside	8.74	8
Outside	14.26	15

GROUP 5: $\chi^2 = .03$, 1 D.F.

	EXPECTED	OBSERVED
Inside	15.58	15
Outside	25.42	26

GROUP 6: $\chi^2 = 2.45$, 1 D.F.

	EXPECTED	OBSERVED
Inside	7.6	11
Outside	12.4	9

GROUP 8: $\chi^2 = .09$, 1 D.F.

	EXPECTED	OBSERVED
Inside	15.96	15
Outside	26.04	27

Table 93. (Continued)

GROUP 9: $\chi^2 = .08$, 1 D.F.

	EXPECTED	OBSERVED
Inside	9.88	10
Outside	16.12	16

GROUP 10: $\chi^2 = 20.19$*, 1 D.F.

	EXPECTED	OBSERVED
Inside	9.88	21
Outside	16.12	5

*Reject null hypothesis of equal distribution at the 90% confidence level.

Table 94. Goodness-of-fit tests for the six (6) major unique textural groups identified from the quartz phi-normal components of Charleston Harbor Offshore Disposal Study Area bottom sediments. The null hypothesis being tested is that of equal distribution over shore-parallel transects.

Group 1: $x^2 = 11.86^*$, 4 D.F.

Stations	Expected	Observed
1-8	4.14	1
9-16	4.83	0
17-24	4.71	8
25-32	4.71	7
33-40	4.60	7

Group 5: $x^2 = 11.36^*$, 4 D.F.

Stations	Expected	Observed
1-8	7.38	4
9-16	8.61	15
17-24	8.40	7
25-32	8.40	12
33-40	8.20	3

Group 6: $x^2 = 8.74^*$, 4 D.F.

Stations	Expected	Observed
1-8	3.6	6
9-16	4.2	7
17-24	4.1	5
25-32	4.1	2
33-40	4.0	0

Group 8: $x^2 = 3.94$, 4 D.F.

Stations	Expected	Observed
1-8	7.56	4
9-16	8.82	9
17-24	8.61	8
25-32	8.61	13
33-40	8.40	8

Group 9: $x^2 = 9.44^*$, 4 D.F.

Stations	Expected	Observed
1-8	4.68	0
9-16	5.46	4
17-24	5.33	9
25-32	5.33	4
33-40	5.20	8

Group 10: $x^2 = 16.26^*$, 4 D.F.

Stations	Expected	Observed
1-8	4.68	1
9-16	5.46	11
17-24	5.33	9
25-32	5.33	5
33-40	5.20	0

*Reject the null hypothesis of equal distribution at the 90% confidence level.

Table 95. Goodness-of-fit tests for the six (6) major unique textural groups identified from the quartz phi-normal components of Charleston Harbor Offshore Disposal Study Area bottom sediments. The null hypothesis being tested is that of equal distribution over shore-perpendicular transects.

Group 1: $x^2 = 15.38^*$, 3 D.F.

Transects	Expected	Observed
I (East)	5.175	2
II	5.175	2
III	7.36	6
IV (West)	5.29	13

Group 5: $x^2 = 0.43$, 3 D.F.

Transects	Expected	Observed
I (East)	9.225	9
II	9.225	8
III	13.12	13
IV (West)	9.43	11

Group 6: $x^2 = 4.73$, 3 D.F.

Transects	Expected	Observed
I (East)	4.5	7
II	4.5	6
III	6.4	6
IV (West)	4.6	1

Group 8: $x^2 = 16.73^*$, 3 D.F.

Transects	Expected	Observed
I (East)	9.45	2
II	9.45	15
III	13.44	4
IV (West)	9.66	17

Group 9: $x^2 = 8.12^*$, 3 D.F.

Transects	Expected	Observed
I (East)	5.85	7
II	5.85	2
III	8.32	14
IV (West)	5.98	3

Group 10: $x^2 = 9.60^*$, 3 D.F.

Transects	Expected	Observed
I (East)	5.85	4
II	5.85	11
III	8.32	10
IV (West)	5.98	1

*Reject the null hypothesis of equal distribution at the 90% confidence level.

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