A PALEOECOLOGIC RECONSTRUCTION OF THE HISTORY OF FEATHERBED BANK, BISCAYNE NATIONAL PARK, BISCAYNE BAY, FLORIDA

By

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ABSTRACT

Using multiple-proxy biological indicators, a paleoecological history of the past 550 years of Featherbed Bank, Biscayne Bay, has been reconstructed from a short (2.26 m) sediment core. Paleoecological changes in ostracode, mollusc, and foraminifer assemblages show that core SEI297-FB-1 can be divided into three distinctly different zones, which together provide evidence for distinct changes in historical environmental conditions at Featherbed Bank.

Assemblages from fossil biotic communities within zone 1, representing approximately 1440 to 1550 AD, are characterized by open-marine biota with relatively limited numbers of epiphytic biota. Molluscan faunal indicators suggest the sediment was capable of supporting infaunal organisms and that faunal richness was relatively limited during this time period.

A change in the biotic community occurred around 1550 AD and continued until the late 1800's distinguishing zone 2. Fossil biotic indicators from zone 2 show a strong dominance of epiphytic organisms within all of the biotic communities examined. Foraminifers, molluscs, and ostracodes capable of subsisting in salinities slightly lower than normal marine begin to flourish in this time period, and there is a marked decline in infaunal molluscs.

Zone 2 assemblages are replaced around 1900 AD by increased numbers of organisms that typify open-marine conditions and a return to decreased epiphytic assemblages, similar to zone 1. Zone 3 assemblages, however, show some strong dissimilarities from zone 1, including limited infaunal molluscs, increased abundances of the ostracode *Malzella floridana*, and a significant increase in molluscan faunal richness.

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INTRODUCTION

Ecosystems and Ecosystem History

Coastal marine environments may change in response to both natural and anthropogenic forces. Natural forces, such as seasonal rainfall variation, hurricanes, climatic variation, and sea-level fluctuation, can dramatically affect substrate and water quality for organisms living within an ecosystem. Human alteration of an environment, such as urbanization, modification of the flow of water and circulation patterns, dredging of natural channels, and introduction of additional nutrients, affect the stability and natural variability of an ecosystem. As a result of tolerances, preferences, and ecological balance, change in the conditions of an ecosystem will result in a concomitant change in biotic assemblages. Therefore, using biota as proxies, historical environmental conditions can be reconstructed from fossil assemblages preserved in short sediment cores.

In 1994, the Everglades Forever Act was passed to help stem the effects of anthropogenic influences upon the Florida Everglades, Florida Bay, and Biscayne Bay. Increasing evidence of changes in the ecosystem attributed to anthropogenic forces, such as industrial pollution, over-harvesting of fisheries, and alteration of natural water circulation patterns, sparked an effort to restore the environment to a more natural condition. However, the impact of natural hydrological and climatic forces had not been adequately investigated. The ‘Ecosystem History of Biscayne Bay and the Southeast Coast’ project of the USGS was designed to help water management agencies with decisions regarding water and land-use management in south Florida by producing a model for recognizing human-induced and natural ecosystem variation using biological proxies. Documenting and correlating historical trends in the ecosystem’s variation with the timing of man-made, hydrological, and climatic events can be used to help determine what aspect of the ecosystem has been affected and help distinguish between the factors influencing environmental change.

Setting

Featherbed Bank is located on the margin between central Biscayne Bay and southern Biscayne Bay, off the western coast of Sands Key (fig. 1). The Bank is composed of Holocene sediments that may be greater than 4 meters thick in areas and may represent more than 5000 years of sediment accumulation (Wanless and others, 1995). Monthly salinity readings from sites near Featherbed Bank ranged from 30 to 43.2 ppt between July 1988 and December 1998, averaging around 35.4 ppt (Metro-Dade Department of Environmental Resources Management monthly monitoring of Biscayne Bay, unpublished data).

Multiple-proxy Approach

Ostracodes, foraminifers, and molluscs are small calcareous organisms whose fossil assemblages and shell chemical composition are commonly used in quantitative paleoclimatic reconstruction in deep-sea, coastal, estuarine, and lacustrine environments. These organisms are a major part of the benthic community in Biscayne and Florida Bay, with more than 50 ostracode species, 70 foraminifer species, and over 240 molluscan species (Lyons, 1999). Several studies in Florida Bay and Biscayne Bay have been published that use these biota as a proxy to show changes in a variety of environmental conditions (Turney and Perkins, 1972; Lyons, 1996; Bock and others, 1971; Lidz and Rose, 1989). Analyses of modern flora and fauna within Biscayne Bay (Ishman and others, 1998; Ishman and D'Ambrosio, 1997; Ishman, in press) and the surrounding environments (Brewster-Wingard and Ishman, 1999; Brewster-Wingard and others, 1996; Brewster-Wingard, Stone, & Holmes, in press) have been used to help calibrate modern analogues for foraminifer, mollusc, and ostracode assemblages. In the present study, a multiple-proxy approach was taken to reconstruct the paleoenvironments in order to provide a preliminary interpretation for the last 500 years of Featherbed Bank's history.

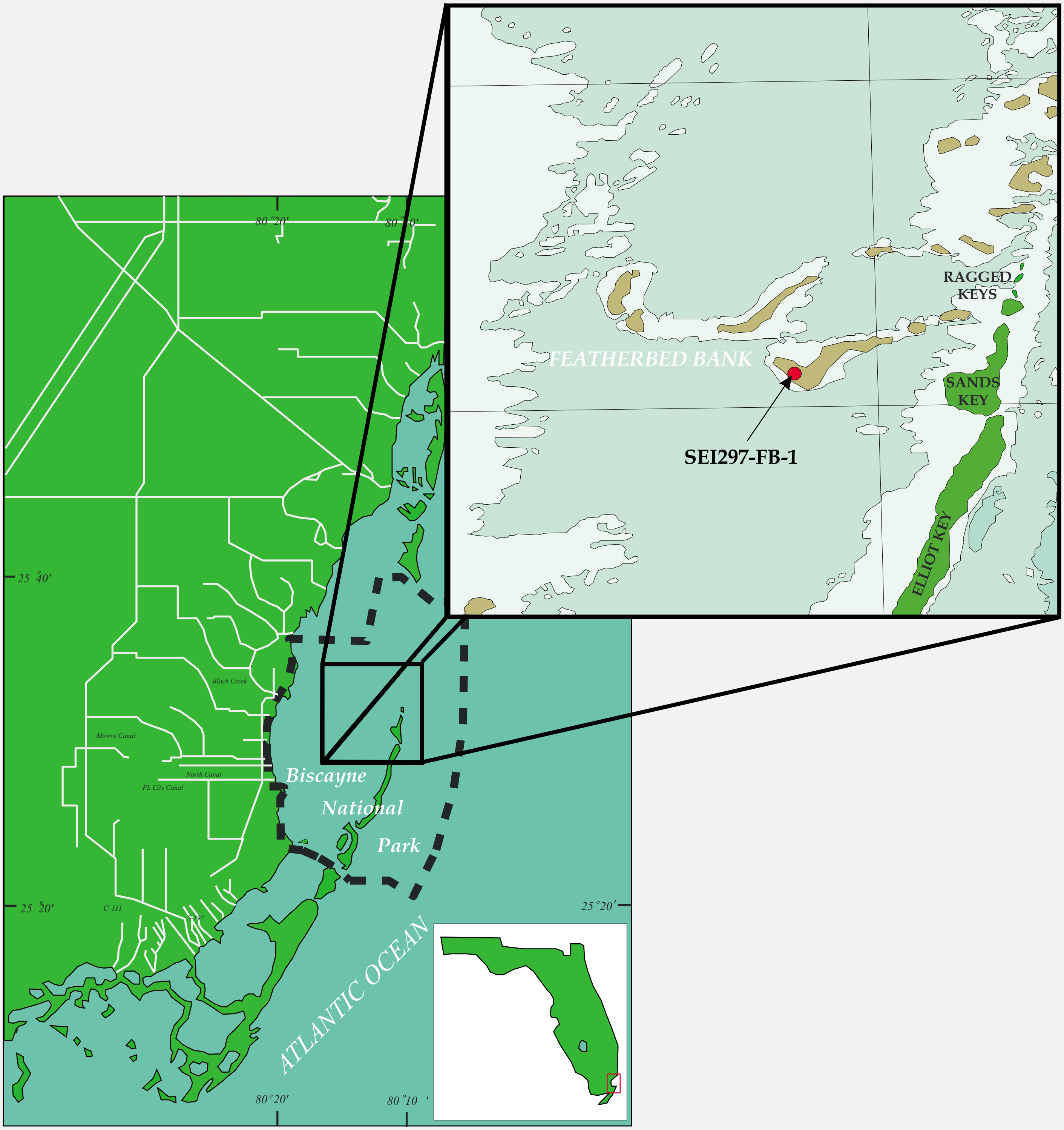


Figure 1. The location of Featherbed Bank within Biscayne National Park, Florida. The dot indicates the location where core SEI297-FB-1 was taken in February 1997.

METHODS

Core Collection

Core SEI297-FB-1, a 2.26 m long sediment core (25 °31.31'N, 80 °15.39' W), was collected in February 1997 using a large (approximately 4 inches in diameter) piston core. The base of the core did not reach the underlying limestone bedrock (Ishman, 1997). The core was collected in water 63 cm deep, using the USGS pontoon barge. A tripod suspended the core tube through a moon pool in the center of the barge. A piston, placed at the surface-water interface within the core tube, was used to maintain a vacuum that prevented compaction of the sediments as the core tube was being inserted into the sediment. Steel cables attached to the tripod were used to hoist the core tube out of the sediment when the core tube could no longer penetrate the sediment. The recovered core tube was then capped to prevent loss of sediment and to maintain stability in the upper portion of the core before processing (Ishman, 1997). The core

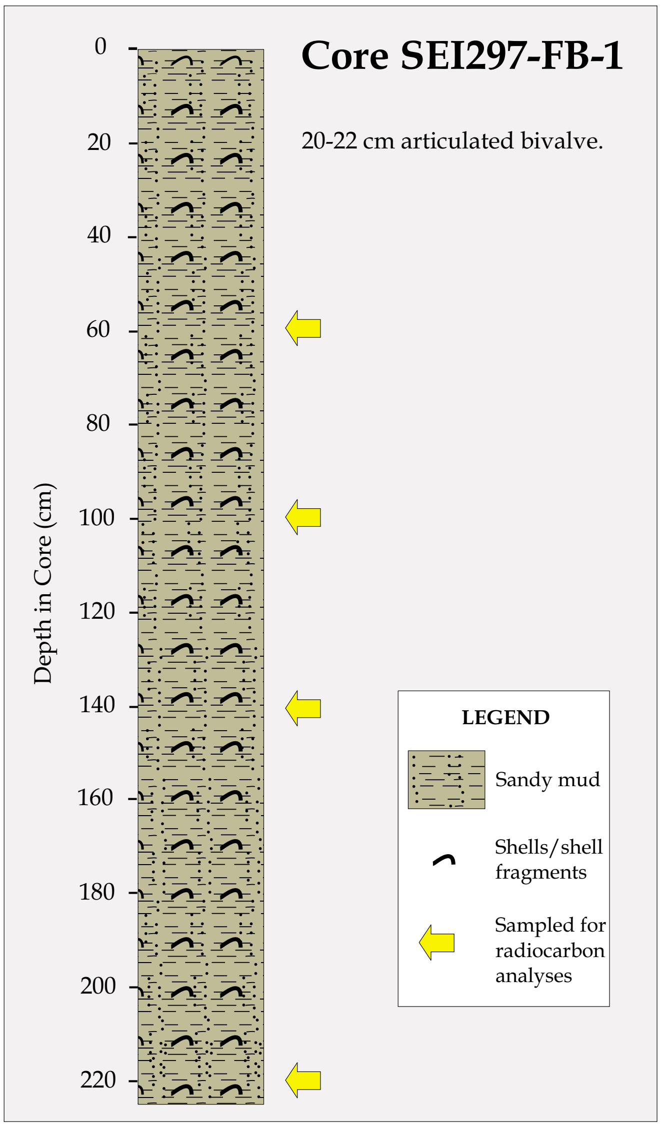


Figure 2. Description of core SEI297-FB-1 (Modified from Ishman, 1997).

composition is primarily a homogeneous, light-olive-gray, fine sandy mud with plant debris and shell material (fig. 2).

Core Processing

The core was sampled every 2 centimeters, from the top of the core to the base, for faunal and geochemical analysis. All samples were washed through a set of nested 63 µm and 850 µm sieves. Sample components from less than 63 µm were dried at 50°C and weighed for ^{210}Pb analyses. The fractions of the sample greater than 63 µm were dried at 50°C and analyzed for ostracodes, foraminifers, and molluscs. All identifiable molluscs (ranging between 5 and 184 specimens), between 97 and 152 ostracode specimens, and 300 foraminifers (when attainable) were picked from each sample with a fine brush. Samples yielding less than 300 foraminifers were picked in their entirety.

Every other sample from the core was examined. Faunal groups and species were identified, counted, and standardized by calculating percent abundance within each sample. Ostracode species were identified using the taxonomy of Teeter (1975), Keyser (1975, 1976, 1977), and Garbett and Maddocks (1978). Cronin and others (in press) reviewed the ecology of ostracode species. Molluscs were identified primarily using Abbott (1974), Warmke and Abbott (1961), Perry and Schwengel (1955), and Andrews (1971), and taxonomic nomenclature was updated following Turgeon and others (1998). Taxonomy of the benthic foraminiferal species were identified using Loeblich and Tappan (1988). Faunal slides are housed in the Eastern Earth Surface Processes Team, U.S. Geological Survey, Reston, Virginia.

Chronology

A provisional age model (fig. 3) for SEI297-FB-1 was developed from ^{210}Pb (lead) dating for the uppermost 90 cm (Robbins and others, in press), and ^{14}C (radiocarbon) dating by John McGeehin (USGS, Reston) for the interval from 60

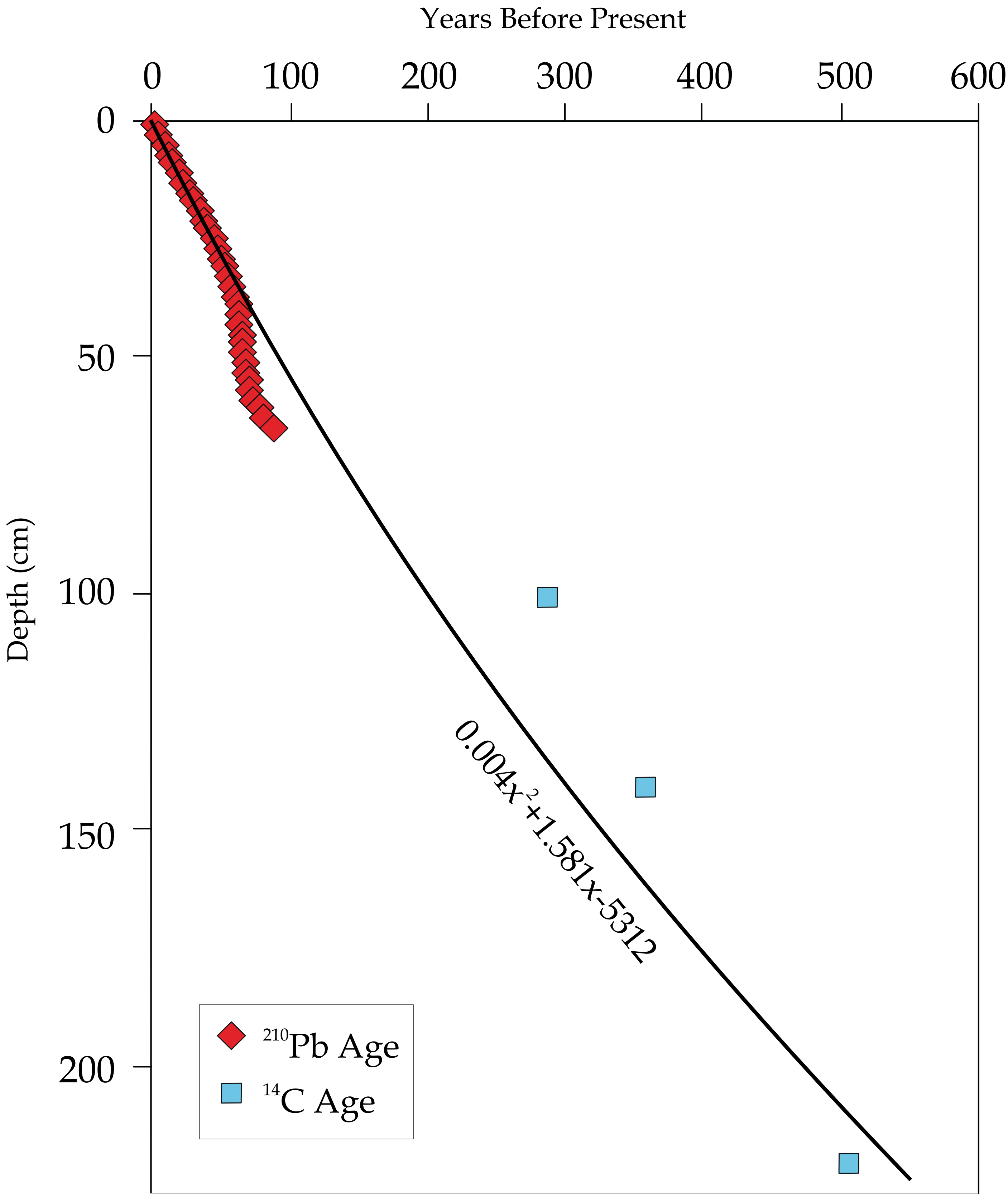


Figure 3. Age model for core SEI297-FB-1.

to 222 cm (table 1). Using the ^{210}Pb ages and lower three radiocarbon dates (101, 141, and 221 cm) as tie-points (fig. 2), a preliminary age model was obtained with a second order polynomial line yielding the following depth age relationship:

$$\text{Age} = 0.004(\text{depth}^2) + 1.581\ (\text{depth}) - 5.312\ (r^2 = 0.944)$$

Ages for each faunal sample were computed using this equation and are given in Tables 2 - 4.

One can obtain a slightly different age model by using the original age estimates from the ^{210}Pb analyses for the upper 87 cm and a separate age-depth equation for the interval 65-225 cm. This interval can be dated by fitting a line to the oldest ^{210}Pb age of 88 years at 65 cm and lowermost three radiocarbon dates. Ages in this latter model are 20-60 years older in the interval from ~65 to 190 cm; thus it is important to keep in mind the age uncertainty.

RESULTS

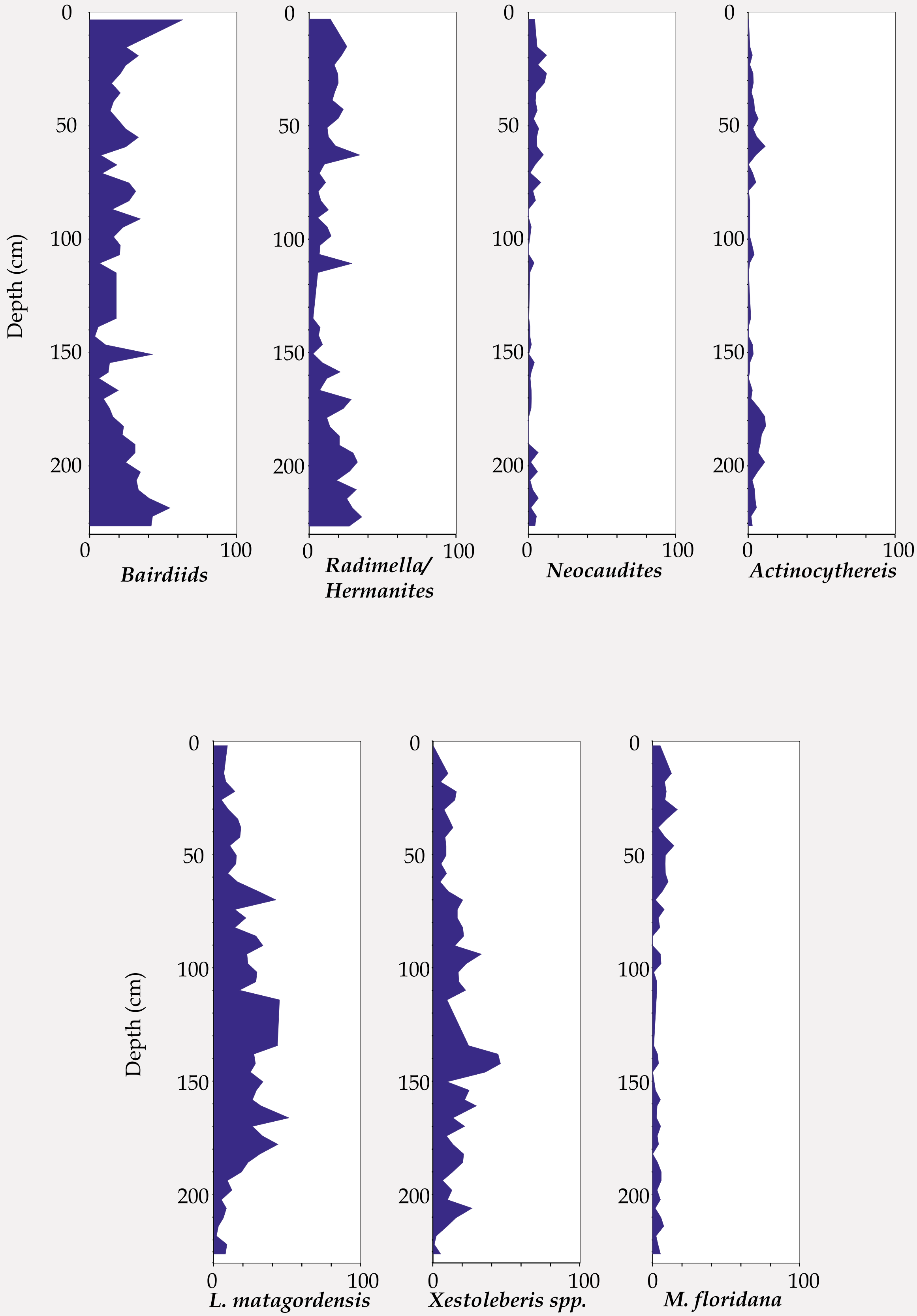
Ostracodes

Core SEI297-FB-1 can be divided into three informal faunal zones based on changes in the relative frequencies of various environmentally sensitive ostracode taxa (fig. 4, table 2). The lowermost zone (zone 1) from 226-175 cm is dominated by the species of the genera *Neonesidea* and *Paranesidea* (lumped into the family Bairdiidae), *Radimella* and *Hermanites* (plotted together), *Neocaudites* and *Actinocythereis*. These species typically live exclusively in waters of normal marine salinity on carbonate platforms in tropical and transitional subtropical regions. The age of this zone is estimated to be about 1450-1600 AD (400-550 yr BP).

The second zone (zone 2) occurs from 175 to 65 cm and is characterized by common *Loxoconcha matagordensis* (20-50 %) and *Xestoleberis* spp. (20-40 %). *Loxochoncha. matagordensis* is an epiphytal species that lives along Atlantic and Gulf of Mexico coasts of North America on *Thalassia*, *Zostera (*in mid-latitudes*)*, and other marine seagrasses (Cronin and others, in press). Many species of *Xestoleberis* inhabit various types of marine algae in tropical and subtropical regions. In addition to their preference for sub-aquatic vegetation habitats, *L. matagordensis* and several species of *Xestoleberis* thrive in environments of reduced salinity, such as those found in coastal bays and lagoons. Therefore, the dominance of epiphytal euryhaline ostracode species in this zone suggests a period of both abundant seagrass and marine algal habitats and also fluctuating salinity between about 20-35 ppt. The age of this zone is estimated to be about 1600-1850 AD (150-400 yr BP).

The third zone (zone 3) occurs in the interval from 65 cm to the top of the core and represents the period from 1850 to 1997. The ostracode assemblages consist mostly of carbonate platform species as were found in zone 1, and in addition, 10% or more of *Malzella floridana*. This latter species is a dominant form

Figure 4. Ostracodes (in percent abundance) from Featherbed Bank Core, Biscayne Bay.



in Florida Bay in regions that experience periodic hypersalinity. While its presence in Biscayne Bay during the last 150 years does not necessarily indicate hypersalinity, it does distinguish the assemblages of zone 3 from zone 1. Epiphytal species also decrease significantly in the transition from zone 2 to zone 1.

Molluscs

Examination of the molluscan fauna in Core SEI297-FB-1 resulted in the identification of 96 faunal groups. The dominant species include *Bittiolum varium*, *Turbo castaneus*, *Eulithidium* sp., *Tegula fasciata*, and *Vermicularia spirata*. The assemblages and the molluscan faunal richness and abundance throughout the core indicate open-bay to open-marine conditions. On the basis of the molluscan assemblages, the salinity never dropped below 20 ppt, and was probably greater than 25 ppt throughout the time of deposition at this site. There are no molluscan indicators of proximity to land at this site.

The lower portion of Core SEI297-FB-1, from 226 to 175 cm (zone 1), is characterized by the presence of infaunal pelecypods (*Pitar* sp., *Parastarte triquetra, Gouldia* sp., *Nucula proxima*), perhaps indicating softer sediment available for habitation. Epiphytic and epibenthic gastropods (*Eulithidium* sp., *Cerithium* spp., *Tegula fasciata, Vermicularia spirata, Modulus modulus*, and *Turbo castaneus*) are also present in the lower portion of the core (fig. 5, table 3). *Bittiolum varium*, a dominant epiphytic species in the upper portion of the core, is nearly absent from zone 1. Average molluscan faunal richness[1] is 13 and average abundance is 23 in the lower portion of the core; these numbers do not fluctuate significantly in this portion of the core, suggesting a relatively stable ecosystem. The molluscan fauna indicate near normal marine salinities for zone 1. Samples between 190 and 175 cm mark a transition from zone 1 to zone 2.

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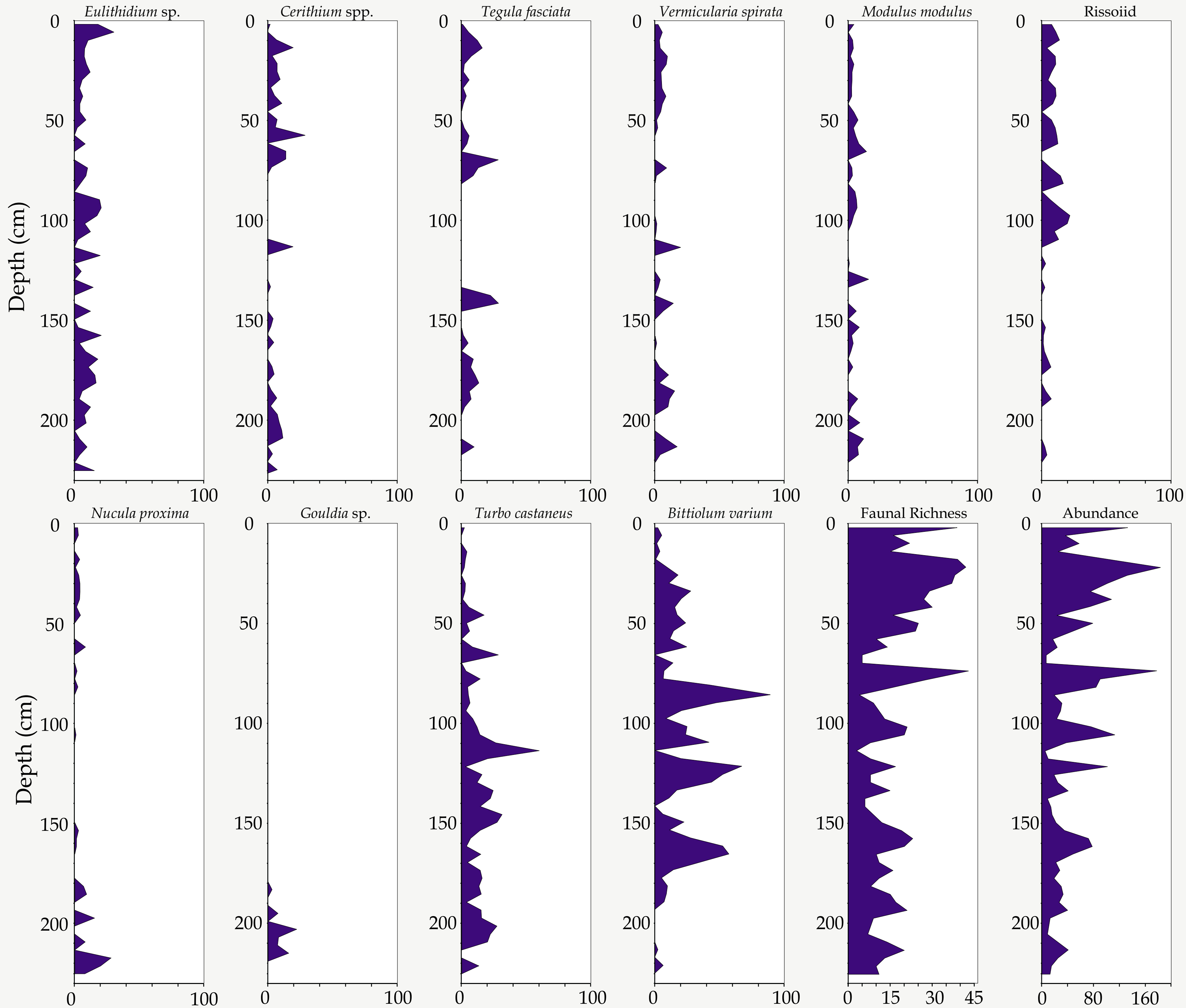
[1] Faunal richness is a measure of the number of faunal groups present in a given sample. In some cases, the fauna are grouped into genera and occasionally broader categories (e.g. marginellids), so this is not "species" richness in the usual sense.

Figure 5. Molluscs (in percent abundance) from Featherbed Bank Core, Biscayne Bay.



The middle portion of the core, from 175-65 cm (zone 2), is dominated by the presence of *Bittiolum varium*; *Turbo castaneus* also is relatively abundant. Burrowing pelecypods are sparse in zone 2 and almost completely absent from 118-90 cm, indicating the substrate may not have been suitable for habitation; this corresponds to an increase in organisms that live on hard substrates and / or sub-aquatic vegetation. Average molluscan faunal richness in the middle portion of the core is 12, nearly the same as the lower portion, but abundance is highly variable compared to zone 1, averaging 39 individuals per sample. The molluscan fauna indicate the salinity in this portion of the core may have been reduced periodically (perhaps as low as 25 ppt) compared to zone 1; the presence of several species that require near normal marine salinities, however, discounts sustained periods of lower salinities. Samples between 90 and 65 cm mark a transition from zone 2 to zone 3, sharing characteristics of both.

The upper portion of the core, from 65 to 0 cm (zone 3), is marked by a decline in the dominance of *Bittiolum varium*, and a dramatic increase in faunal richness to an average of 25 faunal groups per sample. *Cerithium* spp., *Tegula fasciata, Vermicularia spirata, Modulus modulus,* rissoinids, *Nucula proxima*, and *Transenella* sp. increase in numbers in the upper portion of the core. This portion of the core contains a distinct assemblage very similar to the western margin of Florida Bay. The assemblage is dominated by *Turbo castaneus* and *Tegula fasciata* with minor percentages of *Brachidontes exustus, Pteria longisquamosa, Cerithium muscarum, Chione cancellata,* and other species more common in eastern and central Florida Bay. The assemblage requires relatively stable, near-normal marine salinities (Brewster-Wingard, Stone, and Holmes, in press). This evidence is supported by the presence of *Halimeda,* in the upper 80cm of the core. Halimeda is a green algae common in normal marine conditions and found along the western margin of Florida Bay. Faunal abundance, which fluctuates dramatically in zone 3, ranging from 7 to 184 individuals per sample (averaging 74), distinguishes this assemblage from the molluscan assemblage in zone 1.

Foraminifers

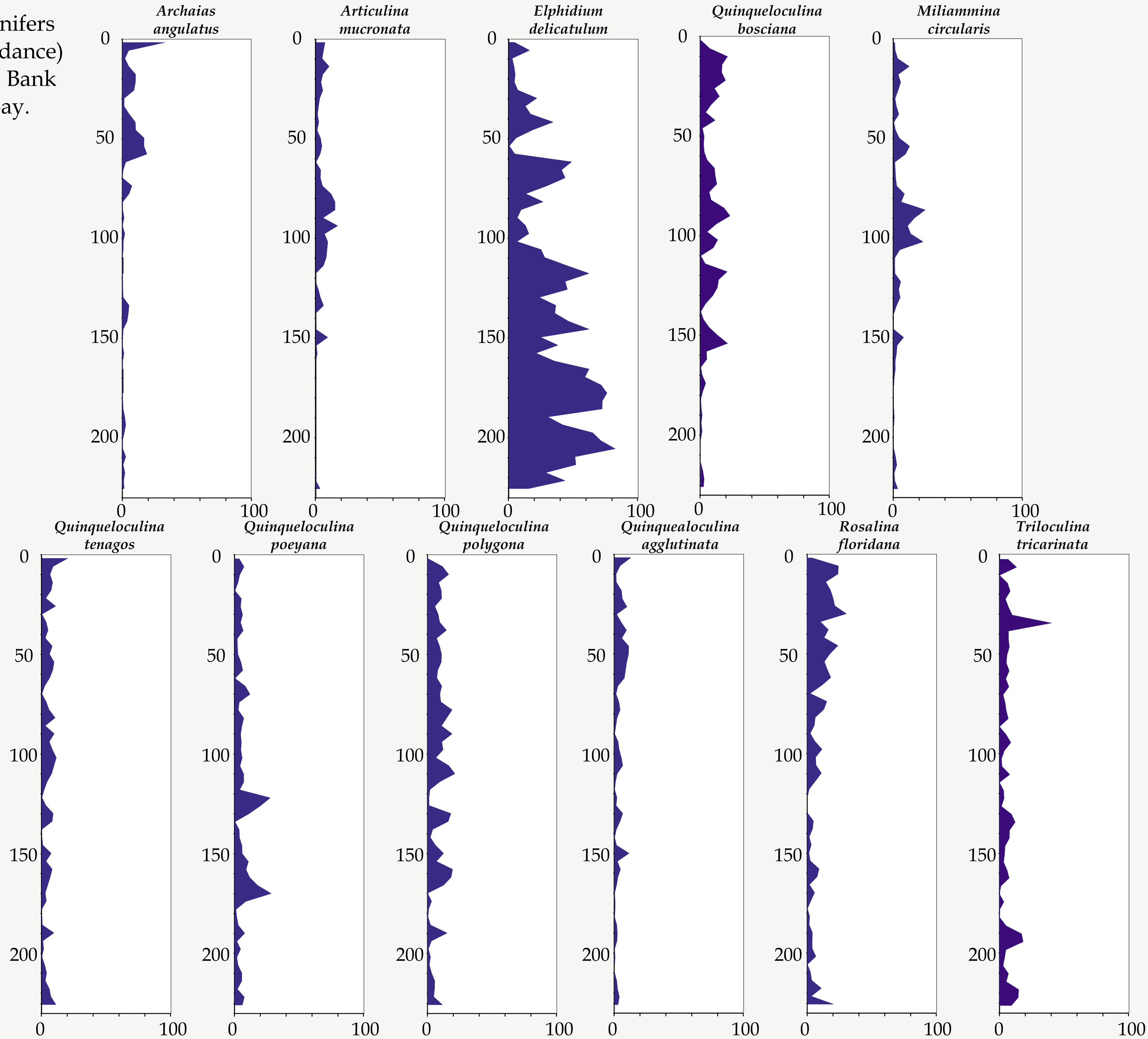
The foraminiferal analyses resulted in the identification of 41 species (table 4). The assemblages are dominated by miliolid forms, with calcareous hyaline taxa common, and agglutinated taxa rare. The dominant species include *Quinqueloculina bosciana, Q. poeyana, Q. polygona, Q. seminula, Q. tenagos, Triloculina trigonula, Miliolinella circularis, Elphidium delicatulum, Archaias angulatus, Articulina mucronata, Rosalina floridana*, and *R. globularis*. Other subsidiary species include the rotaliids *Ammonia parkinsoniana tepida, A. parkinsoniana typica*, and *Florilus auriculus*, and the textulariid *Clavulina tricarinata* (fig. 6).

Ishman (in press) recognized four benthic foraminiferal assemblages from surficial sediment samples collected in Biscayne Bay. The foraminiferal faunas from Core SE1297-FB-1 represent a mixture of the open-bay grass assemblage and the open-bay coarse sediment assemblage, indicating open-bay normal circulation throughout the deposition of this core.

From the core bottom to 175 cm (zone 1), an open-bay seagrass form *Elphidium delicatulum* dominates to the near exclusion of other members of the seagrass assemblage. Within this interval, a variety of open-bay coarse sediment forms of the genera *Quinqueloculina* (*Q. tenagos, Q. poeyana, Q. polygona*) and *Triloculina* (*T. triacarinata*) and *Rosalina* (*R. floridana*) are present to common, suggesting a patchy seagrass-bare substrate environment.

From 175 cm to 65 cm (zone 2), *Elphidium delicatulum* still dominates, but other representatives of the seagrass assemblage, such as *Quinqueloculina bosciana*, *Articulina mucronata*, and *Miliammina circularis,* are present to common, and forms of the open-bay coarse sediment assemblage are still present but less abundant, indicating an environment with fairly healthy seagrass and sparse, patchy bare sediment. Samples between 100 and 65 cm mark a transition from zone 2 to zone 3 assemblages. Foraminifer assemblages, commonly found in minor relative percentages in salinities that range as low as 30 ppt, are present

Figure 6. Foraminifers (in percent abundance) from Featherbed Bank Core, Biscayne Bay.



within zone 2, suggesting that salinity conditions may have been slightly reduced when compared with zone 1.

From 65 cm to the top of the core (zone 3), the open-bay coarse sediment foraminiferal assemblage attains dominance. There is an increased abundance of most members of the open-bay coarse sediment assemblage in zone 3 and *Elphidium delicatulum* is greatly reduced, only dominating in a few horizons; other forms of the seagrass indicators remain unchanged or show only a modest increase in abundance. This suggests a bare sediment environment with patchy seagrass gradually replacing the lush sub-aquatic vegetation from zone 2 in the upper part of the core.

DISCUSSION

Regional Model for Featherbed Bank

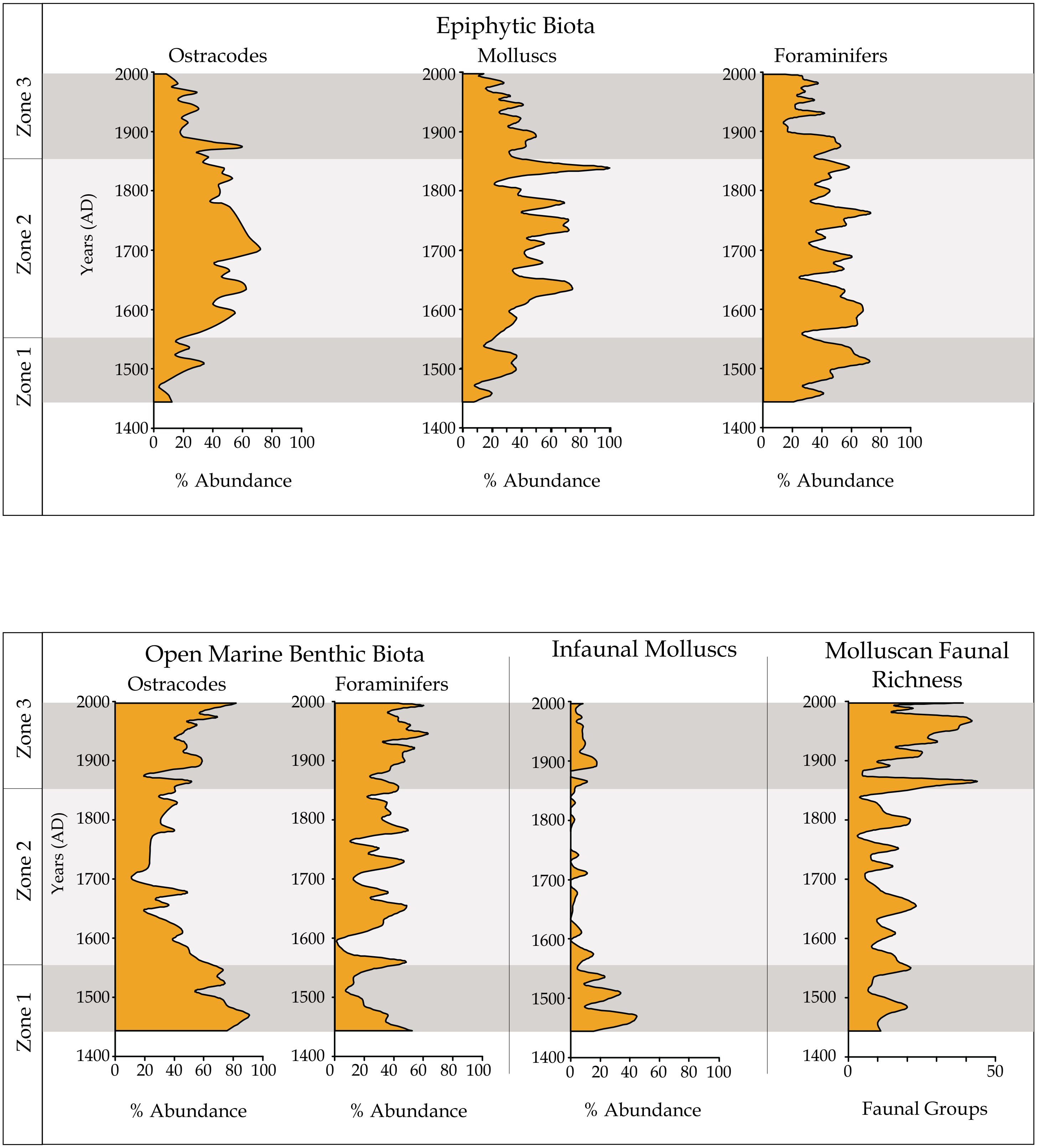
The results of faunal analyses in this study have produced a model for Core SEI297-FB-1 that divides the fossil assemblages into three informal faunal zones. Although preliminary in nature, the results suggest distinct environmental changes have characterized deposition at Featherbed Bank over the past 5 centuries (fig. 7).

The data from zone 1 (base to 175 cm) indicate that during the 15^{th} and 16^{th} centuries Featherbed Bank had an open-marine carbonate environment. The substrate during this period was patchy sub-aquatic vegetation, with a strong infaunal presence. Key biotic indicators suggest that salinity within zone 1 remained relatively stable and near to normal marine throughout deposition.

Zone 2 (175 – 65 cm) deposited during the 17^{th}, 18^{th}, and 19^{th} centuries, had a thriving bottom community living on seagrasses (probably abundant *Thalassia*) and marine algae. The presence of some taxa capable of tolerating lowered salinities in zone 2 indicate that this period may have experienced a wetter regional climate and / or experienced greater influx of freshwater. However, relatively high abundances of biotic indicators, which require near normal marine salinities within zone 2, limits the potential that salinity conditions were lowered for a sustained period.

Zone 3 (65 – 0 cm) represents the last 150 years of Biscayne Bay history when open-marine species re-colonized and sub-aquatic vegetation decreased. For the first time, the ostracode *Malzella floridana* became common, indicating possible episodes of hypersalinity and a molluscan assemblage similar to the western margin of Florida Bay appeared. The dramatic change in molluscan faunal richness and abundance in the upper portion of the core is striking (fig. 7). It is possible that this is a taphonomic effect, but preservation quality of

Figure 7. SEI297-FB-1 Key Down-core Indicators Plotted Against Time.



molluscan fossil shells is generally the same throughout the core; for example, the lowest portion of the core contains very delicate specimens that are well preserved, and color patterns are still present. These observations indicate that the variation in faunal richness and abundance is real and not a taphonomic bias. The increase in molluscs may be related to the variability in substrate heterogeneity, to fluctuating salinities, or to some other factor such as productivity or increased nutrients.

Bank Migration Model

While distinct, the changes within core SEI297-FB-1 are dominated by assemblages that primarily indicate different substrates. Variation in the fossil biotic communities throughout the core indicate limited variation in salinity conditions, possibly ranging as low as 25 ppt in zone 2; biological proxy indicators suggest that salinity conditions at Featherbed Bank remained stable and near normal marine throughout most of the deposition of the core.

The transition from infaunal and coarse-sediment dwelling biota (zone 1) to prominent epiphytic communities (zone 2) to variable substrates and potentially increased salinity fluctuations (zone 3) is consistent with a model for bank migration; the transition from zone 1 to zone 3 may be explained by gradual shallowing of the environment of deposition, with lush sub-aquatic vegetation (zone 2) representing the side of a migrating bank. Without further investigation, it would be difficult to determine if the changes seen in core SEI297-FB-1 are the result of local bank migration or if they represent regional changes within central Biscayne Bay over the past 5 centuries.

Suggestions for Future Work

To date, short cores, like the core analyzed in this paper, have been taken from six different regions of Biscayne Bay for the USGS ‘Ecosystem History of Biscayne Bay and the Southeast Coast’ project (Ishman, 1997). Faunal analyses of the cores from Manatee Bay and Featherbed Bank have now been completed, and modern analog data exist that allow a more accurate interpretation of historical trends in faunal assemblages. Results from this study suggest that environmental trends within Biscayne Bay show three distinct faunal zones, representing a shift in environmental conditions at Featherbed Bank. To understand whether these changes are a result of bay-wide changes or simply a local phenomenon produced by the migration of Featherbed Bank, additional cores must be analyzed from other regions within Biscayne Bay.

CONCLUSIONS

Ostracode, molluscan, and foraminiferal biological proxy indicators demonstrate that Featherbed Bank experienced three distinct environments. From approximately 1440–1550AD (zone 1), biotic assemblages show that open-bay, relatively stable marine, carbonate deposition dominated the environment. Patchy to limited sub-aquatic vegetation was present. Between 1550 and 1850 AD (zone 2), this environment gave way to open-bay conditions with lush sub-aquatic vegetation with only limited bare substrate. Salinity conditions may have reached as low as 25 ppt within this zone, but probably not for sustained periods. Between 1850 and 1997 AD (zone 3), biotic assemblages, representing open-bay deposition with patchy sub-aquatic vegetation and increasing bare substrate, re-colonize the environment. However, assemblages after 1850 display distinct differences from those in zone 1, suggesting modest changes in salinity regimes and substrate. There is no evidence for proximity to land or sustained periods of lowered salinity throughout core SEI297-FB-1. Although distinct, the changes in biotic assemblages down-core are dominantly substrate-controlled and may represent either bay-wide or local variations in the biological communities at Featherbed Bank.

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Table 1. Age model for core SEI297-FB-1 samples

Depth (cm)	Method	Age#	2 Sigma Range	Uncorrected C-14 Age	+/-
0-2	lead-210	1.66			
2-4	lead-210	5.04			
4-6	lead-210	8.49			
6-8	lead-210	12.00			
8-10	lead-210	15.57			
10-12	lead-210	19.20			
12-14	lead-210	22.86			
14-16	lead-210	26.55			
16-18	lead-210	30.24			
18-20	lead-210	33.90			
20-22	lead-210	37.52			
22-24	lead-210	41.06			
24-26	lead-210	44.47			
26-28	lead-210	47.71			
28-30	lead-210	50.75			
30-32	lead-210	53.54			
32-34	lead-210	56.05			
34-36	lead-210	58.25			
36-38	lead-210	60.15			
38-40	lead-210	61.74			
40-42	lead-210	63.05			
42-44	lead-210	64.13			
44-46	lead-210	65.05			
46-48	lead-210	65.85			
48-50	lead-210	66.64			
50-52	lead-210	67.49			
52-54	lead-210	68.51			
54-56	lead-210	69.81			
56-58	lead-210	71.52			
58-60	lead-210	73.83			
60-62	lead-210	76.99			
62-64	lead-210	81.40			
64-68	lead-210**	87.77			
60-62	radiocarbon*	295	350-0 yr BP	570	55
100-102	radiocarbon**	286	342-0 yr BP	555	55
140-142	radiocarbon**	359	503-303 yr BP	695	55
220-222	radiocarbon**	505	567-363 yr BP	810	55

*not used in age-depth model

**used to derive age model for interval 65-225 cm
age = 0.004 (depth*depth) + (1.581*depth) - 5.312
#Radiocarbon ages are calibrated using program in Stuvier and Reimer (1993)

Depth (cm)	Years (B.P.)	Age Model Year	*P. setipunctata*	*Loxoconcha*	*Malzella*	*Xestoleberis*	Bairdiids	*Puriana*	*Jug/Hermanites/Radimella*	*Neocaudites/Caudites*	*Actinocythereis*	Other	Total Picked
0-2	0.00	1997	0.00	8.65	4.81	0.00	63.46	0.00	14.42	3.85	0.00	4.81	104
12-14	15.92	1981	0.00	6.36	11.82	10.00	25.45	0.00	25.45	5.45	0.91	14.55	110
16-18	22.72	1974	0.00	7.50	7.50	5.00	33.33	0.00	21.67	11.67	2.50	10.83	120
20-22	29.65	1967	0.85	13.68	8.55	15.38	24.79	0.85	17.09	5.98	0.85	11.97	117
24-26	36.71	1960	0.00	4.85	7.77	14.56	21.36	0.97	19.42	11.65	2.91	16.50	103
28-30	43.90	1953	0.00	9.28	15.46	7.22	15.46	4.12	19.59	10.31	3.09	15.46	97
32-34	51.22	1946	0.00	15.38	8.65	10.58	21.15	3.85	17.31	4.81	1.92	16.35	104
36-38	58.66	1938	0.00	17.39	3.48	13.04	16.52	4.35	15.65	4.35	3.48	21.74	115
40-42	66.23	1931	0.79	16.67	7.94	7.94	14.29	4.76	23.02	5.56	3.97	15.08	126
44-46	73.93	1923	1.56	10.16	13.28	8.59	19.53	2.34	19.53	3.13	6.25	15.63	128
48-50	81.76	1915	0.72	14.49	7.97	8.70	24.64	1.45	12.32	6.52	2.90	20.29	138
52-54	89.72	1907	0.00	14.04	7.89	5.26	33.33	0.88	13.16	5.26	5.26	14.91	114
56-58	97.80	1899	0.89	8.93	8.04	8.93	25.00	2.68	17.86	5.36	10.71	11.61	112
60-62	106.01	1891	0.81	15.32	9.68	4.84	8.06	0.81	33.87	9.68	4.84	12.10	124
64-66	114.35	1883	0.87	28.70	6.09	10.43	19.13	2.61	10.43	4.35	0.00	17.39	115
68-70	122.82	1874	5.36	40.18	1.79	19.64	8.93	0.89	7.14	0.89	2.68	12.50	112
72-74	131.42	1866	1.60	13.60	7.20	16.00	27.20	0.00	11.20	8.00	4.80	10.40	125
76-78	140.14	1857	0.00	20.72	3.60	16.22	31.53	0.90	6.31	2.70	0.00	18.02	111
80-82	148.99	1848	0.00	13.51	4.50	19.82	27.03	0.00	8.11	4.50	0.90	21.62	111
84-86	157.97	1839	0.00	27.05	0.00	20.49	15.57	2.46	13.11	0.00	0.82	20.49	122
88-90	167.08	1830	0.00	31.62	0.00	14.53	35.04	0.00	5.98	0.00	0.85	11.97	117
92-94	176.32	1821	0.82	21.31	4.92	31.97	22.95	0.00	12.30	1.64	0.82	3.28	122
96-98	185.68	1811	0.00	21.93	5.26	21.93	16.67	0.88	14.91	0.88	0.88	16.67	114
100-102	195.17	1802	0.00	28.03	0.76	16.67	21.21	0.00	7.58	0.00	2.27	23.48	132
104-106	204.79	1792	0.00	27.03	2.70	17.12	20.72	1.80	7.21	0.00	3.60	19.82	111
108-110	214.54	1782	1.74	16.52	2.61	21.74	6.96	0.00	28.70	3.48	0.87	17.39	115
112-114	224.42	1773	0.00	42.31	2.31	9.23	18.46	0.77	6.15	0.77	0.00	20.00	130
132-134	275.72	1721	0.74	41.18	0.74	23.53	18.38	0.00	2.94	0.00	1.47	11.03	136
136-138	286.36	1711	1.52	25.76	3.03	43.18	6.06	0.00	7.58	0.76	0.00	12.12	132
140-142	297.13	1700	0.00	26.87	3.73	44.78	3.73	2.24	6.72	0.75	0.00	11.19	134
144-146	308.03	1689	0.00	23.73	0.00	34.75	11.02	1.69	9.32	1.69	2.54	15.25	118
148-150	319.06	1678	1.02	31.63	1.02	9.18	42.86	0.00	3.06	0.00	3.06	8.16	98
152-154	330.22	1667	0.00	27.52	1.83	23.85	13.76	0.92	9.17	3.67	0.92	18.35	109
156-158	341.50	1655	0.81	25.00	4.84	20.97	12.90	0.00	20.97	1.61	0.81	12.10	124
160-162	350.05	1647	1.85	30.56	2.78	28.70	6.48	0.00	12.04	0.93	0.00	16.67	108
164-166	364.45	1633	1.65	48.76	2.48	13.22	19.83	0.00	7.44	1.65	2.48	2.48	121
168-170	376.12	1621	0.00	25.00	5.00	20.83	10.00	0.00	28.33	1.67	1.67	7.50	120
172-174	387.92	1609	0.00	31.34	2.99	8.96	14.18	0.00	23.13	1.49	6.72	11.19	134
176-178	399.84	1597	0.00	41.51	3.77	13.21	16.04	0.00	12.26	0.00	10.38	2.83	106
180-182	411.89	1585	0.00	29.69	0.00	20.31	23.44	0.00	14.06	0.00	10.94	1.56	128
184-186	424.07	1573	0.00	21.97	3.03	19.70	22.73	0.00	20.45	0.00	8.33	3.79	132
188-190	436.38	1561	0.00	17.69	5.44	12.93	31.29	0.00	20.41	0.00	7.48	4.76	147
192-194	448.82	1548	0.00	8.53	5.43	6.20	31.01	0.00	29.46	6.20	6.20	6.98	129
196-198	461.38	1536	0.00	11.72	2.76	12.41	24.83	0.00	32.41	1.38	10.34	4.14	145
200-202	474.07	1523	0.00	4.85	4.85	9.71	34.95	0.00	27.18	5.83	5.83	6.80	103
204-206	486.89	1510	0.00	8.06	1.61	25.81	32.26	0.00	18.55	0.81	2.42	10.48	124
208-210	499.84	1497	0.00	5.92	5.26	15.13	33.55	0.00	31.58	2.63	3.95	1.97	152
212-214	512.92	1484	0.00	2.82	7.04	9.15	40.85	0.00	25.35	6.34	4.23	4.23	142
216-218	526.12	1471	0.00	1.45	2.17	2.17	55.07	0.00	28.99	1.45	5.07	3.62	138
220-222	539.45	1458	0.00	8.40	3.36	0.84	42.86	0.00	35.29	5.04	1.68	2.52	119
224-226	552.91	1444	0.00	7.32	4.88	4.88	42.28	0.00	26.83	4.07	2.44	7.32	123

Table 3: Molluscan (Bivalve) Percent Abundance Data for SEI297-FB-1

Depth (cm)	Years (B.P.)	Age Model Year	*Arcopsis adamsi*	*Brachidontes exustus*	*Cardium*	*Chione cancellata*	*Chione granulata ?*	*Chione* sp. FB1	*Codakia orbicularis*	*Codakia orbiculata*	*Cumingia tellinoides*	*Cyrenoida floridana*	*Glycymeris pectinata ?*	*Gouldia* sp.	*Laevicardium* sp.	*Laevicardium* spp.	*Limaria* sp. cf. *L. pellucida*	*Linga amiantus*
0-2	0.00	1997	0.00	0.00	0.00	0.75	0.00	3.76	0.00	5.26	0.75	0.00	3.76	0.00	0.75	0.00	1.50	0.00
4-6	2.69	1994	2.78	0.00	0.00	0.00	0.00	2.78	0.00	5.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8-10	9.24	1988	1.72	0.00	0.00	0.00	0.00	0.00	6.90	5.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.72
12-14	15.92	1981	0.00	0.00	0.00	4.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	4.00	0.00
16-18	22.72	1974	0.00	0.95	0.00	1.90	0.00	0.95	0.95	3.81	0.95	0.00	0.00	0.00	0.95	0.00	1.90	0.00
20-22	29.65	1967	0.00	0.54	0.00	0.00	0.00	0.54	2.17	3.26	1.09	0.00	0.00	0.00	0.00	0.00	0.54	0.00
24-26	36.71	1960	0.76	0.00	0.00	0.76	0.00	1.52	0.00	0.76	0.76	0.00	0.00	0.00	1.52	0.00	1.52	0.00
28-30	43.90	1953	0.00	0.99	0.00	2.97	0.00	0.99	0.99	0.99	0.99	0.99	0.99	0.00	0.00	0.00	0.00	0.00
32-34	51.22	1946	0.00	1.33	0.00	2.67	0.00	0.00	4.00	1.33	0.00	0.00	0.00	0.00	2.67	0.00	2.67	0.00
36-38	58.66	1938	0.00	1.85	0.00	0.00	0.00	2.78	0.00	3.70	1.85	0.00	0.00	0.00	0.00	0.00	0.93	0.00
40-42	66.23	1931	0.00	1.41	0.00	2.82	0.00	2.82	0.00	0.00	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44-46	73.93	1923	0.00	4.35	0.00	0.00	0.00	4.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48-50	81.76	1915	0.00	0.00	0.00	2.53	0.00	1.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52-54	89.72	1907	0.00	0.00	0.00	6.25	0.00	8.33	0.00	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56-58	97.80	1899	0.00	0.00	0.00	5.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60-62	106.01	1891	0.00	4.17	0.00	4.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64-66	114.35	1883	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68-70	122.82	1874	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72-74	131.42	1866	1.69	1.12	0.00	0.56	0.56	4.49	0.56	2.25	0.56	0.00	0.56	0.00	0.56	0.00	0.56	0.00
76-78	140.14	1857	0.00	1.11	0.00	0.00	0.00	1.11	1.11	4.44	1.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80-82	148.99	1848	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84-86	157.97	1839	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88-90	167.08	1830	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92-94	176.32	1821	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96-98	185.68	1811	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100-102	195.17	1802	0.00	0.00	0.00	0.00	0.00	2.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104-106	204.79	1792	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.00	0.00	0.00	0.00	0.00	1.77	0.00
108-110	214.54	1782	2.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112-114	224.42	1773	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116-118	234.42	1763	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120-122	244.55	1752	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.96	0.00	0.00
124-126	254.81	1742	0.00	0.00	0.00	5.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128-130	265.20	1732	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132-134	275.72	1721	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136-138	286.36	1711	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140-142	297.13	1700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
144-146	308.03	1689	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.25	0.00
148-150	319.06	1678	0.00	0.00	0.00	4.55	0.00	0.00	0.00	0.00	4.55	0.00	0.00	0.00	4.55	0.00	0.00	0.00
152-154	330.22	1667	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156-158	341.50	1655	0.00	2.78	0.00	0.00	0.00	0.00	0.00	0.00	5.56	0.00	0.00	0.00	0.00	2.78	0.00	0.00
160-162	350.05	1647	0.00	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164-166	364.45	1633	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.26	0.00	0.00	0.00
168-170	376.12	1621	0.00	0.00	0.00	0.00	0.00	4.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
172-174	387.92	1609	0.00	0.00	0.00	0.00	0.00	7.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176-178	399.84	1597	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180-182	411.89	1585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
184-186	424.07	1573	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.03	0.00	0.00	0.00	0.00
188-190	436.38	1561	0.00	0.00	0.00	7.41	0.00	0.00	3.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
192-194	448.82	1548	0.00	0.00	2.50	0.00	0.00	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
196-198	461.38	1536	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.69	0.00	0.00	0.00	0.00
200-202	474.07	1523	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
204-206	486.89	1510	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.22	0.00	0.00	0.00	0.00
208-210	499.84	1497	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00
212-214	512.92	1484	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.32	0.00	0.00	0.00	0.00
216-218	526.12	1471	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00
220-222	539.45	1458	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.67	0.00	0.00	0.00
224-226	552.91	1444	0.00	0.00	0.00	7.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 3: Molluscan (Bivalve) Percent Abundance Data for SEI297-FB-1

Depth (cm)	Years (B.P.)	Age Model Year	*Lucina multilineata*	*Lucina muricata ?*	*Macoma ?*	*Mysella ?* sp.	*Mysella* sp.	*Nucula proxima*	*Parastarte triquetra*	Pectinid	*Pitar* sp.	*Pleuromeris tridenta*	*Polymesoda* sp.	*Pteria longisquamosa*	*Semele* sp.	*Tellina* spp.	*Transennella* sp.	Unidentified Pelecypods	*Dentalium* sp.	Total # gastropod specimens
0-2	0.00	1997	0.00	0.00	0.00	1.50	0.00	2.26	0.00	0.00	0.00	0.00	0.00	2.26	0.00	0.00	1.50	0.00	0.00	133
4-6	2.69	1994	0.00	0.00	0.00	0.00	0.00	2.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	0.00	36
8-10	9.24	1988	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.45	0.00	1.72	3.45	0.00	0.00	58
12-14	15.92	1981	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25
16-18	22.72	1974	0.00	0.00	0.00	5.71	0.00	3.81	0.00	0.00	0.00	0.00	0.00	0.95	0.00	0.00	0.95	0.00	0.00	105
20-22	29.65	1967	0.00	0.00	0.54	0.54	0.00	0.54	0.00	0.00	2.72	0.00	0.00	1.09	0.00	0.00	0.00	0.00	0.00	184
24-26	36.71	1960	0.76	0.00	3.03	0.00	0.00	3.03	0.00	0.00	3.03	0.00	0.00	2.27	0.00	0.76	0.00	1.52	0.00	132
28-30	43.90	1953	0.00	0.00	3.96	0.00	0.99	3.96	0.00	0.00	0.00	0.00	1.98	1.98	0.00	2.97	0.00	0.99	0.00	101
32-34	51.22	1946	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	5.33	1.33	0.00	1.33	0.00	0.00	75
36-38	58.66	1938	0.00	0.00	5.56	0.00	0.00	3.70	0.00	0.93	0.00	0.00	0.00	0.00	0.00	3.70	1.85	3.70	0.00	108
40-42	66.23	1931	0.00	0.00	0.00	0.00	0.00	1.41	0.00	0.00	0.00	0.00	0.00	1.41	0.00	2.82	2.82	7.04	0.00	71
44-46	73.93	1923	0.00	0.00	0.00	0.00	0.00	4.35	0.00	0.00	0.00	0.00	4.35	0.00	0.00	0.00	0.00	4.35	0.00	23
48-50	81.76	1915	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27	0.00	2.53	8.86	0.00	79
52-54	89.72	1907	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.17	0.00	4.17	0.00	48
56-58	97.80	1899	11.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.76	0.00	0.00	0.00	0.00	0.00	0.00	5.88	0.00	17
60-62	106.01	1891	0.00	0.00	0.00	0.00	0.00	8.33	0.00	0.00	4.17	0.00	0.00	4.17	0.00	0.00	0.00	4.17	0.00	24
64-66	114.35	1883	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.57	0.00	7
68-70	122.82	1874	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7
72-74	131.42	1866	0.00	0.00	0.00	0.00	1.12	1.69	0.00	0.00	3.93	0.00	0.00	2.25	0.00	2.81	0.00	1.12	0.00	178
76-78	140.14	1857	0.00	0.00	0.00	0.00	1.11	0.00	0.00	0.00	2.22	0.00	0.00	1.11	0.00	0.00	0.00	0.00	0.00	90
80-82	148.99	1848	2.38	0.00	0.00	0.00	0.00	2.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	0.00	0.00	84
84-86	157.97	1839	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19
88-90	167.08	1830	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31
92-94	176.32	1821	0.00	0.00	3.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29
96-98	185.68	1811	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23
100-102	195.17	1802	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76
104-106	204.79	1792	0.00	0.00	0.00	0.00	0.00	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	113
108-110	214.54	1782	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38
112-114	224.42	1773	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5
116-118	234.42	1763	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
120-122	244.55	1752	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.96	0.00	0.00	0.00	102
124-126	254.81	1742	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	0.00	19
128-130	265.20	1732	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00	0.00	25
132-134	275.72	1721	0.00	0.00	0.00	0.00	0.00	0.00	2.44	0.00	0.00	2.44	0.00	0.00	0.00	4.88	0.00	0.00	0.00	41
136-138	286.36	1711	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9
140-142	297.13	1700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	14
144-146	308.03	1689	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.25	0.00	16
148-150	319.06	1678	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09	0.00	22
152-154	330.22	1667	0.00	0.00	0.00	0.00	2.86	2.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.43	0.00	35
156-158	341.50	1655	0.00	0.00	0.00	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.17	0.00	72
160-162	350.05	1647	0.00	0.00	0.00	0.00	0.00	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56	0.00	2.56	0.00	78
164-166	364.45	1633	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47
168-170	376.12	1621	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22
172-174	387.92	1609	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28
176-178	399.84	1597	10.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	0.00	19
180-182	411.89	1585	0.00	0.00	0.00	0.00	0.00	6.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30
184-186	424.07	1573	0.00	0.00	0.00	0.00	0.00	9.09	0.00	0.00	3.03	0.00	0.00	0.00	0.00	0.00	0.00	9.09	0.00	33
188-190	436.38	1561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.70	0.00	27
192-194	448.82	1548	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	2.50	0.00	0.00	0.00	0.00	7.50	0.00	40
196-198	461.38	1536	0.00	0.00	0.00	0.00	0.00	15.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.69	0.00	13
200-202	474.07	1523	9.09	0.00	0.00	0.00	0.00	0.00	0.00	18.18	9.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11
204-206	486.89	1510	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	9
208-210	499.84	1497	0.00	0.00	0.00	0.00	0.00	8.00	0.00	4.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	25
212-214	512.92	1484	2.44	2.44	0.00	0.00	2.44	0.00	0.00	2.44	2.44	0.00	0.00	2.44	0.00	0.00	0.00	4.88	2.44	41
216-218	526.12	1471	0.00	0.00	0.00	0.00	0.00	28.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	25
220-222	539.45	1458	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	6.67	0.00	15
224-226	552.91	1444	7.69	0.00	0.00	0.00	7.69	7.69	0.00	0.00	0.00	0.00	0.00	7.69	0.00	0.00	0.00	7.69	0.00	13

Table 3: Molluscan (Gastropod) Percent Abundance Data for SEI297-FB-1

Depth (cm)	Years (B.P.)	Age Model Year	*Acmaea leucopleura ?*	*Acmaea pustulata*	*Acteocina canaliculata*	*Alvania ?* sp.	*Amaea retifera*	*Anachis avara*	*Astraea phoebia*	*Bittiolum varium*	*Bulla striata*	*Caecum cornucopiae*	*Caecum pulchellum*	*Calliostoma* sp.	*Cerithidea* spp.	*Cerithiopsis greeni*
0-2	0.00	1997	0.75	0.00	0.00	0.00	0.00	0.00	1.50	2.26	0.00	0.75	1.50	0.00	0.00	0.00
4-6	2.69	1994	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.56	0.00	5.56	0.00	0.00	0.00	0.00
8-10	9.24	1988	0.00	1.72	0.00	0.00	3.45	0.00	1.72	1.72	0.00	1.72	0.00	0.00	0.00	0.00
12-14	15.92	1981	0.00	0.00	0.00	0.00	4.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00
16-18	22.72	1974	0.00	4.76	0.00	0.00	0.95	0.95	0.00	0.95	0.00	0.95	0.95	0.00	0.00	0.00
20-22	29.65	1967	0.54	1.63	0.00	0.54	0.00	0.54	1.09	9.78	0.00	0.54	0.00	0.00	0.00	0.00
24-26	36.71	1960	1.52	0.00	0.00	0.00	0.00	0.00	1.52	18.18	0.00	0.00	0.00	0.00	0.00	0.76
28-30	43.90	1953	1.98	0.00	0.00	0.00	0.00	1.98	0.00	10.89	0.00	6.93	0.00	0.00	0.00	0.00
32-34	51.22	1946	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.00	0.00	0.00	0.00	0.00	0.00	0.00
36-38	58.66	1938	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.37	0.00	0.00	0.00	0.00	0.00	1.85
40-42	66.23	1931	0.00	0.00	0.00	0.00	1.41	1.41	0.00	15.49	0.00	0.00	0.00	0.00	0.00	2.82
44-46	73.93	1923	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.39	0.00	0.00	0.00	0.00	0.00	4.35
48-50	81.76	1915	0.00	0.00	1.27	0.00	1.27	0.00	0.00	24.05	0.00	1.27	0.00	0.00	0.00	2.53
52-54	89.72	1907	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.58	0.00	0.00	0.00	0.00	0.00	0.00
56-58	97.80	1899	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.76	0.00	0.00	0.00	0.00	0.00	0.00
60-62	106.01	1891	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00
64-66	114.35	1883	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68-70	122.82	1874	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00
72-74	131.42	1866	0.56	0.00	0.00	0.00	0.00	1.69	0.00	7.30	0.00	0.56	0.00	0.00	0.00	1.12
76-78	140.14	1857	2.22	0.00	0.00	0.00	0.00	0.00	0.00	6.67	0.00	3.33	0.00	0.00	0.00	0.00
80-82	148.99	1848	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.38	0.00	1.19	0.00	0.00	0.00	0.00
84-86	157.97	1839	0.00	0.00	0.00	0.00	0.00	0.00	0.00	89.47	0.00	0.00	0.00	0.00	0.00	0.00
88-90	167.08	1830	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.39	0.00	0.00	0.00	0.00	0.00	0.00
92-94	176.32	1821	3.45	0.00	0.00	0.00	0.00	0.00	0.00	20.69	0.00	0.00	0.00	0.00	0.00	0.00
96-98	185.68	1811	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.70	0.00	4.35	0.00	0.00	0.00	13.04
100-102	195.17	1802	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	11.84	0.00	0.00	0.00	1.32
104-106	204.79	1792	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.89	0.00	10.62	0.00	0.00	0.00	6.19
108-110	214.54	1782	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.11	0.00	0.00	0.00	0.00	0.00	0.00
112-114	224.42	1773	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116-118	234.42	1763	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00
120-122	244.55	1752	0.00	0.00	0.00	0.00	0.00	0.00	0.00	67.65	0.00	4.90	0.00	0.00	0.00	0.00
124-126	254.81	1742	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.63	0.00	0.00	0.00	0.00	0.00	0.00
128-130	265.20	1732	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.00	0.00	0.00	0.00	0.00	0.00	0.00
132-134	275.72	1721	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.07	0.00	0.00	0.00	0.00	4.88	0.00
136-138	286.36	1711	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00	11.11	0.00
140-142	297.13	1700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
144-146	308.03	1689	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.25	0.00	6.25	0.00	0.00	0.00	0.00
148-150	319.06	1678	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.73	0.00	9.09	4.55	0.00	0.00	0.00
152-154	330.22	1667	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.43	0.00	5.71	0.00	2.86	0.00	0.00
156-158	341.50	1655	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.78	0.00	0.00	0.00	0.00	0.00	2.78
160-162	350.05	1647	1.28	0.00	0.00	0.00	0.00	0.00	0.00	52.56	0.00	0.00	0.00	0.00	0.00	2.56
164-166	364.45	1633	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.45	0.00	0.00	0.00	0.00	0.00	0.00
168-170	376.12	1621	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.36	0.00	0.00	0.00	0.00	0.00	4.55
172-174	387.92	1609	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	7.14	0.00	0.00	0.00	3.57
176-178	399.84	1597	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	0.00	0.00	0.00	5.26	0.00	0.00
180-182	411.89	1585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
184-186	424.07	1573	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09	0.00	0.00	0.00	0.00	0.00	0.00
188-190	436.38	1561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.41	0.00	3.70	0.00	0.00	0.00	7.41
192-194	448.82	1548	2.50	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00	5.00
196-198	461.38	1536	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200-202	474.07	1523	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09
204-206	486.89	1510	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00	0.00
208-210	499.84	1497	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
212-214	512.92	1484	7.32	0.00	0.00	0.00	0.00	0.00	0.00	2.44	0.00	2.44	0.00	0.00	0.00	0.00
216-218	526.12	1471	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220-222	539.45	1458	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.67	0.00	0.00	0.00	0.00	0.00	0.00
224-226	552.91	1444	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 3: Molluscan (Gastropod) Percent Abundance Data for SEI297-FB-1

Depth (cm)	Years (B.P.)	Age Model Year	*Cerithium muscarum*	*Cerithium* sp.	*Cerithium* spp.	*Cerodrillia* sp.	*Columbella* sp.	Conidae juvenile	*Crassispira leucocyma*	*Crassispira* sp.	*Crepidula* spp.	*Cyclostremiscus* sp.	*Diodora* sp.	*Epitonium* sp.	Eulimidae	*Eulithidium* sp.	*Fasciolaria* sp.	*Finella* sp.	*Latirus ?*	*Lithopoma americanum*
0-2	0.00	1997	2.26	0.00	0.00	0.00	0.75	0.00	0.00	0.00	2.26	0.75	0.00	0.00	0.00	18.05	0.75	0.00	0.00	0.00
4-6	2.69	1994	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.56	0.00	0.00	0.00	0.00
8-10	9.24	1988	0.00	0.00	6.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.45	0.00	10.34	0.00	0.00	0.00	0.00
12-14	15.92	1981	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	8.00	0.00	0.00	0.00	0.00
16-18	22.72	1974	1.90	0.00	1.90	0.00	0.00	0.00	1.90	0.00	0.00	0.00	0.00	0.00	2.86	7.62	0.00	0.00	0.00	0.00
20-22	29.65	1967	0.00	0.00	7.61	0.00	0.00	0.00	1.63	0.00	0.54	0.54	0.00	0.00	2.72	9.24	0.00	0.00	0.00	0.54
24-26	36.71	1960	7.58	0.00	0.00	0.00	0.76	0.00	0.76	0.00	2.27	0.00	0.00	0.00	0.00	12.12	0.00	0.00	0.00	0.00
28-30	43.90	1953	0.00	0.00	9.90	0.99	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00	0.99	5.94	0.00	0.00	0.00	0.00
32-34	51.22	1946	1.33	0.00	1.33	0.00	0.00	0.00	2.67	0.00	2.67	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00
36-38	58.66	1938	1.85	0.00	3.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.48	0.00	0.00	0.00	0.00
40-42	66.23	1931	1.41	9.86	0.00	0.00	0.00	0.00	0.00	0.00	2.82	0.00	0.00	0.00	0.00	4.23	0.00	0.00	0.00	0.00
44-46	73.93	1923	0.00	0.00	0.00	0.00	0.00	0.00	8.70	0.00	0.00	0.00	0.00	0.00	0.00	4.35	0.00	0.00	0.00	0.00
48-50	81.76	1915	1.27	0.00	6.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.86	0.00	0.00	0.00	0.00
52-54	89.72	1907	4.17	0.00	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.08	2.08	0.00	0.00	0.00	0.00
56-58	97.80	1899	23.53	5.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60-62	106.01	1891	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.33	0.00	0.00	0.00	0.00
64-66	114.35	1883	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68-70	122.82	1874	0.00	0.00	14.29	0.00	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72-74	131.42	1866	2.81	0.00	0.56	1.69	0.00	0.56	0.00	0.00	0.56	0.00	0.00	0.00	0.00	10.11	0.00	0.00	0.00	0.00
76-78	140.14	1857	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.00	2.22	0.00	0.00	0.00	0.00	8.89	2.22	0.00	1.11	0.00
80-82	148.99	1848	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	0.00	0.00	0.00	0.00	0.00	4.76	0.00	0.00	1.19	0.00
84-86	157.97	1839	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88-90	167.08	1830	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.35	0.00	0.00	0.00	0.00
92-94	176.32	1821	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.69	0.00	0.00	0.00	0.00
96-98	185.68	1811	0.00	0.00	0.00	0.00	0.00	0.00	4.35	0.00	4.35	0.00	0.00	0.00	0.00	17.39	0.00	0.00	0.00	0.00
100-102	195.17	1802	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32	1.32	0.00	0.00	0.00	1.32	7.89	0.00	1.32	0.00	0.00
104-106	204.79	1792	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.00	0.88	0.00	0.00	12.39	0.00	0.00	0.00	0.00
108-110	214.54	1782	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.63	0.00	0.00	0.00	0.00
112-114	224.42	1773	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116-118	234.42	1763	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00
120-122	244.55	1752	0.00	0.00	0.00	0.00	0.00	0.00	1.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
124-126	254.81	1742	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	0.00	0.00	0.00	0.00
128-130	265.20	1732	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132-134	275.72	1721	2.44	0.00	0.00	0.00	0.00	0.00	0.00	2.44	0.00	0.00	0.00	0.00	0.00	14.63	0.00	0.00	0.00	0.00
136-138	286.36	1711	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140-142	297.13	1700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
144-146	308.03	1689	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00
148-150	319.06	1678	4.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152-154	330.22	1667	0.00	0.00	2.86	0.00	0.00	2.86	0.00	5.71	0.00	0.00	0.00	0.00	0.00	2.86	0.00	0.00	2.86	0.00
156-158	341.50	1655	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	0.00	0.00	0.00	0.00	0.00	20.83	0.00	0.00	1.39	0.00
160-162	350.05	1647	5.13	0.00	0.00	0.00	0.00	0.00	0.00	1.28	0.00	0.00	0.00	0.00	0.00	3.85	0.00	0.00	0.00	0.00
164-166	364.45	1633	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.51	0.00	0.00	0.00	0.00
168-170	376.12	1621	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.55	0.00	0.00	0.00	0.00	18.18	0.00	0.00	0.00	0.00
172-174	387.92	1609	3.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.71	0.00	0.00	0.00	0.00
176-178	399.84	1597	0.00	0.00	5.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.79	0.00	0.00	0.00	0.00
180-182	411.89	1585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00	0.00	0.00	0.00
184-186	424.07	1573	3.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.06	0.00	0.00	0.00	0.00
188-190	436.38	1561	0.00	0.00	7.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.70	0.00	0.00	0.00	0.00
192-194	448.82	1548	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	12.50	0.00	0.00	0.00	0.00
196-198	461.38	1536	0.00	0.00	7.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.69	0.00	0.00	0.00	7.69
200-202	474.07	1523	0.00	0.00	9.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09	0.00	0.00	0.00	0.00
204-206	486.89	1510	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
208-210	499.84	1497	4.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00	4.00	0.00
212-214	512.92	1484	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.76	0.00	0.00	0.00	0.00
216-218	526.12	1471	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00
220-222	539.45	1458	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.67
224-226	552.91	1444	0.00	0.00	7.69	0.00	0.00	0.00	0.00	7.69	0.00	0.00	0.00	0.00	0.00	15.38	0.00	0.00	0.00	0.00

Table 3: Molluscan (Gastropod) Percent Abundance Data for SEI297-FB-1

Depth (cm)	Years (B.P.)	Age Model Year	Marginellid	*Marshallora nigrocincta*	*Mitra nodulosa*	*Modiolus ?* sp.	*Modulus modulus*	Muricidae sp. B	*Muricopsis ?*	*Nassarius albus*	*Nassarius* sp.	*Natica ?* sp.	*Nitidella* sp.	*Odostomia* spp.	*Olivella pusilla*	Opercula - calc folded / hooked	Opercula - calc other	Opercula - calc pearly	Opercula - chitonous	*Pusia hanleyi ?*
0-2	0.00	1997	2.26	0.00	0.00	0.00	4.51	0.00	0.00	0.75	0.00	0.00	0.75	0.75	0.00	6.02	0.00	0.75	0.00	0.00
4-6	2.69	1994	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	0.00	5.56	0.00	5.56	0.00	0.00
8-10	9.24	1988	0.00	0.00	0.00	0.00	3.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.90	0.00	0.00	0.00
12-14	15.92	1981	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00
16-18	22.72	1974	0.95	0.00	0.00	0.00	1.90	0.00	0.95	1.90	0.00	0.00	0.95	3.81	1.90	0.00	3.81	0.00	0.00	0.00
20-22	29.65	1967	1.09	0.00	0.54	0.00	4.35	0.00	0.00	0.00	0.00	0.00	3.26	1.63	0.00	0.00	4.35	0.00	0.00	1.09
24-26	36.71	1960	3.03	0.00	0.00	0.00	3.03	0.76	0.76	0.00	0.00	0.00	2.27	3.79	0.00	0.00	0.00	0.76	0.00	0.00
28-30	43.90	1953	0.00	0.00	0.00	0.00	2.97	0.00	0.00	0.00	0.00	0.00	1.98	0.00	0.00	0.00	1.98	1.98	0.00	0.00
32-34	51.22	1946	4.00	1.33	0.00	0.00	2.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	1.33	0.00	0.00
36-38	58.66	1938	4.63	0.00	0.00	0.00	2.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.00	0.00
40-42	66.23	1931	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.82	1.41	0.00	0.00	2.82	1.41	0.00	0.00
44-46	73.93	1923	4.35	0.00	0.00	0.00	4.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.70	0.00	0.00
48-50	81.76	1915	2.53	0.00	0.00	0.00	7.59	1.27	0.00	0.00	0.00	0.00	1.27	0.00	1.27	0.00	0.00	0.00	0.00	0.00
52-54	89.72	1907	4.17	0.00	0.00	0.00	4.17	0.00	0.00	0.00	0.00	0.00	4.17	8.33	0.00	0.00	0.00	2.08	0.00	2.08
56-58	97.80	1899	0.00	0.00	0.00	0.00	5.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60-62	106.01	1891	0.00	0.00	0.00	0.00	8.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.17	0.00	0.00
64-66	114.35	1883	0.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68-70	122.82	1874	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.57	0.00	0.00
72-74	131.42	1866	1.69	0.00	0.00	0.00	2.81	0.56	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	0.00	3.37	0.00	0.00
76-78	140.14	1857	0.00	0.00	0.00	0.00	3.33	0.00	0.00	0.00	1.11	0.00	1.11	2.22	0.00	1.11	0.00	10.00	0.00	0.00
80-82	148.99	1848	0.00	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	1.19	0.00	2.38	0.00	5.95	0.00	0.00
84-86	157.97	1839	0.00	0.00	0.00	0.00	5.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88-90	167.08	1830	0.00	0.00	0.00	0.00	6.45	0.00	0.00	0.00	0.00	0.00	0.00	6.45	0.00	0.00	3.23	0.00	0.00	0.00
92-94	176.32	1821	0.00	0.00	3.45	0.00	6.90	0.00	0.00	0.00	0.00	0.00	0.00	3.45	0.00	0.00	6.90	13.79	0.00	0.00
96-98	185.68	1811	0.00	0.00	0.00	0.00	4.35	0.00	0.00	0.00	0.00	0.00	0.00	4.35	0.00	0.00	4.35	0.00	0.00	0.00
100-102	195.17	1802	0.00	0.00	1.32	0.00	2.63	0.00	0.00	0.00	1.32	0.00	1.32	1.32	0.00	2.63	0.00	2.63	0.00	0.00
104-106	204.79	1792	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.00	5.31	0.00	5.31	0.00	0.00
108-110	214.54	1782	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	0.00	7.89	0.00	0.00
112-114	224.42	1773	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116-118	234.42	1763	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	10.00	0.00
120-122	244.55	1752	0.00	0.98	0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00	0.00	1.96	0.00	0.98	0.00	6.86	0.98	0.00
124-126	254.81	1742	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	0.00	10.53	0.00	0.00
128-130	265.20	1732	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00
132-134	275.72	1721	0.00	9.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.32	0.00	0.00
136-138	286.36	1711	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.22	0.00	0.00
140-142	297.13	1700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	14.29	0.00	0.00
144-146	308.03	1689	0.00	0.00	0.00	0.00	6.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.75	0.00	0.00
148-150	319.06	1678	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.55	0.00	4.55	0.00	0.00
152-154	330.22	1667	0.00	0.00	0.00	0.00	8.57	0.00	0.00	0.00	0.00	0.00	0.00	2.86	0.00	5.71	0.00	8.57	0.00	0.00
156-158	341.50	1655	0.00	1.39	1.39	0.00	2.78	0.00	0.00	0.00	0.00	0.00	0.00	5.56	0.00	1.39	0.00	1.39	0.00	1.39
160-162	350.05	1647	0.00	0.00	0.00	0.00	3.85	0.00	0.00	0.00	0.00	0.00	0.00	5.13	0.00	1.28	0.00	1.28	0.00	0.00
164-166	364.45	1633	0.00	0.00	0.00	0.00	2.13	0.00	0.00	0.00	0.00	0.00	0.00	2.13	0.00	2.13	0.00	6.38	0.00	0.00
168-170	376.12	1621	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09	0.00	0.00	0.00	0.00
172-174	387.92	1609	0.00	0.00	0.00	0.00	3.57	0.00	0.00	0.00	0.00	0.00	0.00	3.57	0.00	3.57	0.00	7.14	0.00	0.00
176-178	399.84	1597	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	0.00	0.00	0.00	0.00	0.00	10.53	0.00	0.00
180-182	411.89	1585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	26.67	0.00	0.00
184-186	424.07	1573	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.06	0.00	6.06	0.00	0.00
188-190	436.38	1561	0.00	0.00	0.00	0.00	7.41	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	3.70	0.00	3.70	0.00	0.00
192-194	448.82	1548	0.00	0.00	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2.50	5.00	0.00	0.00	0.00	0.00
196-198	461.38	1536	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.08	0.00	0.00
200-202	474.07	1523	0.00	0.00	0.00	0.00	9.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
204-206	486.89	1510	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
208-210	499.84	1497	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	0.00	0.00
212-214	512.92	1484	0.00	0.00	0.00	0.00	7.32	0.00	0.00	0.00	0.00	0.00	0.00	4.88	0.00	2.44	0.00	4.88	0.00	0.00
216-218	526.12	1471	0.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00	4.00	0.00	0.00	0.00
220-222	539.45	1458	0.00	0.00	0.00	6.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.67	0.00	0.00	0.00	0.00	0.00	0.00
224-226	552.91	1444	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.38	0.00	0.00	0.00	0.00	0.00	7.69

Table 3: Molluscan (Gastropod) Percent Abundance Data for SEI297-FB-1

Depth (cm)	Years (B.P.)	Age Model Year	*Pyramidella crenulata*	*Pyramidella* sp.	*Rissoina cancellata*	*Rissoina decussata*	*Schwartziella catesbyana*	*Tegula fasciata*	*Triptychus niveus*	*Trivia* sp.	*Truncatella* sp.	*Turbo castaneus*	*Turbonilla* sp.	Turridae sp. A	Unidentified Gastropods	*Vermicularia spirata*	*Vexillum* sp.	Vitrinellid	*Zebina browniana*
0-2	0.00	1997	0.75	0.00	0.75	0.75	6.77	0.75	0.00	0.00	0.00	2.26	0.00	0.75	11.28	2.26	0.00	0.00	2.26
4-6	2.69	1994	0.00	0.00	0.00	0.00	11.11	5.56	0.00	0.00	0.00	0.00	0.00	0.00	2.78	5.56	0.00	0.00	2.78
8-10	9.24	1988	0.00	0.00	0.00	0.00	13.79	12.07	1.72	0.00	0.00	0.00	0.00	0.00	0.00	3.45	0.00	0.00	3.45
12-14	15.92	1981	0.00	0.00	0.00	0.00	4.00	16.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00
16-18	22.72	1974	0.95	0.00	0.95	0.00	9.52	7.62	1.90	0.00	0.00	2.86	0.00	0.00	0.00	9.52	0.95	0.00	0.00
20-22	29.65	1967	0.00	0.00	2.17	0.00	8.70	2.17	3.26	0.54	0.00	2.17	0.00	0.00	4.35	8.70	0.00	0.00	0.54
24-26	36.71	1960	0.00	0.00	2.27	0.00	5.30	1.52	3.03	0.00	0.76	0.00	0.00	0.00	0.00	4.55	0.00	0.00	0.76
28-30	43.90	1953	0.99	0.00	1.98	0.00	2.97	5.94	1.98	0.00	0.00	2.97	0.00	0.00	0.00	4.95	0.00	0.00	1.98
32-34	51.22	1946	0.00	0.00	8.00	0.00	2.67	1.33	0.00	0.00	0.00	2.67	0.00	1.33	0.00	5.33	0.00	0.00	1.33
36-38	58.66	1938	0.00	0.00	0.93	0.00	10.19	3.70	0.00	0.00	0.00	0.93	0.00	0.00	0.93	8.33	0.00	0.00	1.85
40-42	66.23	1931	1.41	0.00	5.63	0.00	2.82	1.41	1.41	0.00	0.00	5.63	0.00	0.00	4.23	5.63	0.00	0.00	0.00
44-46	73.93	1923	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.39	0.00	0.00	4.35	4.35	0.00	0.00	0.00
48-50	81.76	1915	0.00	0.00	3.80	0.00	3.80	0.00	0.00	0.00	0.00	3.80	0.00	2.53	7.59	1.27	0.00	0.00	0.00
52-54	89.72	1907	0.00	0.00	6.25	0.00	4.17	2.08	0.00	0.00	0.00	6.25	2.08	2.08	0.00	2.08	0.00	0.00	0.00
56-58	97.80	1899	0.00	0.00	0.00	0.00	11.76	5.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60-62	106.01	1891	0.00	0.00	0.00	0.00	12.50	4.17	0.00	0.00	0.00	8.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64-66	114.35	1883	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68-70	122.82	1874	0.00	0.00	0.00	0.00	0.00	28.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72-74	131.42	1866	0.00	0.56	2.25	0.00	4.49	12.92	1.12	0.00	0.00	3.37	0.00	0.00	0.56	8.99	0.00	0.00	2.25
76-78	140.14	1857	0.00	0.00	5.56	0.00	8.89	8.89	0.00	0.00	0.00	14.44	0.00	0.00	0.00	1.11	1.11	0.00	0.00
80-82	148.99	1848	0.00	0.00	8.33	0.00	8.33	0.00	0.00	0.00	0.00	4.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84-86	157.97	1839	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88-90	167.08	1830	0.00	0.00	6.45	0.00	0.00	0.00	0.00	0.00	0.00	6.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92-94	176.32	1821	0.00	0.00	13.79	0.00	0.00	0.00	0.00	0.00	0.00	3.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96-98	185.68	1811	0.00	0.00	13.04	0.00	8.70	0.00	4.35	0.00	0.00	8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100-102	195.17	1802	0.00	0.00	14.47	0.00	5.26	0.00	0.00	0.00	0.00	11.84	0.00	0.00	0.00	1.32	0.00	0.00	0.00
104-106	204.79	1792	0.00	0.00	6.19	0.00	3.54	0.00	0.00	0.00	0.00	14.16	0.00	0.00	0.88	0.88	0.00	0.00	3.54
108-110	214.54	1782	0.00	0.00	13.16	0.00	0.00	0.00	0.00	0.00	0.00	26.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112-114	224.42	1773	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
116-118	234.42	1763	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120-122	244.55	1752	0.00	0.00	0.98	0.00	1.96	0.00	0.00	0.00	0.00	2.94	0.98	0.00	1.96	0.00	0.00	0.00	0.00
124-126	254.81	1742	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128-130	265.20	1732	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00
132-134	275.72	1721	0.00	0.00	0.00	0.00	2.44	0.00	0.00	0.00	0.00	24.39	0.00	0.00	0.00	2.44	0.00	0.00	2.44
136-138	286.36	1711	0.00	0.00	0.00	0.00	0.00	22.22	0.00	0.00	0.00	22.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140-142	297.13	1700	0.00	0.00	0.00	0.00	0.00	28.57	0.00	0.00	0.00	14.29	0.00	0.00	0.00	14.29	0.00	0.00	0.00
144-146	308.03	1689	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.25	0.00	0.00	0.00	6.25	0.00	0.00	0.00
148-150	319.06	1678	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152-154	330.22	1667	0.00	0.00	2.86	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00	2.86	0.00	0.00	0.00	0.00
156-158	341.50	1655	0.00	0.00	1.39	0.00	0.00	1.39	0.00	0.00	0.00	6.94	0.00	1.39	0.00	0.00	0.00	0.00	0.00
160-162	350.05	1647	0.00	0.00	0.00	0.00	1.28	5.13	0.00	0.00	0.00	3.85	0.00	1.28	0.00	1.28	0.00	0.00	0.00
164-166	364.45	1633	0.00	0.00	0.00	0.00	2.13	0.00	0.00	0.00	0.00	14.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168-170	376.12	1621	0.00	0.00	4.55	0.00	0.00	9.09	0.00	0.00	0.00	4.55	0.00	0.00	4.55	0.00	0.00	0.00	0.00
172-174	387.92	1609	0.00	0.00	7.14	0.00	0.00	7.14	0.00	0.00	0.00	14.29	0.00	0.00	3.57	3.57	0.00	0.00	0.00
176-178	399.84	1597	0.00	0.00	0.00	0.00	0.00	10.53	0.00	0.00	0.00	15.79	0.00	0.00	0.00	10.53	0.00	0.00	0.00
180-182	411.89	1585	0.00	0.00	0.00	0.00	0.00	13.33	0.00	0.00	0.00	13.33	0.00	0.00	0.00	3.33	0.00	0.00	0.00
184-186	424.07	1573	0.00	0.00	3.03	0.00	0.00	6.06	0.00	0.00	0.00	15.15	0.00	0.00	6.06	15.15	0.00	0.00	0.00
188-190	436.38	1561	0.00	0.00	3.70	0.00	3.70	7.41	0.00	0.00	0.00	3.70	0.00	0.00	0.00	11.11	0.00	0.00	0.00
192-194	448.82	1548	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	0.00	15.00	0.00	0.00	5.00	10.00	0.00	0.00	5.00
196-198	461.38	1536	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.38	0.00	0.00	7.69	0.00	0.00	0.00	0.00
200-202	474.07	1523	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
204-206	486.89	1510	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.22	0.00	0.00	11.11	0.00	0.00	0.00	0.00
208-210	499.84	1497	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00
212-214	512.92	1484	0.00	0.00	0.00	0.00	2.44	9.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.07	0.00	0.00	0.00
216-218	526.12	1471	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00	4.00	0.00	0.00	0.00
220-222	539.45	1458	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.33	0.00	0.00	0.00	0.00	0.00	6.67	0.00
224-226	552.91	1444	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 4: Foraminifer Percent Abundance Data for SEI297-FB-1

Depth (cm)	Years (B.P.)	Age Model Year	*Ammonia parkinsoniana tepida*	*Ammonia parkinsoniana typica*	*Archaias angulatus*	*Articulina mucronata*	*Bolivina lowmani*	*Bolivina pseudoplicata*	*Buccella hannaii*	*Cibicides sp.*	*Clavulina tricarinata*	*Cyclogyra involvens*	*Elphidium advenum*	*Elphidium delicatulum*	*Elphidium discoidale*	*Elphidium excavatum*	*Elphidium mexicanum*	*Elphidium sp.*	*Florilus auriculus*	*Fursenkoina sp.*	*Hanzawaia concentrica*
0-2	0.00	1997	0.00	0.00	32.69	6.47	0.00	0.00	0.00	0.00	0.65	0.00	0.00	3.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4-6	2.69	1994	0.00	0.00	4.88	5.49	0.00	0.00	0.00	0.00	0.30	0.00	0.00	13.72	2.13	0.00	0.00	0.30	0.00	0.00	0.00
8-10	9.24	1988	0.00	0.00	1.95	4.55	0.00	0.00	0.00	0.00	1.30	0.00	0.00	1.95	0.00	0.00	0.00	0.00	1.62	0.00	0.00
12-14	15.92	1981	0.00	0.00	4.93	9.28	0.00	0.00	0.00	0.00	2.32	0.00	0.29	3.19	0.00	0.00	0.00	0.87	2.03	0.00	0.00
16-18	22.72	1974	0.00	0.00	10.26	4.97	0.00	0.00	0.00	0.00	1.66	0.00	0.00	3.97	0.66	0.00	0.00	0.00	0.00	0.00	0.00
20-22	29.65	1967	0.00	0.00	10.14	3.77	0.00	0.00	0.00	0.00	0.87	0.00	0.00	3.48	0.29	0.00	0.00	0.29	0.87	0.00	0.00
24-26	36.71	1960	0.00	0.00	9.01	4.94	0.00	0.00	0.00	0.00	1.74	0.00	0.00	5.81	0.87	0.00	0.00	0.00	1.45	0.00	0.00
28-30	43.90	1953	0.00	0.00	1.44	2.87	0.00	0.00	0.00	0.00	0.29	0.00	0.86	18.68	0.29	0.00	0.00	0.00	1.44	0.00	0.00
32-34	51.22	1946	0.00	0.00	1.34	2.10	0.00	0.00	0.00	0.00	0.57	0.00	0.38	10.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36-38	58.66	1938	0.00	0.00	5.29	1.39	0.00	0.00	0.00	0.00	2.51	0.00	0.84	14.48	0.28	0.00	0.00	0.00	0.84	0.00	0.00
40-42	66.23	1931	0.00	0.00	10.03	2.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.77	0.00	0.00	0.00	0.32	0.97	0.00	0.00
44-46	73.93	1923	0.00	0.28	10.36	1.12	0.00	0.00	0.00	0.00	1.12	0.00	1.40	15.69	0.56	0.00	0.00	0.00	1.96	0.00	0.00
48-50	81.76	1915	0.29	0.00	16.86	3.43	0.00	0.00	0.00	0.00	3.71	0.00	1.14	4.57	0.29	0.00	0.00	0.86	0.86	0.00	0.00
52-54	89.72	1907	0.00	0.00	16.71	4.38	0.00	0.00	0.00	0.00	3.29	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00
56-58	97.80	1899	0.00	0.00	19.05	3.17	0.00	0.00	0.00	0.00	2.91	0.00	0.26	3.70	0.26	0.00	0.00	0.00	0.26	0.00	0.00
60-62	106.01	1891	0.00	0.00	2.65	0.33	0.00	0.00	0.00	0.00	0.33	0.00	1.66	42.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64-66	114.35	1883	0.00	0.00	0.64	3.53	0.00	0.00	0.00	0.00	0.00	0.00	0.96	35.58	1.92	0.00	0.00	0.00	2.56	0.00	0.00
68-70	122.82	1874	0.00	0.00	0.00	3.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.96	0.00	0.00	0.00	0.00	0.31	0.00	0.00
72-74	131.42	1866	0.00	0.00	7.37	4.81	0.00	0.00	0.00	0.00	0.32	0.00	1.28	25.64	1.60	0.00	0.00	0.00	0.96	0.00	0.00
76-78	140.14	1857	0.00	0.00	5.16	10.60	0.00	0.00	0.00	0.00	0.57	0.00	0.29	11.17	1.15	0.00	0.00	0.00	0.00	0.00	0.00
80-82	148.99	1848	0.00	0.00	0.33	13.29	0.00	0.00	0.00	0.00	0.00	0.00	1.00	22.92	1.00	0.00	0.00	0.00	0.00	0.00	0.00
84-86	157.97	1839	0.00	0.00	0.28	13.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.03	0.00	0.00	0.00	0.00	1.39	0.00	0.00
88-90	167.08	1830	0.00	0.32	1.28	5.13	0.00	0.00	0.00	0.00	1.28	0.00	0.00	5.45	0.64	0.00	0.00	0.00	1.28	0.00	0.00
92-94	176.32	1821	0.00	0.00	0.00	15.05	0.00	0.00	0.00	0.00	1.00	0.00	0.67	11.04	1.34	0.00	0.00	0.00	4.68	0.00	0.33
96-98	185.68	1811	0.00	0.00	1.85	6.17	0.00	0.00	0.00	0.00	0.62	0.00	0.93	13.27	0.00	0.00	0.00	0.00	1.85	0.00	0.00
100-102	195.17	1802	0.00	0.00	0.70	8.36	0.00	0.00	0.00	0.00	2.44	0.00	0.70	5.23	0.00	0.00	0.00	0.00	2.09	0.00	0.00
104-106	204.79	1792	0.00	0.00	0.68	7.88	0.00	0.00	0.00	0.00	1.03	0.00	1.03	21.58	0.00	0.00	0.00	0.00	0.68	0.00	0.00
108-110	214.54	1782	0.00	0.00	0.00	7.34	0.00	0.00	0.00	0.00	0.00	0.00	1.40	24.13	2.80	0.00	0.00	0.00	0.70	0.00	0.00
112-114	224.42	1773	0.00	0.00	0.00	5.39	0.00	0.00	0.00	0.00	0.00	0.00	2.40	38.92	0.60	0.00	0.00	0.00	5.39	0.00	0.00

Table 4: Foraminifer Percent Abundance Data for SEI297-FB-1

Depth (cm)	Years (B.P.)	Age Model Year	*Ammonia parkinsoniana tepida*	*Ammonia parkinsoniana typica*	*Archaias angulatus*	*Articulina mucronata*	*Bolivina lowmani*	*Bolivina pseudoplicata*	*Buccella hannaii*	*Cibicides sp.*	*Clavulina tricarinata*	*Cyclogyra involvens*	*Elphidium advenum*	*Elphidium delicatulum*	*Elphidium discoidale*	*Elphidium excavatum*	*Elphidium mexicanum*	*Elphidium sp.*	*Florilus auriculus*	*Fursenkoina sp.*	*Hanzawaia concentrica*
116-118	234.42	1763	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	54.18	0.40	0.00	0.00	0.00	4.78	1.20	0.00
120-122	244.55	1752	0.00	0.00	0.31	0.00	0.93	0.00	3.43	0.00	0.00	0.31	0.00	38.01	0.00	0.00	0.00	0.00	1.25	0.31	0.00
124-126	254.81	1742	0.00	0.00	0.33	1.99	2.99	1.00	3.32	0.00	0.00	0.00	0.00	39.53	0.33	0.00	0.33	0.00	0.00	1.66	0.00
128-130	265.20	1732	0.00	0.00	0.61	3.34	0.61	0.00	5.78	0.00	0.00	0.00	1.22	20.36	0.61	0.00	0.30	0.00	0.61	0.00	0.00
132-134	275.72	1721	0.00	2.57	5.15	5.51	0.00	0.00	0.00	0.00	0.74	0.00	0.00	31.62	0.00	0.00	1.47	0.00	0.37	0.00	0.00
136-138	286.36	1711	0.00	9.20	4.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.20	31.03	10.92	0.00	4.02	0.00	1.72	0.00	0.00
140-142	297.13	1700	0.00	4.88	3.66	0.00	0.00	0.00	0.00	0.00	2.44	0.00	4.27	40.24	6.10	0.00	0.61	0.00	5.49	0.00	0.00
144-146	308.03	1689	0.00	0.32	0.63	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.63	54.29	0.63	0.00	0.63	0.00	5.71	0.00	0.00
148-150	319.06	1678	0.00	0.00	0.35	8.36	0.00	0.00	0.00	0.00	0.00	0.00	0.35	21.25	0.00	0.00	0.35	0.00	2.79	0.00	0.00
152-154	330.22	1667	0.00	0.00	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.02	0.00	0.00	0.31	0.00	4.40	0.00	0.31
156-158	341.50	1655	0.00	0.00	1.21	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.13	0.30	0.00	0.00	0.00	2.72	0.00	0.00
160-162	350.05	1647	0.00	0.00	0.31	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.72	0.00	0.00	0.31	0.00	3.45	0.00	0.00
164-166	364.45	1633	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32	54.28	0.99	0.00	0.00	0.00	0.99	0.00	0.00
168-170	376.12	1621	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	51.46	0.65	0.00	0.00	0.00	4.53	0.00	0.00
172-174	387.92	1609	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.46	1.66	0.00	0.00	0.00	7.97	0.00	0.00
176-178	399.84	1597	0.00	0.00	0.00	0.00	15.73	3.15	0.00	0.00	0.00	0.00	0.00	66.43	2.10	0.00	0.00	0.00	4.55	0.00	0.70
180-182	411.89	1585	0.00	0.00	0.31	0.00	16.51	1.22	0.00	0.31	0.00	0.00	1.22	63.30	0.61	0.00	0.61	0.00	4.28	0.31	0.00
184-186	424.07	1573	0.00	0.85	0.57	0.00	4.53	0.85	0.00	0.00	0.00	0.00	1.98	63.17	4.25	0.00	0.28	0.00	3.97	0.85	0.00
188-190	436.38	1561	0.00	0.30	1.81	0.30	0.00	0.90	0.00	0.00	0.00	0.00	1.51	26.20	7.23	0.00	0.30	0.00	0.90	0.00	0.00
192-194	448.82	1548	0.00	2.57	2.57	0.00	1.93	0.96	0.00	0.00	0.00	0.00	9.97	36.33	15.43	0.00	0.00	0.00	0.00	0.00	0.00
196-198	461.38	1536	0.00	0.00	1.46	0.00	4.09	0.88	0.00	0.00	0.00	0.00	4.97	56.73	6.14	0.00	0.58	0.00	2.92	0.58	0.00
200-202	474.07	1523	0.00	0.00	0.00	0.00	3.18	1.27	0.00	0.00	0.00	0.00	4.14	62.42	6.05	2.55	0.00	0.00	1.91	0.96	0.00
204-206	486.89	1510	0.00	0.30	0.30	0.00	2.11	0.60	0.00	0.00	0.00	0.00	4.22	71.99	8.13	0.00	0.90	0.00	3.01	0.00	0.00
208-210	499.84	1497	0.00	0.29	2.62	0.00	0.58	0.29	0.00	0.29	0.29	0.00	4.65	44.77	18.31	0.00	0.00	0.00	0.87	0.00	0.00
212-214	512.92	1484	0.00	1.72	0.57	0.00	0.00	0.00	0.00	0.00	0.57	0.00	4.58	45.27	15.19	0.00	0.00	0.00	2.29	0.29	0.00
216-218	526.12	1471	0.00	0.56	1.94	0.56	0.00	0.00	0.00	0.00	0.28	0.00	8.06	24.72	19.44	0.00	0.00	0.00	1.67	0.00	0.00
220-222	539.45	1458	0.00	0.00	0.96	0.32	0.32	0.32	0.00	0.00	0.96	0.00	0.00	37.90	17.20	0.00	0.00	0.00	0.00	0.32	0.00
224-226	552.91	1444	0.00	0.90	1.36	3.17	0.00	0.00	0.00	0.00	1.36	0.00	0.00	13.12	6.79	0.00	0.00	0.00	0.90	0.00	0.00

Table 4: Foraminifer Percent Abundance Data for SEI297-FB-1

Depth (cm)	Years (B.P.)	Age Model Year	*Haynessina germanica*	*Miliammina circularis*	*Miliammina labiosa*	*Nodobacularia sp.*	*Peneroplis proteus*	*Pyrgo sp.*	*Quinqueloculina agglutinata*	*Quinqueloculina bosciana*	*Quinqueloculina poeyana*	*Quinqueloculina polygona*	*Quinqueloculina seminula*	*Quinqueloculina tenagos*	*Rosalina floridana*	*Rosalina globularis*	*Sorites sp.*	*Spiroloculina antillarum*	*Spirosigmoilina*	*Triloculina rotunda*	*Triloculina striatula*	*Triloculina tricarinata*	*Triloculina variolata*	*Valvulina oviedoina*
0-2	0.00	1997	0.00	0.65	4.53	0.00	0.97	3.24	11.00	0.32	2.91	0.00	0.00	17.48	3.24	0.32	0.32	0.00	0.00	0.00	0.00	5.83	5.83	0.00
4-6	2.69	1994	0.00	0.91	2.74	0.00	0.00	1.22	3.66	6.10	6.10	10.06	0.00	7.62	21.04	0.00	0.00	0.00	0.00	0.00	0.30	11.59	0.91	0.91
8-10	9.24	1988	0.00	2.60	5.84	0.00	0.00	0.97	0.97	18.18	3.25	14.29	2.92	5.52	20.78	4.55	0.00	1.30	2.92	1.95	0.00	0.00	1.30	1.30
12-14	15.92	1981	0.00	10.43	2.03	0.00	0.00	0.87	1.16	14.49	2.03	7.54	2.90	7.25	12.46	3.48	0.00	2.90	1.74	0.00	0.29	5.51	0.58	1.45
16-18	22.72	1974	0.00	2.98	0.66	0.00	0.33	4.97	4.64	14.24	0.00	9.27	0.00	6.29	15.56	0.66	1.99	5.96	0.99	0.00	0.00	7.28	2.65	0.00
20-22	29.65	1967	0.00	4.64	0.00	0.00	0.00	0.58	5.22	16.81	4.35	9.57	2.03	2.61	17.39	3.19	0.00	1.74	2.32	0.00	0.00	4.06	4.93	0.87
24-26	36.71	1960	0.00	2.91	0.58	0.00	0.00	0.00	8.43	9.30	3.78	4.94	0.00	9.30	18.60	3.20	0.00	2.03	2.33	0.00	0.00	6.10	2.91	1.74
28-30	43.90	1953	0.00	0.86	0.86	0.00	0.00	0.00	1.44	12.64	5.17	7.18	1.15	0.00	26.44	2.59	0.00	3.74	0.57	0.00	0.00	8.62	2.59	0.29
32-34	51.22	1946	0.00	1.72	1.34	0.00	0.00	0.00	4.39	7.25	3.82	8.21	2.67	2.86	8.78	3.63	0.00	0.76	1.53	0.00	0.38	35.31	1.34	0.76
36-38	58.66	1938	0.00	3.34	3.34	0.00	0.00	0.00	8.08	3.34	5.57	12.81	1.95	4.18	14.21	3.62	0.00	0.56	0.28	0.00	3.34	6.13	1.95	1.67
40-42	66.23	1931	0.00	0.00	1.62	0.32	0.00	1.29	4.85	9.71	1.62	6.15	4.53	2.27	11.33	3.56	0.32	0.65	0.00	0.00	0.00	6.15	2.27	0.00
44-46	73.93	1923	0.00	1.12	0.00	0.00	0.00	0.00	9.52	1.12	1.68	8.12	0.84	7.00	20.73	3.64	0.00	0.84	0.28	0.00	1.12	6.72	4.20	0.56
48-50	81.76	1915	0.00	3.71	0.57	0.00	0.00	0.29	9.43	2.29	2.00	9.43	0.57	5.14	15.43	5.43	0.00	1.71	0.86	0.00	0.00	5.14	2.57	3.43
52-54	89.72	1907	0.00	10.68	4.66	0.00	0.27	0.00	8.22	1.92	4.11	9.32	0.82	8.22	11.51	3.01	0.00	0.82	0.00	0.00	0.00	4.66	2.74	4.38
56-58	97.80	1899	0.00	7.94	6.61	0.00	0.00	0.00	7.41	2.38	5.29	6.88	0.26	7.41	13.49	1.32	0.00	1.06	0.26	0.00	0.00	6.61	2.38	1.06
60-62	106.01	1891	0.00	0.66	1.32	0.00	0.00	0.66	6.62	4.30	0.00	6.29	0.00	5.30	15.89	3.31	0.00	0.00	0.00	0.00	0.66	4.30	3.31	0.00
64-66	114.35	1883	0.00	0.96	0.64	0.00	0.32	0.00	2.24	9.29	7.05	9.62	0.00	1.92	9.62	3.21	0.00	0.32	0.32	0.00	1.60	6.41	1.28	0.00
68-70	122.82	1874	8.33	1.23	0.31	0.00	0.00	0.00	0.93	9.88	10.19	8.33	7.10	0.00	1.85	4.01	0.00	1.54	0.62	0.31	0.93	2.47	0.31	0.00
72-74	131.42	1866	0.00	1.92	3.21	0.00	0.00	0.00	2.88	10.90	2.88	8.97	0.00	2.88	13.14	4.49	0.00	0.00	0.96	0.00	0.64	3.85	1.28	0.00
76-78	140.14	1857	0.00	7.16	3.72	0.00	0.00	0.00	3.72	5.73	2.29	16.62	5.44	4.87	11.17	3.44	0.00	0.57	0.00	0.00	0.57	4.58	0.86	0.29
80-82	148.99	1848	0.00	4.98	3.65	0.00	0.00	1.33	1.66	6.98	5.98	12.96	0.00	8.97	5.32	0.00	0.00	1.33	0.00	0.00	2.33	5.98	0.00	0.00
84-86	157.97	1839	0.00	21.33	3.32	0.00	0.00	0.00	0.83	15.79	4.71	9.42	5.54	2.22	4.71	6.09	0.00	0.83	0.00	0.55	1.11	0.00	0.28	0.28
88-90	167.08	1830	0.00	14.10	0.96	0.00	0.00	0.00	0.00	19.87	3.85	16.67	6.09	8.33	1.92	5.45	0.00	1.28	0.00	0.00	0.00	4.49	1.28	0.32
92-94	176.32	1821	0.00	9.36	1.34	0.00	0.00	0.00	2.34	10.70	4.35	9.70	3.01	5.02	5.02	5.02	0.00	1.34	0.00	0.00	0.00	7.69	1.00	0.00
96-98	185.68	1811	0.00	11.42	0.93	0.00	0.00	0.00	3.09	4.32	4.01	10.49	3.40	7.10	9.88	11.42	0.00	2.16	0.31	0.00	1.23	3.40	2.16	0.00
100-102	195.17	1802	0.00	19.86	3.48	0.00	0.00	0.00	4.53	11.50	4.88	5.57	5.23	9.76	5.57	5.92	0.00	0.70	0.00	1.39	0.35	1.39	0.00	0.35
104-106	204.79	1792	2.40	4.11	4.11	0.00	0.00	0.00	5.48	8.56	3.42	14.38	1.03	8.22	5.82	2.40	0.00	1.03	0.00	0.00	2.05	1.71	2.40	0.00
108-110	214.54	1782	0.00	0.70	4.20	0.00	0.00	0.00	1.75	0.00	5.94	18.53	1.75	6.64	9.44	2.80	0.00	0.00	0.00	2.10	0.00	6.99	2.80	0.00
112-114	224.42	1773	3.59	0.60	0.00	0.00	0.00	0.00	0.60	2.99	5.99	8.38	7.78	3.59	5.39	5.99	0.00	0.60	0.00	0.00	0.00	0.00	1.80	0.00

Table 4: Foraminifer Percent Abundance Data for SEI297-FB-1

Depth (cm)	Years (B.P.)	Age Model Year	*Haynessina germanica*	*Miliammina circularis*	*Miliammina labiosa*	*Nodobacularia sp.*	*Peneroplis proteus*	*Pyrgo sp.*	*Quinqueloculina agglutinata*	*Quinqueloculina bosciana*	*Quinqueloculina poeyana*	*Quinqueloculina polygona*	*Quinqueloculina seminula*	*Quinqueloculina tenagos*	*Rosalina floridana*	*Rosalina globularis*	*Sorites sp.*	*Spiroloculina antillarum*	*Spirosigmoilina*	*Triloculina rotunda*	*Triloculina striatula*	*Triloculina tricarinata*	*Triloculina variolata*	*Valvulina oviedoina*
116-118	234.42	1763	0.00	0.80	0.40	0.00	0.00	0.00	0.00	17.93	3.19	1.59	2.39	1.59	1.20	5.98	0.00	0.00	0.00	0.00	0.80	2.79	0.00	0.00
120-122	244.55	1752	0.00	4.67	0.62	0.00	0.00	0.00	1.56	12.15	23.99	0.93	5.61	0.00	0.00	1.87	0.00	0.00	0.00	0.00	0.62	3.12	0.00	0.31
124-126	254.81	1742	0.00	3.32	0.00	0.00	0.00	0.00	1.00	11.30	17.28	1.00	1.99	2.66	0.00	8.31	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.33
128-130	265.20	1732	0.00	4.26	3.65	0.61	0.00	0.00	5.47	8.21	9.42	15.81	0.91	7.60	0.00	1.52	0.00	0.61	0.00	0.30	0.00	8.21	0.00	0.00
132-134	275.72	1721	1.10	1.84	0.00	0.00	0.00	0.00	3.68	3.31	0.00	13.97	0.00	6.99	4.04	2.21	0.00	0.00	0.00	2.57	1.10	10.66	0.74	0.37
136-138	286.36	1711	5.75	0.00	0.00	0.00	0.00	0.00	1.15	0.00	2.87	3.45	0.00	0.00	3.45	4.60	0.00	0.00	0.00	0.57	0.57	6.90	0.00	0.00
140-142	297.13	1700	12.20	0.00	0.00	0.00	0.00	0.00	0.00	1.83	3.05	1.83	0.61	0.00	1.22	4.27	0.00	0.00	0.00	0.00	0.00	6.71	0.00	0.61
144-146	308.03	1689	0.00	0.00	0.00	0.00	0.00	0.00	1.27	5.71	4.76	5.40	5.08	0.63	2.54	6.67	0.00	0.32	0.00	0.32	0.00	3.81	0.32	0.00
148-150	319.06	1678	0.00	6.62	4.18	0.00	0.35	0.35	9.76	11.50	4.88	10.80	0.00	6.27	1.05	2.79	0.00	0.70	0.00	2.09	0.00	3.48	1.74	0.00
152-154	330.22	1667	0.00	2.20	1.26	0.00	0.00	0.00	1.89	18.24	9.12	5.97	5.03	2.83	1.89	5.97	0.00	0.00	1.57	0.31	1.57	2.83	0.63	0.00
156-158	341.50	1655	0.00	1.81	5.14	0.00	0.00	0.00	3.93	3.93	7.55	16.92	3.63	6.95	7.85	4.53	0.00	0.00	0.00	2.72	6.34	5.14	0.00	0.00
160-162	350.05	1647	0.00	0.94	2.19	0.00	0.00	0.00	2.19	4.08	10.03	15.99	5.33	5.64	6.58	4.08	0.00	0.31	0.00	0.00	0.00	6.58	0.94	0.00
164-166	364.45	1633	0.00	0.99	4.28	0.00	0.00	0.00	1.32	0.00	15.46	10.86	0.00	3.95	1.32	0.66	0.00	0.00	0.00	0.00	2.30	0.99	0.33	0.00
168-170	376.12	1621	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.97	24.60	0.00	0.97	2.27	4.85	6.47	0.00	0.32	0.00	1.29	0.00	0.00	0.65	0.00
172-174	387.92	1609	0.00	0.00	0.00	0.00	0.00	0.00	0.33	3.32	7.31	2.66	0.33	2.99	2.33	4.98	0.00	0.33	0.00	0.00	0.00	2.99	0.00	0.00
176-178	399.84	1597	0.00	0.00	0.00	0.00	0.00	0.00	0.35	1.40	0.70	0.70	0.00	0.00	0.00	3.50	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.00
180-182	411.89	1585	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22	0.31	0.31	0.00	1.53	7.65	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00
184-186	424.07	1573	0.00	0.00	0.00	0.00	0.00	0.00	1.42	0.28	2.27	1.98	0.00	0.28	1.13	5.67	0.00	0.57	0.00	0.28	0.00	4.53	0.28	0.00
188-190	436.38	1561	0.00	0.30	0.90	0.00	0.00	0.00	1.81	0.90	6.63	13.25	3.61	8.13	3.31	3.31	0.00	0.00	0.00	0.00	0.00	15.06	2.71	0.60
192-194	448.82	1548	0.00	0.00	0.00	0.00	0.00	0.00	1.61	0.32	1.29	2.57	0.64	0.64	3.22	2.57	0.00	0.00	0.00	0.64	0.00	16.08	0.64	0.00
196-198	461.38	1536	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	3.80	0.58	0.00	1.17	3.22	7.02	0.00	0.00	0.00	0.29	0.00	4.39	0.29	0.00
200-202	474.07	1523	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	1.27	1.91	1.27	0.00	5.73	2.87	0.00	0.32	0.00	0.32	0.00	3.50	0.00	0.00
204-206	486.89	1510	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.11	1.20	0.90	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.41	0.00	0.00
208-210	499.84	1497	0.00	1.16	1.45	0.00	0.00	0.00	0.00	0.00	4.65	2.62	2.03	3.20	2.03	2.33	0.00	0.00	0.29	0.00	0.00	6.10	1.16	0.00
212-214	512.92	1484	0.00	2.01	1.15	0.00	0.00	0.00	1.43	0.00	4.58	4.87	2.58	2.29	2.87	2.58	0.00	0.00	0.00	0.00	0.00	4.58	0.57	0.00
216-218	526.12	1471	0.00	0.28	0.56	0.00	0.00	0.00	1.94	1.39	1.67	4.72	0.28	5.00	9.44	2.22	0.00	0.00	0.00	0.56	0.00	13.06	1.67	0.00
220-222	539.45	1458	0.00	0.64	0.00	0.00	0.00	0.00	3.18	2.23	6.37	4.14	0.64	6.05	2.55	1.91	0.00	0.00	0.00	0.32	0.00	12.74	0.96	0.00
224-226	552.91	1444	0.00	2.71	2.26	0.00	0.00	0.00	2.26	1.81	4.98	9.95	4.07	9.50	17.65	3.62	0.00	0.00	0.00	0.00	2.26	8.14	1.81	1.36